



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research Methods-II

Course Code: APSY-361 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. Given below all the components are there in research design except?
 - a. Sampling Design
 - b. Data Collection Strategy
 - c. Instrument Development
 - d. Data Analysis
2. In _____ sampling respondents are selected primarily on the basis of their availability and willingness to respond.
 - a. Convenience
 - b. Stratified
 - c. Purposive
 - d. Quota
3. In _____, a series of cross-sectional surveys are conducted over time.
 - a. Experimental Design.
 - b. Cross-Sectional Design
 - c. Longitudinal Design
 - d. Successive Independent Design
4. _____ refers to the truthfulness of a measure.
 - a. Reliability
 - b. Validity
 - c. Norms
 - d. Theory
5. Which method is used to determine equivalence between study and control group?
 - a. Operational Definition
 - b. Matching
 - c. Random Sampling
 - d. Purposive Sampling
6. The overall effect of an independent variable in a complex design is called a:
 - a. Main Effect
 - b. Interaction Effect
 - c. Mediation
 - d. Moderation
7. A design consisting of an experimental and a control group, but participants are not randomly assigned to the groups is which of the following?
 - a. Interrupted time-series design
 - b. Non-equivalent comparison-group design
 - c. Single case design
 - d. A-B-A-B design
8. What is the typical length of a focus group?
 - a. 30 minutes
 - b. 1 hour
 - c. 90 minutes
 - d. 2 hours
9. IV must be manipulated before the measurement of DV is called:
 - a. Co-variation of events
 - b. Time order relationship
 - c. Elimination of extraneous variables
 - d. Time series relationship
10. The degree of control in quasi-experimental design is:
 - a. Equal to true experiment.
 - b. Less than true experiment
 - c. More than true experiment
 - d. All of these.



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B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research Methods-II
Course Code: APSY-361 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(4x5=20)

1. Discuss two limitation of survey research.
2. What do you know about interviewer bias.
3. Write a brief note on Quasi experimental design.
4. Differentiate between interaction and main effect.
5. Write strength of case study method.

Q.3. Give Long Answers.

(3x10=30)

1. What are the threats to internal validity?
2. What are three conditions needed for casual inference?
3. What are the advantages and disadvantages of using open ended questions in a survey?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Theories of Personality (Revised)

Course Code: APSY-363 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct choice.

(1x10=10)

1. According to Freud, the psychic energy by which the life instincts perform their work is known as _____ .

- | | |
|-------------|------------|
| a). Thantos | b). Libido |
| c). Eros | d). Id |

2. Jung believed that ancient experiences contained in the collective unconscious are manifested by recurring themes or patterns called _____

- | | |
|----------------------------|------------------------|
| a). Collective unconscious | b). Personal conscious |
| c). Archetypes | d). Persona |

3. The primary goal of all human existence according to Adler is _____

- | | |
|------------------------------|------------------------|
| a). Striving for superiority | b). Fictional finalism |
| c). Inferiority feelings | d). Style of life |

4. Karen Horney defined _____ as 'the feeling a child has of being isolated and helpless in a potentially hostile world'.

- | | |
|----------------------|-------------------|
| a). Neurotic needs | b). Basic needs |
| c). Neurotic anxiety | d). Basic anxiety |

5. Allport believed that a _____ is the one that is so pervasive that all acts of an individual's behavior can be traced to it.

- | | |
|---------------------------|-------------------------|
| a). Cardinal disposition | b). Central disposition |
| c). Secondary disposition | d). Common trait |

6. According to Cattell, _____ are the constitutional aspects of response like speed, energy or emotional reactivity.

- | | |
|--------------------|------------------------|
| a). Ability traits | b). Temperament traits |
| c). Ergs | d). Dynamic traits |

P.T.O.

7. 'Everything must be perfect or it will be a disaster.' is what the cognitive theorists believed is called _____.

- a). Absolutist thinking
- b). Cognitive triad
- c). Selective perception
- d). Constructive alternativism

8. _____ is a fluid, on-going process defined by Rogers, whereby experiences are accurately symbolized and valued according to optimal enhancement of the organism and self.

- a). Conditions of worth
- b). Need for positive regard
- c). Self-congruence
- d). Organismic Valuing

9. Maslow believed that the _____ mechanism which operates only for the self-actualization need.

- a). D-Motivation
- b). B-Motivation
- c). Peak experiences
- d). Self-actualization

10. Personal Construct theory was given by _____.

- a). George Kelly
- b). Albert Ellis
- c). Aaron Beck
- d). Raymond Cattell



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Theories of Personality (Revised)

Course Code: APSY-363 Part – II

Roll No.

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Part 2 (Short Questions) (4 marks each)

1. What and when the fixations occur in Freud's Oral and Anal stage and what are their respective personality characteristics?
2. Explain the difference between Jung's concepts of Personal Unconscious and Collective Unconscious by giving examples.
3. Briefly explain the object relation theory.
4. What are the basic characteristics of traits identified by Cattell?
5. What are major characteristics of self-actualizing persons according to Maslow?

Part 3 (Brief Questions) (10 marks each)

1. Explain in the detail the Adler's theory of personality.
2. Describe the views of Erik Erikson on personality, its assessment and intervention.
3. Explain in detail Gordon Allport's contributions in the personality development.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Biological Basis of Behavior

Course Code: APSY-364 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct choice.

(1x10=10)

1. The purpose of neuropsychological assessment is to
 - a. Identify cognitive impairment
 - b. Evaluate preserved cognitive ability
 - c. Differentiate between causes of cognitive impairment
 - d. None of the above
2. The area that coordinates emotions, is known as
 - a. Pons
 - b. Cerebral cortex
 - c. Limbic system
 - d. Reticular activating system
3. Frontal lobe is associated with
 - a. Executive functions
 - b. Speech functions
 - c. Sensory functions
 - d. Motor functions
 - e. All of the above
4. The little brain is called
 - a. Wernicke's area
 - b. Cerebrum
 - c. Cerebellum
 - d. Septum
 - e. Cerebral Cortex
5. Speech production areas are known as
 - a. Wernicke's area
 - b. Broca's area
 - c. Both a & b
 - d. Septum area
 - e. Brain stem

P.T.O.

6. The most commonly administered test of cognitive ability is the
- Halstead-Reitan
 - Stanford Binet
 - Luria-Nebraska
 - None of the above
7. One of the most common features of neurological disorders are Language deficits and are collectively known as
- Alogias
 - Anomias
 - Aphasias
 - Aphasia
8. When an individual has a disruption of the ability to speak is known generally as
- Broca's aphasia
 - Beidecker's aphasia
 - Warnick's aphasia
 - Wernicke's aphasia
9. If an individual suffers a traumatic event and has a neurological disorder that means they may be unable to recall anything from the moment of the injury or to retain memories of recent events. This is known as
- Anterograde amnesia
 - Retrograde amnesia
 - Both a & b
 - Fugue
10. The resting potential of a neuron is
- 70 mv
 - 70 mv
 - 60 mv
 - 65 mv



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Biological Basis of Behavior

Course Code: APSY-364 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Answer the following short questions.

(5x4=20)

1. Describe action potential
2. What are major types of glial cells?
3. Define various types of sleep.
4. What is neurophysiology of hunger?
5. What are characteristics of neuromodulators, neurotransmitters and Neurohormones?

Q.3. Answer the following brief questions.

(10x3=30)

1. Describe Dementia.
2. What are function of glands?
3. What are major types of thirst?
4. Which brain regions and neurotransmitters are involved in hunger?
5. Describe functions of Acetylcholine.
6. Which brain regions are involved in speech?
7. Define neuropsychology and role of neuropsychologist.
8. Define CVA.
9. Describe two eating disorders in brief.
10. Define sleep, circadian rhythms and Zeitgeber.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Social Psychology (Revised)

Course Code: APSY-367 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct choice.

(1x10=10)

- 1) _____ is entitled as the father of modern social psychology.
 - a) Kurt Lewin
 - b) E. Ross
 - c) W. McDougall
 - d) J. Moreno
- 2) Emotional reactions that are oriented towards other people and include feeling of compassion and concern is called _____.
 - a) Altruism
 - b) Sympathy
 - c) Facilitation
 - d) Empathy
- 3) Persuasion is _____.
 - a) Efforts to change other's attitude
 - b) Efforts to change other's behavior
 - c) Efforts to change other's beliefs
 - d) Efforts to change other's prejudices
- 4) The process by which a message induces change in beliefs attitude or behavior is called _____.
 - a) Propaganda
 - b) Persecution
 - c) Persuasion
 - d) Advertisement
- 5) Social loafing is a tendency to _____.
 - a) Exert less efforts when people work in group
 - b) To perceive favorably you are in group
 - c) To divide individuals in 'in group' and out group
 - d) Be influenced by persuasion
- 6) The sum of the factors that cause people to want to remain members of a group is called group _____.
 - a) Bonding
 - b) Cohesiveness
 - c) Identity
 - d) Collectivism

P.T.O.

- 7) The belief that others are paying more attention to one's appearance and behavior than they really are is known as:
- a) Spotlight effect
 - b) False uniqueness effect
 - c) Self-serving bias
 - d) False modesty

8) When we behave badly or fail in a task, we reassure ourselves by thinking that such lapses are common. This is an example of:

- a) Self-serving attribution
- b) False consensus effect
- c) Confirmation bias
- d) Priming

9) The tendency to draw inferences about a person's characteristics from behaviors that could be explained by situation alone is known as:

- a) Base-rate fallacy
- b) Correspondence bias
- c) Cognitive error
- d) Egocentric bias

10) A false impression of what most other people are thinking or feeling or how they are responding is known as:

- a) Groupthink
- b) Group polarization
- c) False consensus effect
- d) Pluralistic ignorance



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Social Psychology (Revised)

Course Code: APSY-367 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Part 2 (Short Questions) (4 marks each)

1. What is Content Analysis?
2. What is the difference between Self Concept and Self Esteem?
3. Briefly describe Leon Festinger's theory of Cognitive Dissonance?
4. Describe factors influencing Altruism?
5. Briefly describe types of group?

Part 3 (Brief Questions) (10 marks each)

1. Define attitudes. Explain in detail how attitudes are measurement.
2. Define leadership. Explain in detail the theories of leadership.
3. Describe in detail the concept of self and its components in social psychology.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Health Psychology

Course Code: APSY-368 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct option.

(10x1=10)

1. _____ is a psychological and possibly life-threatening eating disorder defined by an extremely low body weight, illogical fear of weight gain, and distorted perception of self-image and body.
 - a. Anorexia Nervosa
 - b. Bulimia Nervosa
 - c. Obesity
 - d. None of Above
2. Health behaviors that suggest beliefs relating to the effectiveness, ease, and consequences of doing a certain behavior will determine whether individuals do that behavior is called _____.
 - a. Health locus of control
 - b. Health beliefs
 - c. Life orientation
 - d. Health status
3. _____ is a subjective assessment that people make about their own health state and it is an indicator of overall health status.
 - a. Perceived health status
 - b. Overall quality of life
 - c. Health beliefs
 - d. All of the above
4. _____ is the study of the self in relation to others and to society.
 - a. Locus of control
 - b. Life orientation
 - c. Quality of life
 - d. None of above
5. The degree to which an individual is able to maximize his or her physical, psychological, vocational, and social functioning is called
 - a. Locus of control
 - b. Quality of life
 - c. Health status
 - d. All of the above
6. The type/types of retrovirus.
 - a. Oncogenic
 - b. Foamy retroviruses
 - c. Lentiviruses
 - d. All of above

P.T.O.

7. _____ is a powerful pain in the chest, which sometimes radiates down the left arm.
- a. Cancer
 - b. HIV
 - c. Angina
 - d. None of above
8. _____ is a hormone made by the pancreas, helps glucose from food get into your cells to be used for energy.
- a. Pancreatic juice
 - b. Peptic juice
 - c. Insulin
 - d. Cortisol
9. _____ is a type of diabetes develops in some women when they are pregnant.
- a. Type I diabetes
 - b. Type II diabetes
 - c. Gestational
 - d. None of above
10. Humoral theory of illness was proposed by
- a. Descartes
 - b. Hippocrates
 - c. Plato
 - d. Galen



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Health Psychology

Course Code: APSY-368 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(20)

1. What is biopsychosocial model? (3 Marks)
2. What are illness perceptions? (3 Marks)
3. What are psychophysiological disorders? (3 Marks)
4. What is Selye's general adaptation syndrome? (3 Marks)
5. What is psychoneuroimmunology? (3 Marks)
6. What is Selye's general adaptation syndrome? (3 Marks)
7. What are the aims of health psychology? (2 Marks)

Q.3. Give Long Answers.

(5x6=30)

1. What is health belief model? How can it be apply on patient with diabetes? (6 Marks)
2. What are the problems faced by caregivers of patients with chronic disease? (6 Marks)
3. What are personality traits? How can they influence illness recovery? (6 Marks)
4. What are stages of change model? How can it be used for smoking cessation? (6 Marks)
5. What are physical and psychological problems related to obesity? (6 Marks)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Arabic-VI

Course Code: ARB-302 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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(حصہ معروضی)

(10x1=10)

درست جواب کا انتخاب کریں۔

۱۔ معلومات کو..... بھی کہا جاتا ہے۔

(الف) السوط (ب) دیوان (ج) الاغانی (د) قصائد

۲۔ علم العروض..... کا حصہ ہے۔

(الف) بیان (ب) بلاغہ (ج) معانی (د) بدیع

۳۔ شعر جس وزن پر ہوتا ہے..... کہتے ہیں۔

(الف) مصرع (ب) قافیہ (ج) ردیف (د) بحر

۴۔ المثنیٰ کا نام..... ہے۔

(الف) ابو عبد اللہ محمد بن احمد (ب) عمرو بن العاص (ج) ابو یوسف احمد بن حسین (د) ابو طیب احمد بن حسین

۵۔ جو علت حروف میں کمی کی وجہ سے واقع ہوا ہے..... کہتے ہیں۔

(الف) علت بالزیادۃ (ب) الخن (ج) علت بالنقص (د) النقص

۶۔ کتاب الايقاع..... کی تصنیف ہے۔

(الف) علامہ محمد یعقوب (ب) خلیل بن احمد (ج) ابن منظور (د) ابو عمرو شیبانی

۷۔ پہلے دو حروف متحرک اور تیسرا ساکن ہو تو اسے..... کہتے ہیں۔

(الف) سبب ثقل (ب) وند مجموع (ج) فاصلہ مغزی (د) وند مفروق

۸۔ شعر کے اگر تمام اجزاء درست ہوں تو اسے..... کہتے ہیں۔

(الف) مشطور (ب) مجزؤ (ج) منہوک (د) تام

۹۔ تعداد حروف کے اعتبار سے بحروں کی..... اقسام ہیں۔

(الف) دو (ب) چار (ج) سات (د) تین

۱۰۔ صدر کا آخری رکن..... کہلاتا ہے۔

(الف) عجز (ب) ضرب (ج) عروض (د) مصرع



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Arabic-VI

Course Code: ARB-302 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

(حصہ انشائیہ)

الجزء الاول

(10x2=20)

سوال نمبر ۲:- أجب عن عشرة اسئلة من الاسئلة التالية.

۱. عرف بعلم العروض اصطلاحاً.
۲. من هو مؤلف كتاب العين.
۳. ما هو وجه تلقيب المتنبي بالمتنبي؟
۴. اكتب وزناً لبحر المضارع.
۵. كم قسماً للزحاف المفرد؟
۶. ماذا تعرف عن مصادر اللغة العربية؟
۷. كم عدد اصحاب المعلقات؟ اكتب اسماؤهم.
۸. اكتب اسمين من اسماء ابواب الحماسة.
۹. ما هو السبب الخفيف؟
۱۰. ما المراد بالببيت المجزؤ؟
۱۱. اكتب اسماً كاملاً لا بى تمام.
۱۲. ما المراد بالفتحة؟

الجزء الثانى

(10x3=30)

سوال نمبر ۳:- اجب عن ثلاثة اسئلة.

۱. علم العروض كى مؤلف پر تفصیلى نوٹ لکھیں۔
۲. اكتب طلباً الى رئيس قسم اللغة العربية للمساعدة المالية والاغلا من الرسوم.
۳. اكتب رسالة الى مدير مكتبة تجارية للارسال الكتب.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Plant Anatomy (Advance Course)

Course Code: BOT-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct choice.

(1x10=10)

Q. No. 1: Fill in the blanks with suitable terms. (10)

1. In dicotyledonous stems, the ----- is a multilayered zone found in between the endodermis and the vascular bundles.
(a). Vascular cambium (b). Exodermis
(c). cortex (d). Pericycle
2. Vascular bundles in a ----- stem are conjoint, collateral or bicollateral and open.
(a). monocot (b). dicot
(c). both a & b (d). none of these
3. The term ----- is applied to gymnosperm wood, that of ----- to the dicotyledonous wood.
(a). softwood, hardwood (b). Hardwood, softwood
(c). Heart wood, sap wood (d). Early wood, late wood
4. The flattened petiole which looks like ordinary leaf is called -----.
(a). Gland (b). phyllode
(c). Stinging hair (d). Papilla
5. A leaf in which palisade parenchyma is present on both abaxial and adaxial leaf surfaces is termed as -----.
(a). Bifacial leaf (b). Isobilateral leaf
(c). Dorsiventral (d). Foliage

P.T.O.

6. The ----- are cells or series of connected cells that contain latex, a fluid of complex composition.
- | | |
|----------------|-----------------|
| (a). trichomes | (b). laticifers |
| (c). lenticels | (d). Phelloderm |
7. Guttation is a process characteristic to -----.
- | | |
|-----------------|------------------|
| (a). Nectaries | (b). Laticifers |
| (c). Hydathodes | (d). Resin ducts |
8. ----- is the first or lowermost whorl of the flower.
- | | |
|-----------------|----------------|
| (a). Corolla | (b). Calyx |
| (c). Androecium | (d). Gynoecium |
9. In ----- type of xylem, the development of the xylem takes place toward periphery of the axis or protoxylem elements develop towards the centre.
- | | |
|--------------|-----------------|
| (a). endarch | (b). exarch |
| (c). mesarch | (d). Both a & b |
10. The earlier increments of secondary xylem gradually become non-functional in conduction and storage. The relative amount of the non-functioning wood is called -----.
- | | |
|----------------|--------------------|
| (a). Heartwood | (b). Sapwood |
| (c). softwood | (d). none of these |



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Plant Anatomy (Advance Course)
Course Code: BOT-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No. 2: Give brief answers of following questions. (10 × 2)

1. What is an ovule? What are its different types?
2. Define Reaction wood. What are its different types?
3. Define Histogen theory. Who proposed this theory?
4. Give comparison of monocot and dicot stems.
5. Differentiate between vessel members and tracheids.
6. What is meant by Leaf Abscission?
7. What is periderm? How is it formed?
8. What is meant by 'Guttation'? How it is linked with 'Hydathodes'?
9. Why the heartwood is darker in color than sap wood?
10. What is Anomalous Secondary Growth?

SECTION III

Q. No. 3: What is a stele? Describe its different types. (10)

Q. No. 4: Discuss secondary growth in dicot stem. (10)

Q. No. 5: What is meant by Axial and Ray systems in Secondary xylem? Explain in detail. (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Gene Cloning (Advance Course)

Course Code: BOT-313 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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Q.1. Encircle the correct choice.

(1x10=10)

1. mRNA can be converted into DNA by
 - a. Hybrid DNA
 - b. Taq DNA Polymerase
 - c. Ribosomal DNA
 - d. Complementary DNA
2. In PCR procedure when DNA hydrogen bonds are broken at 94 °C is called _____.
 - a. Annealing
 - b. Denaturation
 - c. Synthesis
 - d. None
3. At the end of a PCR a sample of the reaction mixture is usually analysed by
 - a. DNA sequencing
 - b. Gene Cloning
 - c. Gel electrophoresis
 - d. Southern Hybridization
4. _____ DNA consists of all the DNA present in a single cell or group of cells.
 - a. Hybrid
 - b. Ribosomal
 - c. Total
 - d. Complementary

P.T.O.

5. A DNA sequence that is able to move from place to place within a genome.
- Template
 - Transposon
 - Transcript
 - Terminator
6. If two plasmids are unable to live in the same bacterial cell they are said to be ____.
- Compatible
 - Conjugative
 - Incompatible
 - None
7. Ethidium bromide is used as a dye to stain DNA in agarose and polyacrylamide gel in following.
- Blotting
 - Finger prints
 - Electrophoresis
 - None
8. Ti plasmid can cause _____ disease.
- Hairy root
 - Proliferation
 - Crown gall
 - Both a and c
9. A virus with an RNA genome is _____.
- Plasmid
 - Episome
 - Retro virus
 - None
10. A thermostable DNA polymerase that is used in PCR is _____.
- Taq DNA polymerase
 - DNA Ligase
 - DNA Polymerase III
 - DNA Topoisomerase



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Gene Cloning (Advance Course)

Course Code: BOT-313 Part – II

Roll No.

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q2: Answer the Following:

(2x10=20)

- i. What is the function of yeast artificial chromosome (YAC)?
- ii. What is the difference between transfection and transformation?
- iii. How 5'-terminus end is different from 3'-terminus end?
- iv. What are exons?
- v. Explain the purpose of Western transfer.
- vi. Give the significance of lambda vector in gene cloning.
- vii. What are linkers?
- viii. What is restriction map?
- ix. What is the purpose of polymerase chain reaction (PCR)?
- x. What are the advantages of high copy number of plasmid in gene cloning?

Q3: Explain the following

(6x5=30)

1. What do you know about role of vectors in gene cloning?
2. What are the basic features of Bacteriophages? Explain the lysogenic cycle of phage virus.
3. Explain briefly about Lambda phage as cloning vector.
4. How Ti plasmid cause crown gall disease in plants? Explain briefly.
5. Write a note on PCR.
6. Explain the role of gene cloning in Agriculture.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Plant Tissue Culture (Advance Course)

Course Code: BOT-315 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. An Autoclave is used for
 - a) Sterilization of liquid media
 - b) Aseptic transfer of media and cultures
 - c) Callus production
 - d) Sterilization of explants
2. An unorganized growth of cells is called as
 - a) Callus
 - b) Tissue
 - c) Explants
 - d) Embryos
3. The best method for haploid culturing is
 - a) Cell cultures
 - b) Protoplast cultures
 - c) Embryo cultures
 - d) Anther cultures
4. Pollen culture technique is used to produce
 - a) Diploid plants
 - b) Hybrid plants
 - c) Haploid plants
 - d) None of these
5. An excised or isolated piece of tissue is termed as
 - a) Explant
 - b) Tissue
 - c) Callus
 - d) Protoplast
6. The tissue culture media can be solidified by adding
 - a) Agar
 - b) Sucrose
 - c) Algin
 - d) All of these
7. The hormone/s used in Plant Tissue Culture is/are
 - a) IAA
 - b) Gibberellin
 - c) Cytokinin
 - d) All of these
8. Electro-fusion is used in
 - a) Callus cultures
 - b) Protoplast cultures
 - c) Embryo cultures
 - d) Anther cultures
9. In autoclave, the media is sterilized at 15 psi pressure at
 - a) 100°C
 - b) 121°C
 - c) 131°C
 - d) 141°C
10. Which one of the following is not used in Plant Tissue Culture
 - a) Suspension cultures
 - b) Seed cultures
 - c) Embryo cultures
 - d) Pollen cultures



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Plant Tissue Culture (Advance Course)

Course Code: BOT-315 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

QUESTIONS WITH SHORT ANSWERS

20 Marks

Q2. Answer the following questions briefly and to the point. Each question carries two marks.

1. What is Sterilization? How is liquid medium sterilized?
2. Name a few media generally required in plant tissue culturing.
3. What are Callus cultures?
4. What is the role of hormones in callus cultures?
5. Write down the main steps involved in MICROPROPAGATION.
6. What is the importance of Plant Tissue Culture in research work?
7. Give the importance of Anther cultures.
8. How would you prepare Pathogen-free plants in a tissue culture lab?
9. How are the explants sterilized?
10. What do you understand by the term Cellular Totipotency?

QUESTIONS WITH BRIEF ANSWERS

30 Marks

Q3. Answer the following questions briefly focusing on quality of your answer rather than its length.

1. What is Sterilization? Describe various methods of sterilization in Plant Tissue Culture. **10 Marks**
2. What are Callus cultures? Describe various steps involved in callus culturing. **10 Marks**
3. Write note on **10 Marks**
 - a) Tissue culture Laboratory
 - b) Cell Suspension Cultures.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Palynology (Advance Course)

Course Code: BOT-317 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- I. The field of **Palynology** concerned with extant **palynomorphs** is called
 - a. Palaeopalynology
 - b. Neopalynology
 - c. Archaeopalynology
 - d. Palaeontology
- II. **Palynomorphs** are organic walled whole organisms or parts of organisms range in size from
 - a. 5um-200um
 - b. 5um-300um
 - c. 5um-500um
 - d. 5um-50um
- III. _____ rocks are rich in Palynomorphs.
 - a. Igneous
 - b. Sedimentary
 - c. Intrusive
 - d. Metamorphic
- IV. Palynological preparations contain more or less **organic "Junk"** not referable to specific palynomorphs:
 - a. Varia
 - b. Palynodebris
 - c. Palynofacies
 - d. Organic matter
- V. The fossil mouth parts of annelids are _____ in nature.
 - a. Cellulose
 - b. Chitin
 - c. Sporopollenin
 - d. Murien
- VI. A **pollen grain** is a
 - a. male gamete
 - b. female gamete
 - c. microgametophyte
 - d. germinate to grow into microgametophyte
- VII. **Trilete and Monolete spores** are produced by
 - a. Angiosperms
 - b. Gymnosperms
 - c. Cryptogams
 - d. Seed Ferns
- VIII. A Colporate Pollen grain has
 - a. A colpus only
 - b. A pore only
 - c. Both colpus and pore
- IX. **Monosaccate** Pollen grain is characterized by
 - a. One saccus
 - b. Two sacci
 - c. Three sacci
 - d. none
- X. The outer most layer of exinal components which may or may not be present is _____.
 - a. Baculae
 - b. Intine
 - c. Tectum
 - d. Foot layer



UNIVERSITY OF THE PUNJAB

· B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Palynology (Advance Course)
Course Code: BOT-317 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 Answer the following short questions. (2x10)

- I. What are **Palynomorphs**? Enlist various categories of Palynomorphs.
- II. How **Organic Thermal Maturity** of Rocks is determined by the colour of fossil palynomorphs? Discuss
- III. What are **Index Fossils**? How does Index Palynomorphs help in Biostratigraphy?
- IV. What are **Haplotypic Features/Marks**? Why Haplotypic features are absent in **Cryptospores**?
- V. What do these codes indicate about spores and pollen:
Scz, Pac, Pbz, Pdy.
- VI. Differentiate between **Exine Sculpture and Structure**.
- VII. What is **Shell Code**?
- VIII. Differentiate between **Zona and Cingulum**. Support your answer with suitable diagrammes.
- IX. What is principal of **Heavy Liquid Separation**?
- X. How does Palynology help in Medicines to control **Allergies and Asthama**?

Q.3: Define Maceration. Describe in detail the procedure to macerate a given sample of sedimentary rock to isolate Palynomorphs. (10 Marks)

Q.4: a) What do you know about **exine ultra structure**? Discuss in detail various systems used for classification of exine ultrastructure. (05 Marks)

b) Describe any five **exinal ornamentations**. (05 Marks)

Q.5: a) Describe the **Production and Dispersal** of Spores and Pollen in detail. (05 Marks)

b) Explain **Organic Thermal Maturity**. (05 Marks)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Auditing

Course Code: BBA-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) Auditing work _____ accounting.
- precedes
 - follows
 - goes parallel to
 - None of the above
- (ii) In the process of _____, the auditor physically inspects the assets.
- vouching
 - verification
 - inspection
 - investigation
- (iii) A _____ is an intentional misrepresentation of financial information.
- negligence
 - pilferage
 - error
 - fraud
- (iv) Any documentary evidence in support of a transaction is called:
- voucher
 - account
 - income statement
 - balance sheet
- (v) While conducting audit of a _____, the auditor should examine compliance of the Prudential Regulations.
- hotel
 - newspaper company
 - bank
 - insurance company
- (vi) _____ is the evaluation of performance of management.
- management audit
 - operational audit
 - financial audit
 - accounting

P.T.O.

- (vii) _____ means all the policies, procedures, methods, measures etc. adopted by the management to ensure that everything is working in the organization as it should.
- a. Internal control system
 - b. Internal audit
 - c. Internal check
 - d. Interim audit
- (viii) _____ is a detailed list of audit procedures to be performed in the conduct of an audit.
- a. audit plan
 - b. working paper
 - c. accounting
 - d. audit program
- (ix) Which of the following is the primary object of external audit?
- a. detection of errors and frauds
 - b. expression of independent opinion that whether or not financial statements give true and fair view
 - c. shareholders' satisfaction
 - d. prevention of errors and frauds
- (x) This type of error arises when the correct amount is entered but in the wrong account.
- a. error of omission
 - b. error of principle
 - c. error of commission
 - d. errors of original entry



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Auditing

Course Code: BBA-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q # 2. Answer the following short questions. (20)

- 1- Define INTERIM AUDIT.
- 2- Define UNQUALIFIED OPINION?
- 3- What is AUDITOR'S LIABILITY FOR LIBEL?
- 4- Define COMPUTER ASSISTED AUDIT TECHNIQUES (CAATs).
- 5- Define INTERNAL CHECK.
- 6- Define AUDIT WORKING PAPERS?
- 7- What is MANIPULATION OF ACCOUNTS?
- 8- Define QUALIFIED AUDIT REPORT?
- 9- What is the difference between THEFT and PILFERAGE?
- 10- What are TESTS OF CONTROLS?

Q # 3. Differentiate between Continuous Audit and Final Audit. (10)

Q # 4. What is a Statutory Report? State contents of the statutory report. (10)

Q # 5. Discuss rights (powers) and duties of auditor of a company. (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Taxation Management (Basic)

Course Code: BBA-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Income Tax Rules are effective from:

- a.
- b. 1979
- c. 2000
- d. 2001
- e. 2002

2. As per the income tax ordinance 2001, Person means:

- a.
- b. Individual
- c. Company or AOP
- d. Federal & Foreign Government
- e. All of the above

3. Which of the following is NOT a public limited company?

- a. A company in which 50% or more shares are held by the Federal Government
- b. A company in which 50% or more shares are held by a provincial government
- c. A company in which 50% or more shares are held by a foreign government
- d. A company in which 50% or more shares are held by a local government

4. Which from the following is NOT among the heads of "Total Income"?

- a.
- b. Salary
- c. Income from property/business
- d. Income from sales
- e. Capital gains

5. Which of the deductible allowance is deducted from gross tax?

- a. Educational Expenses
- b. Payment to workers' Welfare Fund
- c. a and b both
- d. None of the above

6. Which of the following is not included in Rent Chargeable to tax?

- a. Rent received or receivable by the owner of land or building
- b. Forfeited token money
- c. 1/10th of the advance not adjustable against Rent
- d. None of the above

P.T.O.

7. Highest Forum for reference in the point of law:

- a. CIR (Appeals)
- b. Appellate Tribunal Inland Revenue
- c. High Court
- d. Supreme Court

8. A loss carried forward from Income from business may be set off against:

- a.
- b. Income from the same business
- c. Income from any other source of income
- d. Income from any other business
- e. None of the above

9. Which of the following is responsible for appointment of members and Chairman of FBR?

- a.
- b. Federal Government
- c. Central Board of Revenue
- d. Federal Board of Revenue
- e. Provincial Government

10. Withholding tax is deducted at the time of:

- a.
- b. Recording suppliers invoice
- c. Making a purchase
- d. Making a payment
- e. Rendering the service



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Taxation Management (Basic)

Course Code: BBA-307 Part – II

Roll No.

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No.2: Define the short answers of the following questions.

(2*10=20)

- i. Define KIBOR.
- ii. What is Capital Asset?
- iii. Difference between normal tax year and transitional tax year.
- iv. Give two examples of Partly Agricultural and Partly Non-Agricultural Income.
- v. Define Rent Chargeable to tax (RCT).
- vi. Why is it important to differentiate between Revenue and Capital expenditure?
- vii. What is the difference between Exempt and Non-Taxable?
- viii. What is the tax treatment of "Loan to Employee" under the income tax ordinance 2001?
- ix. Enlist at least four examples of Income from Other Sources.
- x. Define Best Judgment Assessment.

Q. No. 3: Answer any one of the following.

(15)

What is Provident Fund? Discuss the treatment of various types of Provident Fund for inclusion in total income and exemption from income tax.

OR

What is meant by Agriculture Income? Is it taxable in Pakistan? Give explanation of different types of agricultural Income.

P.T.O.

Q. No. 4:

(15)

Mohammad Ali, a senior citizen of Pakistan (age above 60 years), supplies the following information for the tax year ended 30-06-2018. Compute his tax payable.

1. Basic Salary	Rs. 5,00,000
2. Cost of Living Allowance	30,000
3. Rent free unfurnished accommodation provided to him	-----
4. Medical allowance	28,000
5. Medical Facility (under terms of agreement)	40,000
6. Loan obtained from the employer @ 12%	11,00,000
7. Property income (Repair charges Rs. 25,000, Property tax paid Rs. 5,000)	2,50,000
8. Un-Adjustable Advance Rent	1,00,000
9. Profit from textile business	45,000
10. Un-adjustable business loss of previous year	35,000
11. Capital gains on sale of shares of private company (Disposed off within 12 months)	12,000
12. Shaukat Khanum Memorial Trust Specified in clause 61 of the second Schedule	90,900
13. Tax deducted at source from salary	10,000
14. Donation to Government educational institution	45,000
15. Contribution to approved fund at the age of above 40 yr	40,000
16. Won a car in competition held by Indus Motors for promotion of its sales RMW	2,50,000
17. Education fee of three children	50,000
18. Gain on sale of shares of public company acquired after 1 st July 2017 (Disposal within the period of 12 months)	75,000

Rate of tax for salaried person for tax year 2018

S. #	Slabs	Rate of tax
1	Where the taxable income does not exceed Rs. 4,00,000	Nil
2	Where the taxable income exceeds Rs. 4,00,000 but does not exceeds Rs. 5,00,000	2% of the amount exceeding Rs. 4,00,000
3	Where the taxable income exceeds Rs. 5,00,000 but does not exceeds Rs. 7,50,000	Rs. 2,000 + 5% of the amount exceeding Rs. 5,00,000
4	Where the taxable income exceeds Rs. 7,50,000 but does not exceeds Rs. 14,00,000	Rs. 14,500 + 10% of the amount exceeding Rs. 7,50,000
5	Where the taxable income exceeds Rs. 14,00,000 but does not exceeds Rs. 15,00,000	Rs. 79,500 + 12.5% of the amount exceeding Rs. 14,00,000
6	Where the taxable income exceeds Rs. 15,00,000 but does not exceeds Rs. 18,00,000	Rs. 92,000 + 15% of the amount exceeding Rs. 15,00,000
7	Where the taxable income exceeds Rs. 18,00,000 but does not exceeds Rs. 25,00,000	Rs. 1, 37,000 + 17. 5% of the amount exceeding Rs. 18,00,000
8	Where the taxable income exceeds Rs. 25,00,000 but does not exceeds Rs. 30,00,000	Rs. 2,59,500 + 20% of the amount exceeding Rs. 25,00,000



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Management Information System

Course Code: BBA-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q2. Give brief answers to the following questions (Short Questions). Marks: (10*2=20)

1. Differentiate between ERP and MIS?
2. What are the benefits of ESS?
3. Define KMS with example.
4. What is the important of MIS Report?
5. What does the statement mean: "Hardware is useless without software?"
6. Difference between Database and Database Management System.
7. Define the terms firewall and proxy server.
8. Describe the importance of Disaster Recovery Site?
9. What do you understand by Intrusion Detection Systems?
10. Differentiate between MIS & DSS

Q3. Give detail answers to the following questions (Long Questions) Marks: 30

1. Differentiate between Business functions and Business process with example of online book purchase store.
2. What is an information system? How does it work? What are its management, organization, and technology components and why are complementary assets essential for ensuring that information systems provide genuine value for organizations?
3. What are the most important tools and technologies for safeguarding information resources? Name and describe three authentications.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Management Information System

Course Code: BBA-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Converting raw data into a more meaningful form is called
 - A) capturing.
 - B) processing.
 - C) organizing.
 - D) feedback.
2. In a business hierarchy, the level that is responsible for monitoring the daily activities of the business is
 - A) middle management.
 - B) service workers.
 - C) production management.
 - D) operational management.
3. Which of the following would NOT be used as an input for an information system?
 - A) digital dashboard
 - B) handheld computer
 - C) bar-code scanner
 - D) cell phone
4. The three principal levels within a business organization hierarchy are
 - A) senior management, operational management, and service workers.
 - B) senior management, middle management, and operational management.
 - C) senior management, operational management, and information systems.
 - D) senior management, middle management, and service workers.
5. Engineers, scientists, or architects, who design new products or services for a firm, belong to which level of a business hierarchy?
 - A) middle management
 - B) production workers
 - C) knowledge workers
 - D) data workers
6. Which main business function is responsible for maintaining employee records?
 - A) sales and marketing
 - B) human resources
 - C) finance and accounting
 - D) manufacturing and production
7. A Order data for baseball tickets and bar code data are examples of
 - a. raw input.
 - b. raw output.
 - c. customer and product data.
 - d. sales information.

P.T.O.

8. Which is a benefit of generating a Gantt chart for your stakeholders, sponsors and team members?
- a. Shows clarity of multiple tasks and time lines
 - b. Identifies all the stakeholders and their requirements
 - c. Lists risks and intended courses of action if these events occur
9. is a full form of SQL.
- a. Standard query language
 - b. Sequential query language
 - c. Structured query language
 - d. Server-side query language
10. An advantage of the database management approach is
- a. data is dependent on programs
 - b. data redundancy increases
 - c. data is integrated and can be accessed by multiple programs
 - d. none of the above



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Development Economics

Course Code: BBA-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i. In terms of its contribution to GDP which one of the following is the largest sector in Pakistan economy?
 - a. The Agriculture sector
 - b. The Industrial sector
 - c. The Services sector
 - d. None of the above
- ii. Foreign exchange is used in _____.
 - a. Domestic trade
 - b. International trade
 - c. Local trade
 - d. Regional trade
- iii. Which of the following characteristics are most likely found in developing countries?
 - a. High population growth rates
 - b. Large number of people living in poverty
 - c. Very traditional methods of agricultural production
 - d. All of the above.
- iv. Characterizes of modern economic growth is presented by
 - a. Prof Simon Kuznets
 - b. Prof Adam smith
 - c. Prof Alfered Marshall
 - d. Prof J.B Say
- v. Economic development refers to
 - a. Economic growth
 - b. Economic growth plus changes in output distribution and economic structure
 - c. Improvement in the well-being of the urban population
 - d. Sustainable increase in Gross National Product
- vi. Government of Pakistan spends on education
 - a. 1% of GDP
 - b. 2% of GDP
 - c. 5 % of GDP
 - d. 4% of GDP
- vii. Foreign exchange is used in _____.
 - a. Domestic trade
 - b. International trade
 - c. Local trade
 - d. regional trade
- viii. According to Malthus population increases.
 - a. At Geometric rate
 - b. At arithmetic rate
 - c. At constant rate
 - d. None
- ix. Which of the following is a low-income country?
 - a. Mexico
 - b. Thailand
 - c. Turkey
 - d. Bangladesh
- x. More than three-fourth world population live in:
 - a. Advance countries
 - b. Developing countries
 - c. Asian countries
 - d. African countries



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Development Economics
Course Code: BBA-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Short Questions

(5x4=20)

- i. Define economic development.
- ii. Explain the Millennium development goals.
- iii. What are the three core value of economic development?
- iv. Write the four characterizes of under developing countries.
- v. What do you understand by the term "economic development is a process"?

Q.3. Long Questions

(3x10=30)

- i. Explain nature and scope of economic development.
- ii. Suggest some measure to control unemployment.
- iii. Why balance of payment of Pakistan is unfavorable?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Current Business Affairs

Course Code: BBA-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

(i). Environmental Governance views one of the following:

- (a) Natural resources and environmental
- (b) Artificial resources
- (c) Man made surroundings
- (d) None of these

(ii). Globalization refers to a process to do the following:

- (a) to bring world closer
- (b) dealing between two or more countries
- (c) Restricted relationship of countries
- (d) All of these

(iii). MERCOSUR was found in _____:

- (a) 1992
- (b) 1945
- (c) 1944
- (d) 2001

(iv). NPT stands for the following:

- (a) Non proliferation treaty
- (b) Non participating treaty
- (c) New proliferation treaty
- (d) non-proliferation term

(v). Under which agreement IMF and World Bank Formed:

- (a) WTO
- (b) USA & allies
- (c) (a) and (b)
- (d) Breton Wood Agreement

P.T.O.

- (vi). **Area of Kashmir is controlled by:**
(a) UNICEF
(b) Two Counties
(c) UNO
(d) None of These
- (vii). **What is the purpose of International Economic Association:**
(a) To issue Rules and Regulations
(b) To solve the economic problem of countries
(c) To provide Capital
(d) All of these
- (viii). **A parliament is called as a Parliament officially when formed by:**
(a) Elected people
(b) America
(c) People of country
(d) Boundary Commission
- (ix). **Which country is not included is G-8:**
(a) France
(b) Pakistan
(c) Germany
(d) Turkey
- (x). **The Foreign Ministers of SOUTH ASIAN COUNTRIES formed -----in 1980s?**
(a) G-5
(b) ASEAN
(c) NAFTA
(d) SAARC



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Current Business Affairs
Course Code: BBA-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.No.2. Define the following Terms:

(20 Marks)

- i. Write down the names of institutions in WORLD BANK GROUP?
- ii. Enlist the name of 4 Agency of UNO?
- iii. What is the nature of Pak-Iran relations?
- iv. Why China is so close to Pakistan
- v. Enlist the countries included in G-8?
- vi. What is Nuclear Proliferation Treaty?
- vii. Write down 3 Objectives of World Bank?
- viii. What is the primary function of IMF?
- ix. Write down about currency of IMF.
- x. What is meant by Syndication?

Q.No.3. What are the Global warming reason ? How these can be addressed? (10)

Q.No.4. Write a note on KASHMIR issue between Indian & Pakistan. (10)

Q.No.5. What is Globalization? Explain the Merits and Demerits of Globalization on Domestic business affairs of a country. (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Corporate Governance

Course Code: BBA-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. In Pakistan, Joint Stock Company is formed under the ordinance.
a. 1978 b. 1982 c. 1984 d. 1990
2. The person who manage the affairs of company are called
a. Shareholders b. Debenture holders c. Promoters d. Director
3. The minimum number of directors in a Public Ltd. Company are
a. Nine b. Seven c. Eleven d. Two
4. The approach in which Board of Directors to work for the best interest of shareholders, but without damaging the interest of other stakeholders is called
a. Shareholders b. Enlightened c. Stakeholders d. None of these
5. The issues are discussed in Cadbury report which are related to
a. Financial Aspect of CG b. Director's remuneration
c. Director's responsibilities d. None of these
6. What does a company issue to get loan from the public
a. Shares b. Debentures c. Dividend d. All the three
7. The board which comprises of people who have a big name in the society but have no acumen for conducting a company's business
a. Yes men board b. Paper board c. Trophy board d. Country Club board
8. The board composition in which only a part of the board retires at the end of a stated tenure while the duration of each director remains fixed
a. Common tenure board c. staggered board
b. Unitary board d. None of these
9. The persons who are members of the board and also an employee of the company
a. Executive director b. Non-executive director c. Independent director d. None of these
10. Revised Code of Corporate Governance issued by SECP in
a. 2001 b. 2004 c. 2008 d. 2012



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Corporate Governance
Course Code: BBA-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No. 2: Give short answer to the following questions: (20 Marks)

- i. What do you understand by "Corporate Governance"?
- ii. What is the difference between a shareholder and a stakeholder?
- iii. Which is the best approach to corporate governance and why?
- iv. What is difference between unitary board and Two-tier board?
- v. How is corporate governance linked with the agency theory?
- vi. What is an ineffective board? Give example?
- vii. Describe the sources from which the powers of board of directors can be determined?
- viii. What are the responsibilities of Audit Committee?
- ix. What is Creative accounting?
- x. Who are the real owners of the company?

Q. No. 3: What is the importance of corporate governance? Explain some of the corporate wrongs over the past few years. Also discuss corporate sins and some of the key issues related to corporate governance. (10)

Q. No. 4: Discuss the types of directors in detail. (10)

Q. No. 5: What are stakeholders? Classify them on the basis of their role in the company and explain why corporate governance is important for stakeholders. (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Sub Editing & Page Designing (Theory & Practice)

Course Code: BSCS-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Embargo is:
 - A. Ban till a specific time
 - B. 2nd headline of newspaper
 - C. Important news item
 - D. None of these
2. Curtain Raiser is:
 - A. News with 5Ws & 1H
 - B. News before an event
 - C. Name of Printer and Publisher
 - D. News received from web desk
3. Who defines headline as "Title of news?"
 - A. Miskeen Ali Hijazi
 - B. A. R. Khalid
 - C. Abdul Salam Khurshid
 - D. None of these
4. ----- is backbone of newspaper?
 - A. Editor
 - B. Sub-Editor
 - C. Gate Keeper
 - D. Peon
5. Display Ad is :
 - A. Ad displayed on back page
 - B. Ad from Government
 - C. Ad in which graphics are used
 - D. Ad from private sector
6. Advertorial is:
 - A. Ad and News content on same page
 - B. Editorials on certain products
 - C. Pages contains ad in national newspaper
 - D. None of these
7. Tabloid has ----- Columns:
 - A. 4
 - B. 5
 - C. 6
 - D. 7
8. Obituary news relates to:
 - A. Deaths
 - B. Births
 - C. Crimes
 - D. Sports
9. Print Line means:
 - A. Name of Story Write
 - B. B. Date and City Name
 - C. Name of Publisher & Printer
 - D. None of these
10. TASS is a news agency of which country?
 - A. Brazil
 - B. Russia
 - C. China
 - D. Germany



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Sub Editing & Page Designing (Theory & Practice)
Course Code: BSCS-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question No. 2: Write short answers.

(5*4=20)

- Write four characteristics of Headline. سرفی کی چار خصوصیات تحریر کریں۔
- What is American Style of making headline? Explain with 2 examples. سرفی بنانے کا امریکی طریقہ کیا ہے؟ دو مثالیں دیں۔
- Newsroom is the most important place in a newspaper. Discuss. نیوز روم، اخبار میں سب سے اہم جگہ ہوتی ہے۔ بحث کریں۔
- How 5Ws and 1H is important in a news story? خبر میں چھ کاف کی کیا اہمیت ہے؟

Question No.3: Write brief answers.

(6*5=30)

- Sub-Editor is the key to newspaper. Discuss. سب ایڈیٹر اخبار میں بہت اہمیت کا حامل ہوتا ہے۔ بحث کریں۔
- Describe various make-up techniques of Pakistani newspapers. پاکستانی اخبارات میک اپ کی کون کون سی تکنیکیں استعمال کر رہے ہیں؟
- Headline is a window towards news. Discuss. سرفی خبر کی طرف کھڑکی کا کام کرتی ہے۔ بحث کریں۔
- Computer plays a vital role in subediting and page designing. Discuss. کمپیوٹر ہیڈ لائننگ اور سب ایڈنگ میں اہم کردار ادا کرتا ہے۔ بحث کریں۔
- "Pakistani newspapers are only spokesmen of government." Do you agree with this statement? Support your answer with arguments. "پاکستانی اخبارات محض حکومت کے ترجمان ہیں۔" کیا آپ اس بیان سے متفق ہیں؟ اپنے جواب کو دلائل سے مزین کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Feature, Column & Editorial Writing (Theory & Practice)

Course Code: BSCS-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

i Which phrase describes a feature?

- (a) A hard news story
- (b) Any story that informs the reader
- (c) A soft news story
- (d) Any short newspaper article

ii What is a lead ?

- (a) The main ideas of a feature story
- (b) A piece of information that attracts and keeps the reader's interest
- (c) A point in the story where the reader loses interest
- (d) The angle of a story

iii What is the soft news?

- (a) News that is based on opinions, not facts
- (b) News that is entertaining or interesting
- (c) News that is circulated on the internet not on paper
- (d) Advice column

iv Your choice of source depends on

- (a) The source's expertise
- (b) The source's popularity
- (c) The source's availability
- (d) The source's height and weight

v What is editorial ?

- (a) An opinion piece that uses the pronoun "I"
- (b) The process when an editor works with unfinished story
- (c) A part of the working process
- (d) The job that reporters get after they are promoted



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Feature, Column & Editorial Writing (Theory & Practice)

Course Code: BSCS-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answer of following.

(4x5=20)

- i. Educational values of feature.
- ii. Importance of column writing.
- iii. Difference between structure of news story for radio and newspaper.
- iv. Write a short note on editorial cartoon.

Q.3. Write brief answer of following.

(10x3=30)

- i. Editorial reflects the policy of newspaper organization. Write a detail not on it.
- ii. Why feature is considered as the “Show Window” of any newspaper? Give strong arguments and also write down different types of features.
- iii. What is the difference between an opinion article and an editorial?



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research Methods-I

Course Code: BSCS-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. In the process of conducting research what is the next step after the 'Formulation of Hypothesis'?

a) Statement of Objectives

b) Analysis of Data

c) Selection of Research Tools

d) Collection of Data

2. The people or cases used in experimental research are called ,

a) Respondents

b) Units

c) Subjects

d) Population

3. Each person or unit is connected with another through a direct or indirect linkage in,

a) Random sampling

b) Snowball sampling

c) Stratified sampling

d) Purposive sampling

4. In which of the following method "vision" is employed as a mean of data collection?

a) Experiment

b) Survey

c) Historical

d) Observation

5. In -----sampling, every unit of population has an equal chance of being selected for sampling.

a) Non probability sampling

b) Probability sampling

c) Quota sampling

d) None of these

P.T.O.

6. The process of converting concepts into their empirical measurement is called,
- a) Conceptualization
 - b) Characterization
 - c) Classification
 - d) Operationalization
7. In which level the events are classified into categories in order to measure difference among them?
- a) Nominal-level measurement
 - b) Ordinal-level measurement
 - c) Ratio- level measurement
 - d) Interval-level measurement
8. Measurement with an absolute zero as its lowest value or absence of variable is,
- a) Nominal-level measurement
 - b) Ordinal-level measurement
 - c) Ratio- level measurement
 - d) Interval-level measurement
9. Convenient sampling is also called,
- a) Haphazard sampling
 - b) Accidental sampling
 - c) Both of these
 - d) None of these
10. Which of the following is related to Quantitative research?
- a) Objective facts
 - b) Focus on variables
 - c) Statistical analysis
 - d) All of them



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research Methods-I

Course Code: BSCS-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers to following questions. (4x5=20)

- 1) What are the sources of research literature for a researcher?
- 2) Give an account of the strengths of Qualitative research.
- 3) Compare Basic research with applied research.
- 4) How Probability sampling is different from Non-probability sampling?

Q.3. Answer the followings. (3x10= 30)

- 1) Give a comprehensive comparison of Quantitative research and Qualitative research.
- 2) Describe the need and significance of research in social sciences.
- 3) What steps are involved in conducting a survey research?

UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Theories of Communication-II

Course Code: BSCS-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Three researchers; Phillip J. Tichenor, George A. Donohue, and Clarice N. Olien of Minnesota University - first proposed the..... in 1970.
 - a) Priming
 - b) knowledge Gap Hypotheses
 - c) Agenda setting
 - d) None of these
2. Everett Rogers, a professor of communication studies, popularized the theory
 - a) Framing
 - b) Diffusion of innovations
 - c) Cultivation theory
 - d) Magic Bullet theory
3. Mc. Comb & Shaw presented _____ theory.
 - a) Framing
 - b) Agenda Setting
 - c) Magic Bullet
 - d) Priming
4. Most of the media images are purposely used to capture our attention and develop_____.
 - a) Mediated realities
 - b) Social realities
 - c) Natural realities
 - d) One of them
5. Cultivation effects hypothesis was presented by _____.
 - a) George Gerbner
 - b) Mc Comb & Shaw
 - c) Laswell
6. Agenda Setting was presented in _____.
 - a) 1972
 - b) 1970
 - c) 1971
 - d) 1975
7. When the group or public realizes that the individual has a divergent opinion from the status quo: this is the basic concept of -----
 - a) Agenda setting
 - b) Diffusion of innovation
 - c) Cultivation effects hypothesis
 - d) Spiral of silence
8. Selective Retention approves that
 - a) People recall best messages associated to their attitudes and views
 - b) People evoke already prevailing messages near to their attitudes and views
 - c) People retention of messages level is very poor
 - d) None of above.
9. Which of the following is not one of the primary functions of mass communication?
 - a) Surveillance
 - b) Cultural Transmission
 - c) Entertainment
 - d) Immunization
10. The media exercises a selective influence over how people view reality
 - a) Diffusion of innovation
 - b) Framing
 - c) Cultivation effects hypothesis
 - d) Opinion formation



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Theories of Communication-II

Course Code: BSCS-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Attempt all Questions with short answers

(4x5=20)

- i. Describe briefly the proposed elements of "Diffusion of Innovation".
- ii. Explain the concept of "selective retention" in the light of media effect approach.
- iii. Discuss the close relationship between theory and research.
- iv. Describe the term priming.
- v. Explain the significance of theory and its relationship with research.

Q.3 Questions with comprehensive answers

(3x10=30)

- i. What is your understanding regarding "Knowledge Gap Hypothesis"? Explain with example.
- ii. Write a comprehensive note on framing Theory.
- iii. Discuss the classification of individuals in social system on the basis of innovativeness in the light of Diffusion of innovation also describe its basic assumptions with the help of examples.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Introduction to Advertising & Public Relations
Course Code: BSCS-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Advertisements of particular products which are banned by law is called _____ advertising.
 - a. Covert
 - b. Surrogate
 - c. Professional
 - d. Banned
2. There are two categories of advertising appeals.
 - a. Emotional and Rational
 - b. Emotional and Social
 - c. Social and Rational
 - d. Social and Fear
3. If a slogan is sung in any advertisement then it becomes
 - a. BGM
 - b. Jingle
 - c. Tagline
 - d. None of these
4. _____ Appeal draws the viewers' attention by giving them sense of loss.
 - a. Death Appeal
 - b. Emotional Appeal
 - c. Rational Appeal
 - d. Fear Appeal
5. Which one of the following is not the type of propaganda
 - a. White
 - b. Black
 - c. Grey
 - d. Yellow
6. _____ is a story on what is likely to happen and not a report on what has happened.
 - a. Press release
 - b. Press Note
 - c. Curtain raiser
 - d. none of these
7. _____ is a short, compelling news story written by a public relations professional and sent to targeted members of the media.
 - a. Propaganda
 - b. Press release
 - c. Publicity
 - d. None of these

P.T.O.

8. Father of Public Relations is _____

- | | |
|----------------------|--------------------|
| a. Edward L. Bernays | c. James E. Grunig |
| b. Thomas Jaferson | d. Ive Lee |

9. _____ is an account of government view point issued on important and urgent occasions. Newspapers or electronic media have no choice but to publish or air it in the same language and with the same contents

- | | |
|----------------|---------------------|
| a. Advertising | c. Public Relations |
| b. Press Note | d. None of these |

10. _____ is a marketing tactic involving paying for space to promote a product, service, or cause.

- | | |
|----------------|------------------|
| a. Advertising | c. Sale |
| b. Campaign | d. None of these |



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Introduction to Advertising & Public Relations

Course Code: BSCS-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Short Answers (20)

1. What is the difference between Press Release and Press Note?
2. What do you mean by ATL activities?
3. What is Curtain Raiser?
4. What is different between Advertising and PR?
5. What do you mean by Blink Add?
6. What is difference between propaganda and publicity?
7. Write down the names of major departments of Advertising Agency.
8. DGPR stands for?
9. Write down any two qualities of PRO?
10. RACE stands for?

Questions with Brief Answers (30)

1. Discuss in detail the duties of Public Relation Officer and also describe tools of Public Relations. (10)
2. What are major key players of advertising agency and what is the responsibility of Creative department in advertising agency? (10)
3. Define Advertising. Explain any three types of Advertisement. Highlight the various techniques and tactics used in making effective advertisement. (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Physical Chemistry

Course Code: CHEM-313 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

(i) Mathematical relation between entropy and probability is

(a) $S = k_B \ln \omega$

(b) $S = -k_B \ln \omega$

(c) $S = -k_B \omega$

(d) None of these

(ii) The SI units of pre-exponential factor A in equation $k = Ae^{-\frac{E_a}{RT}}$ for zero order reaction are

(a) MS^{-1}

(b) $\text{M}^{-1}\text{S}^{-1}$

(c) $\text{M}^{-2}\text{S}^{-1}$

(d) None of these

(iii) The pre-exponential factor A in equation $k = Ae^{-\frac{E_a}{RT}}$ is the rate constant at

(a) Room temperature

(b) Absolute zero

(c) Infinite temperature

(d) None of these

(iv) Eyring equation is related to

(a) Collision theory (b) Transition state theory (c) magnetic field

(d) Relaxation methods

P.T.O.

(v) The value of entropy of universe is going to increase. This statement belongs to

- (a) 1st law of thermodynamics
- (b) 2nd law of thermodynamics
- (c) 3rd law of thermodynamics
- (d) None of these

(vi) The relaxation methods are used to study the kinetics of

- (a) Slow reactions
- (b) Irreversible reactions
- (c) Fast reversible reactions
- (d) None of these

(vii) The SI units of $T\Delta S$ of a process are

- (a) K mol^{-1}
- (b) J mol^{-1}
- (c) $\text{m}^2 \text{ mol}^{-2}$
- (d) mol m^{-2}

(viii) In a reversible process entropy of the universe is always

- (a) Increasing
- (b) Decreasing
- (c) Remains same
- (d) None of these

(ix) The units of rate constant for 1st order reaction are

- (a) $\text{mol dm}^{-3} \text{Sec}^{-1}$
- (b) K kg mol^{-2}
- (c) K kg mol
- (d) Sec^{-1}

(x) The method of kinetic study of fast reaction based on perturbation of a system in equilibrium are called

- (a) Relaxation methods
- (b) Phosphorescence methods
- (c) Transmission methods
- (d) Spectroscopic methods



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Physical Chemistry
Course Code: CHEM-313 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. 2 Answers the following short questions:

(2×10=20)

- (a) Define the term microstate.
- (b) What are effective collisions?
- (c) Give two statements of 2nd law of thermodynamics.
- (d) Give a mathematical relation between Gibbs energy, entropy and enthalpy of a process.
- (e) What is the effect of temperature on vertical distribution of gas?
- (f) Describe term Clausius in-equality.
- (g) Write two different forms of Arrhenius equation.
- (h) What is difference between Classical and Statistical thermodynamics?
- (i) Give mathematical formulation of Barometric formula.
- (j) What do you understand by fast reactions?

Q.3 (a) State and explain 2nd law of Thermodynamics. (5)

(b) Discuss Clausius in-equality in Thermodynamics. (5)

Q.4 (a) Give five postulates of transition state theory. (5)

(b) Derive Eyring equation on the basis of postulates of transition state theory (5)

Q.5 (a) What is Sterling's approximation? Give its significance. (5)

(b) Discuss effect of molar mass and altitude on vertical distribution of particles. (5)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Inorganic Chemistry

Course Code: CHEM-315 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. The hybridization of Ni in $\text{Ni}(\text{CO})_4$ is

a) sp^3

b) dsp^2

c) sp

d) sp^2

2. which one is a high spin or outer orbital complex?

a) $[\text{Co}(\text{H}_2\text{O})_6]^{2+}$

b) $[\text{Co}(\text{CN})_6]^{3-}$

c) $[\text{CoF}_6]^{3-}$

d) $[\text{Co}(\text{CN})_6]^{2-}$

3. Which one of the following statement is false

a) weak ligand like F^- , Cl^- form high spin complexes. b) strong ligand like CN^- form low spin complexes.

c) $[\text{FeF}_6]$ is high spin complex.

d) $\text{Ni}(\text{CO})_4$ is high spin complex

4. Octahedral complex ($\text{C.N}=6$) show cis-trans isomerism if they are of type

a) Ma_4b_2

b) Ma_3b_3

c) Ma_6

d) M_5b

5. The red phosphor in colour screen is

a) CaO

b) CuSO_4

d) Eu

d) Xe

6. The most common oxidation state of actinide are

a) +5

b) +7

c) zero

d) +3

7. All lanthanides are non-radioactive except

a) promethium

b) actinium

c) uranium

d) thorium

P.T.O.

8. Which theory is unable to predict the shapes of molecule having extensive delocalized π -electrons system

a) CFT

b) VBT

c) MOT

d) Warner's theory

9. Which of the following compound show intermolecular hydrogen bonding

a) p-nitrophenol.

b) m-hydroxy benzaldehyde

c) o-hydroxy benzoic acid

d) none of the above.

10. YH_3 is used as

a) hydrogen moderator carrier .

b) diluents.

c) structural component.

d) radiation source.

d) none of the above.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Inorganic Chemistry
Course Code: CHEM-315 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. 2 SHORT QUESTIONS

(2x10=20 marks)

- (i) How VSEPR theory explain the shape of SO_3 and SO_4^{2-} ?
- (ii) Explain the shape of AB_9 molecules with examples?
- (iii) What is the shape of XeF_2 and XeF_6 molecule?
- (iv) Explain the structure of heteronuclear diatomic molecule by MOT.
- (v) Explain John-Teller distortion with example
- (vi) Differentiate between Hybrid and molecular orbital?
- (vii) What are the different oxidation states of Actinides?
- (viii) Give some examples of ores of Lanthanides.
- (ix) What are the applications of Uranium?
- (x) Explain preparation of metals of individual Lanthanide after separation.

Q. 3 Long Questions

(10x3=30 marks)

- (i) Explain the isomerism in coordination compounds with suitable examples? (10)
- (ii) How Thorium can be extracted from monazite ore by acid cracking? (10)
- (iii) What are the role of Lanthanides in industry and chemistry? (10)

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

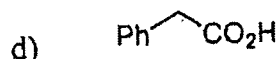
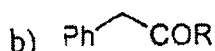
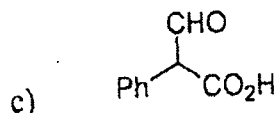
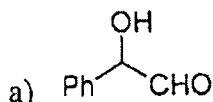
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Signature of Supdt.:

Q.1. Encircle the correct choice.

(1x10=10)

- i. Which version of radical halogenation of alkanes is most selective?
a) Fluorination b) Chlorination
c) Bromination c) Iodination
- ii. Which one of the following statements regarding free radicals is false?
a) Free radical carry a single, unpaired electron
b) Free radicals are product as a result of hemolytic cleavage of covalent bond
c) Free radical don't occur naturally in body
d) A free radical can interact with a molecule to generate a new free radical species

iii) Catalytic reduction of $\text{Ph}-\text{CH}(\text{OH})-\text{CO}_2\text{H}$ gives



- iv) Aldehydes and ketones can be reduced to
a) Hydrocarbon b) Alcohols
c) Carboxylic acids d) All of these
- v) Which one of the following is principle chromophore in azo-dyes?
a) $C\equiv N$ b) $N\equiv N$
c) $N=N$ d) $C=N$
- vi) Which of the following statements is wrong?
a) Infrared radiation is higher in energy than UV radiation.
b) Infrared spectra record transmission of IR radiation.
c) Molecular vibrations are due to periodic motions in atoms i.e. stretching bending
d) IR spectra give information regarding functional groups in a molecule
- vii) Which of the following wavelength is associated with UV spectroscopy?
a) 0.8 – 500nm b) 400 – 100nm
c) 380 – 750 nm d) 0.01 – 10nm
- viii) Visible absorptions are _____ than UV.
a) Weaker b) Stronger
c) Equal d) None of above
- ix) Swern oxidation would convert primary alcohol to
a) Aldehyde b) Ketone
c) Carboxylic acids d) Alkene
- x) Secondary alcohols on catalytic dehydrogenation by Cu-Ni couple gives
a) Ketone b) Carboxylic acid
c) Aldehyde d) Amine

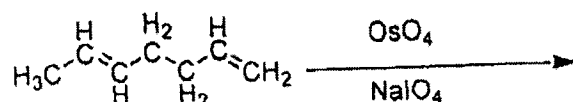


ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Answer the following questions.

(4x5=20)

- Give possible electronic transitions in Ethyl benzoate and Acetaldehyde
- Discuss Birch reduction with suitable example and mechanism.
- Explain why ethylene does not show C=C stretching band while propylene does.
- What is role of free radicals in aging?
- Write product and mechanism of given reaction



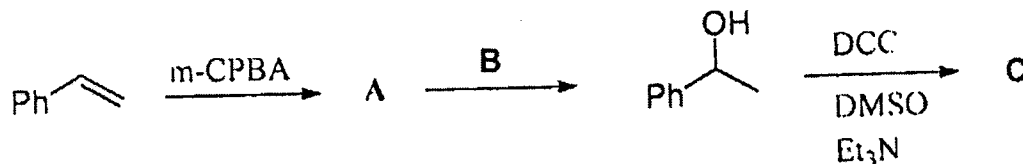
Q.3.

- What a note on Swern oxidation of alcohols? (5)
- Discuss different methods for oxidative cleavage of double bond? (5)

Q.4. Describe sample handling in infrared spectroscopic technique? (10)

Q.5.

- a) How would you complete these reactions with mechanism? (6)



- b) Describe briefly hydroboration with mechanism and regioselectivity? (4)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Analytical Chemistry

Course Code: CHEM-319 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) Which of the following is not application of flame emission photometer?
 - a) Analysis of biological fluid
 - b) Determination of sodium and potassium ions in soil analysis
 - c) Determination of metal
 - d) Analysis of complex mixture
- (ii) Solvent extraction is controlled by
 - a) Distribution law
 - b) Dilution law
 - c) Particle size
 - d) All
- (iii) Ether layer is used to separate
 - a) Fiber
 - b) Inorganic impurity
 - c) Organic impurity
 - d) Gases
- (iv) Absorbed wavelength in AAS appear as
 - a) Dark background
 - b) Dark lines
 - c) Light background
 - d) None
- (v) In flame emission photometer, the measurement of _____ is used for qualitative analysis
 - a) Color
 - b) Intensity
 - c) Velocity
 - d) Frequency
- (vi) Laminar flow burner, used in flame photometer is known as
 - a) Turbulent burner
 - b) Premix burner
 - c) Total consumption burner
 - d) Nozzle mix burner

P.T.O.

- (vii) In Gel electrophoresis, how do we make DNA migrate through the gel
- a) Gravity
 - b) Place a positive electrode away from wells
 - c) Large fragments drift to end of the gel
 - d) Place a negative electrode away from wells
- (viii) Ion exchange resin is
- a) Linear
 - b) Low molecule weight
 - c) Organic polymer with porous structure
 - d) Soluble
- (ix) Which of the following is not component of emission system in flame photometer?
- a) Burner
 - b) Atomizer
 - c) Fuel gases
 - d) Chopper
- (x) The pH at which the net charge in the amino acid is zero
- a) Isoelectric point
 - b) Isoelectric focusing
 - c) Capillary point
 - d) None



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

SUBJECTIVE

Section I

Q.2- Attempt all Short questions

(2x10=20)

- (i) What is isoelectric point?
- (ii) Differentiate between Flame photometry and atomic absorption spectroscopy.
- (iii) Write examples of strong acid cationic resins.
- (iv) What do you mean by percent extraction?
- (v) Write principle of atomic absorption of spectroscopy.
- (vi) Describe significance of Gel chromatography.
- (vii) What do you know about electro osmotic flow?
- (viii) How does ion exchange chromatography help in softening of hard water?
- (ix) What is solid phase extraction?
- (x) What is the role of complexing agents in metal extraction?

Section II

Attempt all questions.

(5x6=30)

Q 3:

- a) Explain all steps involved in flow injection analysis.
- b) Discuss different types of resins
- c) How are metals extracted by solvent extraction? Explain.
- d) Write applications of flame emission spectroscopy.
- e) Describe hydride generation in flameless method in AAS.
- f) Discuss factors affecting ion exchange chromatography.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Applied Chemistry

Course Code: CHEM-321 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i) Soaps were originally made from
 - a) Protein
 - b) Animal fat
 - c) Chemicals
 - d) Vegetable oil and animal fat
- ii) Hydrogenation catalysts are
 - a) Metals
 - b) Hydroxides
 - c) Organic compounds
 - d) None of the above
- iii) Picric acid is formed when phenol reacts with
 - a) Nitric acid
 - b) Hydrogen
 - c) Sulphuric acid
 - d) Formaldehyde
- iv) Tallow is a
 - a) Fatty material
 - b) Low melting fat
 - c) Digest of animal fat with steam
 - d) All above
- v) Density of phenol is
 - a) More than water
 - b) Less than water
 - c) Equal to water
 - d) None of these
- vi) In high Silica glass, percentage of Silica is
 - a) 96
 - b) 90
 - c) 95
 - d) 92

P.T.O.

- vii) Which of the following is a unit operation
- a) Oxidation
 - b) Hydration
 - c) Bromination
 - d) Filtration
- viii) Glass is
- a) Undercooled liquid
 - b) A union of nonvolatile inorganic oxides
 - c) Amorphous solid
 - d) All above
- ix) Which of the following can be used as fabric softeners?
- a) Cationic surfactants
 - b) Anionic surfactants
 - c) Amphoteric surfactants
 - d) Non-ionic surfactants
- x) Which of the following substance(s) is used as filler in soap manufacturing
- a) Sodium silicate
 - b) Sodium chloride
 - c) Caustic soda
 - d) All can be used



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Applied Chemistry

Course Code: CHEM-321 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 Short Questions

2x10 = 20

- i. Define UNIT CHEMICAL PROCESSES with examples.
- ii. Discuss oxidation of AMINES.
- iii. Describe the structure of CATIONIC surfactants.
- iv. Draw the flow sheet diagram of NITRATION process.
- v. What is the significance of ANNEALING in glass industry?
- vi. What are homogeneous CATALYSTS?
- vii. What are Metallic soaps?
- viii. Describe any two SULFONATING agents?
- ix. Why SO_3 is not directly added to the water in CONTACT process?
- x. Describe the principle of multiple effect evaporator.

Q.3 Extensive Questions

6 x 5 = 30

- a) Describe manufacturing of ACETIC ACID in industry?
- c) What is a TEMPERED safety glass? How is it manufactured?
- d) Describe SOAP manufacturing by KETTLE process.
- e) How NITRATION of benzene is carried out in industry?
- f) Explain MULTIPLE EFFECT EVAPORATOR. Why is it preferred over single effect evaporator?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Bio Chemistry

Course Code: CHEM-323 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i) An example of a saturated fatty acid is:
 - a) Palmitic acid
 - b) Oleic acid
 - c) Linoleic acid
 - d) Erucic acid
- ii) If the fatty acid is esterified with an alcohol of high molecular weight instead of glycerol, the resulting compound is:
 - a) Wax
 - b) Plasmalogen
 - c) Cephalin
 - d) Lipositol
- iii) Which one of the following acid is a vitamin
 - a) Aspartic acid
 - b) Lactic acid
 - c) Ascorbic acid
 - d) Adipic acid
- iv) Calcium deficiency in the body occurs in the absence of:
 - a) Vitamin C
 - b) Vitamin D
 - c) Vitamin A
 - d) Vitamin E
- v) Protein present in milk is
 - a) Sericin
 - b) Oryzenin
 - c) Glutalin
 - d) Casein
- vi) What is the calorific value of fat/g?
 - a) 5 Cal/g
 - b) 9 Cal/g
 - c) 4 Cal/g
 - d) 10 Cal/g

P.T.O.

- vii) Cephalins consists of
- a) Glycerol, fatty acids, phosphoric acid and choline
 - b) Glycerol, fatty acids, phosphoric acid and ethanolamine
 - c) Glycerol, fatty acids, phosphoric acid and inositol
 - d) Glycerol, fatty acids, phosphoric acid and Serine
- viii) Molecular formula of cholesterol is
- a) $C_{27}H_{45}OH$
 - b) $C_{29}H_{47}OH$
 - c) $C_{25}H_{46}OH$
 - d) $C_{23}H_{41}OH$
- ix) Each turn of α -helix contains the amino acid residues (number):
- a) 3.6
 - b) 3
 - c) 4.6
 - d) 4
- x) An essential amino acid in man is
- a) Aspartate
 - b) Tyrosine
 - c) Methionine
 - d) Serine



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Bio Chemistry

Course Code: CHEM-323 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 Short Questions

2x10 = 20

- i. How much amount of catalyst is consumed in the reaction it catalyzes?
- ii. What are AROMATIC Amino Acids? Give example.
- iii. What is the difference between reversible and irreversible inhibition?
- iv. What do you mean by a PEPTIDE LINKAGE?
- v. What is the main source and form of energy?
- vi. Define MICELLES?
- vii. What is RANCIDIFICATION? Give example.
- viii. Differentiate between COLLAGEN and ELASTIN?
- ix. Write two Functions of MYOGLOBIN.
- x. What do you mean by COMPETITIVE INHIBITION?

Q.3 Extensive Questions

6 x 5 = 30

- a) Define PROSTAGLANDINS. Write about it in detail.
- b) Write a note on FACTORS effecting ENZYME ACTIVITY.
- c) Write a note on the STRUCTURE of PROTEINS.
- d) Write a note on ENZYME INHIBITORS.
- e) What do you understand by THERMOGENIC EFFECT of food?
- f) What are PHOSPHOLIPIDS? Explain briefly.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Financial Management (Commerce)

Course Code: COMM-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1- The sale of new security directly to an investor or group of investor is:

- a) Public offering
- b) Over the counter
- c) Private placement
- d) Non of these

2- _____ recognizes revenues and expenses only with respect to actual inflows and outflows of cash

- a) Accrual basis
- b) Cash basis
- c) Matching principle
- d) None of these

3- The likelihood that managers may place personal goals ahead of corporate goals is:

- a) Financial problem
- b) Market problem
- c) Operations problem
- d) Agency Problem

4- Decrease in any asset in cash flow indicates _____ of cash.

- a) Inflow
- b) Outflow
- c) No change
- d) Depreciation

5- If total assets = 150,000 fixed assets= 50,000 current liabilities= 40,000, NWC is:

- a) 60,000
- b) 70,000
- c) 80,000
- d) 90,000

6- The actual rate of interest charged by the supplier of funds and paid by demanders is:

- a) Nominal
- b) Real
- c) Fake
- d) Actual

P.T.O

7- Expected benefit on share is 6.5 and the current price of share is 50, k^{\wedge} will be:

- a) 13%
- b) 14%
- c) 15%
- d) Non of these

8- If required return= 15%, constant zero growth dividend= 3, value of common stock is:

- a) 30
- b) 20
- c) 40
- d) Non of these

9- Beta usually measures _____ risk.

- a) Diversifiable
- b) Non diversifiable
- c) Convertible
- d) None of these

10- A _____ current ratio indicates a great degree of liquidity.

- a. Low
- b. High
- c. Medium
- d. None of these



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Financial Management (Commerce)

Course Code: COMM-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. 2 Give Short answers of the following questions:

(10×2=20)

1. What do you mean by agency cost?
2. What is the difference between real interest rate and nominal interest rate?
3. Compute the net working capital if Total assets = 150,000 fixed assets = 50,000 Current liabilities = 40,000
4. Define investing cash flow.
5. What would be the gross profit margin if Cash Sales = 100,000 Credit sales = 200,000 Cost of goods sold = 80,000
6. If risk free rate= 8%, market return=13%, beta=0.90. Compute CAPM.
7. Define annuity.
8. What do you mean by financial services?
9. How would you explain corporate governance?
10. What is time series analysis?

Q.3 Newman Manufacturing is considering a cash purchase of the stock of Grips Tool. During the year just completed, Grips earned \$4.00 per share and paid cash dividends of \$2.50 per share (D0\$2.50). Grips' earnings and dividends are expected to grow at 25% per year for the next 4 years, after which they are expected to grow at 10% per year to infinity. What is the maximum price per share that Newman should pay for Grips if it has a required return of 15% on investments with risk characteristics similar to those of Grips? (10)

Q.4 Compute liquidity ratios and activity ratios.

Fox Manufacturing Company	
Income Statement	
For the Year Ended December 31, 2018	
Sales revenue	\$600,000
Less: Cost of goods sold	<u>460,000</u>
Gross profits	<u>\$ 140,000</u>
Less: Operating expenses	
General and administrative expenses	\$30,000
Depreciation expense	<u>30,000</u>
Total operating expense	<u>60,000</u>
Operating profits	\$ 80,000
Less: Interest expense	<u>10,000</u>
Net profits before taxes	<u>\$ 70,000</u>
Less: Taxes	27,100
Net profits after taxes (earnings available for common stockholders)	<u>\$ 42,900</u>
Earnings per share (EPS)	<u>\$2.15</u>

P.T.O

Fox Manufacturing Company

Balance Sheet

December 31, 2003

Assets

Cash	\$ 15,000
Marketable securities	7,200
Accounts receivable	34,100
Inventories	<u>82,000</u>
Total current assets	\$138,300
Net fixed assets	<u>\$270,000</u>
Total assets	\$408,300

Liabilities and Stockholders' Equity

Accounts payable	\$ 57,000
Notes payable	13,000
Accruals	<u>5,000</u>
Total current liabilities	\$ 75,000
Long-term debt	\$150,000
Stockholders' equity	
Common stock equity (20,000 shares outstanding)	\$110,200
Retained earnings	73,100
Total stockholders' equity	<u>\$183,300</u>
Total liabilities and stockholders' equity	<u>\$408,300</u>

Company made purchases of \$600,000 during the year. (10)

Q.5 An investment offers \$2,250 per year for 15 years, with the first payment occurring one year from now. If the required return is 10 percent, what is the value of the investment? (10)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Banking Law and Practice

Course Code: COMM-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- 1) Traveller cheques can be encashed by:
 - a) any person
 - b) third party
 - c) the purchaser
 - d) the creditor
- 2) Functions of the bank include:
 - a) borrowing and lending money
 - b) act as Modarba company
 - c) granting letters of credit
 - d) all of these
- 3) In PLS account, profit or loss is determined & distributed after:
 - a) 3 months
 - b) 6 months
 - c) 9 months
 - d) 1 year
- 4) State bank of India was allowed to function in Pakistan until:
 - a) 30 September 1947
 - b) 30 September 1948
 - c) 30 September 1949
 - d) 30 September 1950
- 5) Minimum paid up capital for a bank can be determined by State Bank:
 - a) Only Once
 - b) Annually
 - c) From time to time
 - d) Every 5 years
- 6) Any banking company can appeal against the orders of State Bank to:
 - a) banking court
 - b) central board of directors of SBP
 - c) banking council
 - d) none of these
- 7) State bank of Pakistan was established on:
 - a) 1st July 1948
 - b) 15 August 1948
 - c) 11 September 1948
 - d) 5 December 1948
- 8) License to bank is issued by:
 - a) Federal Govt.
 - b) Provincial Govt.
 - c) Banking Council
 - d) State bank of Pakistan
- 9) Banker's Book Evidence Act was passed in:
 - a) 1890
 - b) 1891
 - c) 1892
 - d) 1893
- 10) In 1947, which bank was functioning in Pakistan:
 - a) Habib Bank
 - b) Australasia Bank
 - c) Muslim Commercial Bank
 - d) Both A&B



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Banking Law and Practice
Course Code: COMM-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 Short Questions

(2x10=20)

- i. What are the benefits of negotiable instruments?
- ii. For what purpose the banks maintain the reserve fund?
- iii. Explain the term tangible securities?
- iv. Briefly explain the duties of the borrowers?
- v. What are different kinds of deposit?
- vi. What do you understand by profit and loss sharing?
- vii. Describe the scheduled banks?
- viii. Define collateral securities?
- ix. What are the advantages of letter of credit?
- x. What is meant by the term “liquidity”?

Q.3 Long Questions

(3x10=30)

- i. Briefly explain the powers of the State Bank of Pakistan?
- ii. Explain Foreign exchange regulation Act 1947?
- iii. What are the classification of securities?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Islamic Principles of Business & Finance
Course Code: COMM-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. A contract of forward sale in which payment is in advance whereas the delivery of goods in future

- | | |
|-----------------|------------------|
| A. Bai Salam | B. Bai Mudarba |
| C. Bai Murabaha | D. Bai Musawamah |

2. The Primary Source of Islamic Law

- | | |
|---------------|-----------------------------|
| A. Holy Quran | B. Ijma |
| C. Qiyas | D. Sharia Supervisory Board |

3. Saving and term deposits in Islamic banking in Pakistan are offered under the contract

- | | |
|-------------|-------------|
| A. Ijara | B. Salam |
| C. Mudaraba | D. Musharka |

4. Supply contract is termed as

- | | |
|----------------|--------------------|
| A. Bai Salam | B. Bai Al Istijrar |
| C. Bai Istisna | D. None of these |

5. _____ means hazard, chance, stake or risk.

- | | |
|-----------|-----------------|
| A. Gharar | B. Khatar |
| C. Maiser | D. none of them |

6. _____ takes place when two parties undertake obligations in respect of any matter-

- | | |
|----------|-------------|
| A. Aqd | B. Contract |
| C. wadah | D. Methaq |

P.T.O.

7. Ijarah Muntahia Bi Tamleek is an alternate of.....

- | | |
|------------------------|----------------|
| A. Hire purchase lease | B. installment |
| C. Modern I jarrah | D. shirkah |

8. A contract involving "Principal & Agent"

- | | |
|------------|-----------|
| A. Ijara | B. Wakala |
| C. Kafalah | D. Rahn |

9. Islamic mode of financing based on periodic rentals (contract allowing the transfer of Usufract)

- | | |
|-----------------|------------------|
| A. Bai Salam | B. Ijara |
| C. Bai Musharka | D. none of these |

10. Islamic mode of financing known as Cost plus system

- | | |
|-----------------|----------------|
| A. Bai Salam | B. Bai Istisna |
| C. Bai Murabaha | D. Bai Mudarba |



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Islamic Principles of Business & Finance

Course Code: COMM-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Short Questions:

Marks 20

1. Briefly explain the structure of Murabaha
2. Explain the need for Islamic Banks and NBFIs
3. Discuss Diminishing Musharka as an Islamic Mode of Finance
4. Write down any four Business Ethics and Norms.
5. Explain modern use of Ijara

Detailed Questions:

Marks 30

1. Explain the features with examples of Bai Salam and Bai Istisna'a (Forward Sale)
2. Discuss in detail with daily life examples the prohibition of Riba, Gharar and Maiser in Islamic Economic System



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Logic & Critical Thinking (Commerce)

Course Code: COMM-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- A) An argument consists of one or more premises and _____ conclusion.
1. One
 2. Two
 3. Three
 4. Four
- B) Which one of the following word is a conclusion indicator?
1. But
 2. Because
 3. Since
 4. Hence
- C) Which one of the following is always a false proposition?
1. Tautology
 2. Contingent
 3. Contradictory
 4. None of the above
- D) An inductive argument is intended to provide:
1. Valid support for its conclusion
 2. Probable support for its conclusion
 3. Truth preserving support for its conclusion
 4. Conclusive support for its conclusion
- E) When two statements are combined with the word "UNLESS" the resultant proposition is known as
1. Disjunction
 2. Conjunction
 3. Antecedent
 4. Consequent
- F) An argument with true premises and true conclusion is known as
1. Strong Argument
 2. Sound Argument
 3. Weak Argument
 4. Competing argument
- G) Each Categorical proposition has a
1. Subject term and a predicate term
 2. Subject and the middle term
 3. Predicate term and middle term
 4. None of the above
- H) In a proposition of the form "IF P Then Q", P is known as
1. Antecedent
 2. Consequent
 3. Cause
 4. Effect
- I) A fallacy committed when a syllogism contains all negative premises
1. Exclusive Fallacy
 2. Existential Fallacy
 3. Inclusive Fallacy
 4. Negative Fallacy
- J) Converse of "NO S are P" is
1. ALL P are S
 2. NO P are S
 3. Some P are S
 4. Some P are not S



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Logic & Critical Thinking (Commerce)

Course Code: COMM-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q2 Questions with Short Answers

Differentiate between the following terms.

(2.5x8=20)

- a) Tautology and contradictory
- b) Proposition and statement
- c) Inference and argument
- d) Subject term and predicate term
- e) Major and minor premise
- f) Conclusion and premise indicators
- g) Universal and existential quantifier
- h) Inductive and deductive reasoning
- i) Hasty and Sweeping Generalization

Q3. Use truth table to prove the validity of the following arguments. Justify your answer (10)

$P \supset Q,$

$\sim Q$

$\therefore P$

$P \supset Q,$

$\therefore P \supset (P \cdot Q)$

Q4. Discuss various uses of language. Provide examples (10)

Q5) What is a fallacy of ambiguity? Discuss at least Three Fallacies of Ambiguity. (10)

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- I. _____ is the sum total of ways in which an individual reacts to and interacts with others.
a) Moods b) Values
c) Personality d) Attitudes
- Through the _____ function, managers monitor the performance of the organization and significant deviations.
a) Organizing b) Planning
c) Leading d) Controlling
- Perception is the process by which people _____ information.
a) Generate b) Retrieve
c) Transmit d) Verify
- _____ is the degree to which a person psychologically identifies with his or her job.
a) Job commitment b) Job overload
c) Organizational citizenship d) Job involvement
- An individual who is able to adjust his/her behavior to external factors is a high _____.
a) Machiavellianism b) Emotional Maturity
c) Type A d) Self-monitor
- _____ theory argues that behavior is a function of its consequences.
a) Equity b) Reinforcement
c) Goal-setting d) Expectancy
- Which is considered the most important trait of effective leaders?
a) Agreeableness b) Extraversion
c) Emotional Stability d) Openness to experience
- A _____ has developed the capacity to adapt and change.
a) Learning organization b) Virtual organization
c) Matrix structure d) Simple structure
- Which of the following is an individual level strategy for dealing with stress?
a) Improving time management skills b) Engaging in physical exercise
c) Learning relaxation techniques d) All of the above
- When employees are dissatisfied, they may respond with _____, actively and constructively attempting to improve conditions.
a) Exit b) Voice
c) Loyalty d) Neglect



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Organizational Behavior

Course Code: COMM-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q-2 Answer the following short questions:

(10x2=20)

1. What are three management skills?
2. Define general mental ability.
3. Differentiate between terminal values and instrumental values.
4. Define self-efficacy
5. What is meant by heredity?
6. Define work force diversity.
7. What are key characteristics of OB as a scientific discipline?
8. What is meant by hygiene factor in two factor theory?
9. Name early theories of motivation.
10. Explain how does 360 evaluation work as a performance appraisal approach?

Long Questions:

(3x10=30)

- Q-3 What is meant by attitude? Give names of major job attitudes and explain job satisfaction as an attitude at workplace.
- Q-4 Briefly explain Big Five personality traits.
- Q-5 Define stress. Give detail of individual and organizational strategies of managing stress.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Macro Economics

Course Code: ECON-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Real GDP is nominal GDP adjusted for:
 - a) Double counting
 - b) Changes in prices
 - c) Population
 - d) Imports
2. If government increases taxes private savings will
 - a) Increases
 - b) Will become zero
 - c) Decreases
 - d) Not change
3. Which of the following has largest figure?
 - i) NNP
 - ii) GNP
 - iii) PI
 - iv) DPI
4. When economy's overall production grows faster than its population, it is referred to as :
 - a) Long-run growth per capita
 - b) An increase in nominal GDP
 - c) Deflation
 - d) The paradox of thrift
5. If $MPC = 0.75$ and the national income is Rs. 400 billion. National consumption will be equal to
 - a) 400×0.75
 - b) $400 + 0.75$
 - c) $400 / 0.75$
 - d) $400 - 0.75$

P.T.O.

6. The govt. can control inflation by
 - a) Increasing government expenditures
 - b) Increasing money supply
 - c) Decreasing money supply
 - d) Decreasing interest rate
7. The most important feature of money is:
 - a) General capability
 - b) Convertibility into gold
 - c) Store of value
 - d) Medium of change
8. During inflation
 - a) Lenders lose, borrowers gain
 - b) Borrowers lose, lenders gain
 - c) Borrowers and lenders both lose
 - d) All sections of the society gain
9. Which is the most widely used tool of monetary policy
 - a) Clearing house
 - b) Open market operations
 - c) Discount rate
 - d) Issuing of notes
10. Planned investment spending is:
 - a) Actual investment in a period
 - b) Investment spending minus depreciation in a period
 - c) Investment spending that business plan to undertake during a period
 - d) Always equal to saving.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Macro Economics

Course Code: ECON-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q# 2: Briefly explain the following:

(20)

1. Define Inflation and Inflation rate.
2. Enlist the components of Aggregate Demand (AD).
3. Define the dichotomy in the economy.
4. Explain perfect capital mobility.
5. Illustrate the concept of transaction demand for money.
6. What are the various measures of GNP.
7. Define L-M curve.
8. Explain the concept of Business cycle.
9. Explain balance of payments
10. Explain the short run production function.

Q#3: Derive the aggregate supply curve under classical assumptions.

(10)

کلاسیکل مفروضات کی روشنی میں مجموعی رسد کا خط اخذ کریں۔

Q#4: Derive and explain the I-S Curve graphically.

(10)

آئی۔ ایس خط ڈائیگرام کی مدد سے اخذ کریں اور اس کی وضاحت کریں۔

Q#5: Drive and explain the short run Philips curve with diagram.

(10)

عرصہ قلیل کا فلپس خط اخذ کریں اور اس کی وضاحت کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Econometrics II

Course Code: ECON-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Even though the disturbance term in the CLRM is not normally distributed, the OLS estimators are
 - a) Still unbiased
 - b) Biased but inefficient
 - c) Both unbiased and efficient
 - d) Both biased and efficient
2. In a regression model that contains the intercept, the sum of the residuals is always
 - a) Zero
 - b) One
 - c) Infinity
 - d) Can't be estimated
3. The conditional and unconditional means of a random variable are the same things.
 - a) Same thing
 - b) Different thing
 - c) Not comparable
 - d) Comparable
4. Dummy variable trap is associated by
 - a) Multicollinearity
 - b) Heteroscedasticity
 - c) Autocorrelation
 - d) None of the above
5. In the regression of Y on X_2 and X_3 , suppose there is little variability in the values of X_3 . This would increase
 - a) $\text{var}(\hat{\beta}_3)$
 - b) $\text{var}(\hat{\beta}_2)$
 - c) $\text{var}(\hat{\beta}_1)$
 - d) None of the above
6. If heteroscedasticity is present, the conventional t and F tests are
 - a) Valid
 - b) Invalid
 - c) Not possible to estimate
 - d) All of the above

P.T.O.

7. The R^2 values of two models, one involving regression in the first difference form and another in the level form, are
- a) Not directly comparable
 - b) Directly comparable
 - c) Not measurable
 - d) Measurable and directly comparable
8. When autocorrelation is present, OLS estimators are
- a) Unbiased
 - b) Efficient
 - c) Consistent
 - d) None of the above
9. Autocorrelation is a problem associated with
- a) Time series data only
 - b) Cross section data only
 - c) Panel data only
 - d) Both time series and panel data
10. WHITE test is used to detect
- a) Multicollinearity
 - b) Heteroscedasticity
 - c) Autocorrelation
 - d) Misspecification



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

<u>Subjective Part</u>																																			
Q 2.	Explain the following terms. i) Multiple regression K-variable model ii) Consequences of Autocorrelation iii) ARDL Model iv) Moving Average (2) process v) Unit Root Problem	4x5 = 20																																	
Q 3.	Write in detail about ARCH models. Also discuss ARCH (1) and ARCH (2) processes.	10																																	
Q 4.	On the basis on following data, a researcher estimated the regression line as: $\hat{Y} = -25.08 - 0.66X_2 + 6.21X_3$ <table border="1"><tr><td>Y</td><td>11</td><td>16</td><td>11</td><td>14</td><td>13</td><td>17</td><td>14</td><td>15</td><td>12</td><td>18</td></tr><tr><td>X₂</td><td>20</td><td>18</td><td>22</td><td>21</td><td>27</td><td>26</td><td>25</td><td>27</td><td>30</td><td>28</td></tr><tr><td>X₃</td><td>8.1</td><td>8.4</td><td>8.5</td><td>8.5</td><td>8.8</td><td>9.0</td><td>8.9</td><td>9.4</td><td>9.5</td><td>9.5</td></tr></table> <p>Find the Durbin Watson "d" Statistics and confirm either there is autocorrelation in the model or not. Note: The critical values of Durbin Watson statistics at 5% level of significance are dL = 0.697 dU = 1.641</p>	Y	11	16	11	14	13	17	14	15	12	18	X ₂	20	18	22	21	27	26	25	27	30	28	X ₃	8.1	8.4	8.5	8.5	8.8	9.0	8.9	9.4	9.5	9.5	10
Y	11	16	11	14	13	17	14	15	12	18																									
X ₂	20	18	22	21	27	26	25	27	30	28																									
X ₃	8.1	8.4	8.5	8.5	8.8	9.0	8.9	9.4	9.5	9.5																									
Q 5.	Differentiate between short run and long run model for integration.	10																																	



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Mathematical Economics II

Course Code: ECON-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) The reverse process of derivative is called:
(a) Definite integral (b) improper integral
(c) indefinite integral (d) None of these
- (ii) When two limits of integration are identical the value of the definite integral is:
(a) one (b) zero
(c) infinite (d) all of these
- (iii) If the equation is $\frac{dy}{dx} = 2$ then particular integral is:
(a) 2 (b) $2t$
(c) Zero (d) $2t^2$
- (iv) The differential equation of the form: $\frac{dy}{dt} + ty = 3ty^2$ is called:
(a) First order difference equation (b) Second order difference equation
(c) Simultaneous differential equation (d) Bernoulli equation
- (v) The value of $\cos\left(\frac{3\pi}{4}\right)$ is:
(a) $\frac{1}{\sqrt{2}}$ (b) $-\frac{1}{\sqrt{2}}$
(c) $\frac{1}{2}$ (d) $\frac{\sqrt{3}}{2}$
- (vi) The integration of one (1) with respect to x is:
(a) x (b) y
(c) zero (d) constant
- (vii) If the slope of supply and demand curve are same then the time path will be:
(a) Explosive (b) Damped
(c) uniform (d) all of these
- (viii) In Solow Growth model output is function of:
(a) Capital (b) Labor
(c) Land (d) Capital and Labor
- (ix) The relationship between the rate of growth of money wage and the rate of unemployment is:
(a) Positive (b) Negative
(c) Positive & Negative (d) None of these
- (x) Particular integral (y_p) of the equation $y''(t) = -10$ is
(a) $-10t^2$ (b) $-10t$
(c) $-5t$ (d) $-5t^2$



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Mathematical Economics II
Course Code: ECON-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

- Q.2 Write short answers. (5x4=20)
- (i) Solve: $\int \ln x \, dx$
 - (ii) Given the demand function $P_d = 25 - Q^2$ and supply function $P_s = 2Q + 1$. Assuming pure competition find the consumer's surplus.
 - (iii) Define integrating factor.
 - (iv) For second order differential equation $y''(t) + a_1 y'(t) + a_2 y = 0$. Show that sum of roots is $-a_1$ and product of roots is a_2 .
 - (v) Define Convergence and the Roth theorem.
- Q.3 For a general exact differential equation $Mdy + Ndt = 0$, derive the formula for the general solution of an exact differential equation:
- $$\int Mdy + \int Ndt - \int \left(\frac{\partial}{\partial t} \int Mdy \right) dt = 0 \quad 10$$
- Q.4 Find the polar and exponential forms of the following complex numbers:
- (a) $\frac{3}{2} + \frac{3\sqrt{3}}{2}i$ (ii) $4(\sqrt{3} + i)$ 5+5=10
- Q.5 Find the general solution of: 10
- $$y_{t+2} + \frac{1}{4}y_t = 5$$



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Population Economics

Course Code: ECON-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

سوال نمبر 1: صحیح جواب کے گرد دائرہ لگائیں۔

- i. According to Demographic Transition theory population growth rate is minimal in.
(a) 1st Stage (b) 2nd Stage (c) 3rd Stage (d) a & c both

ڈیموگرافک ٹرانزیشن تھیوری کے مطابق آبادی کی شرح نمو کم ہوتی ہے۔

(الف) پہلے مرحلہ میں (ب) دوسرے مرحلہ میں (ج) تیسرے مرحلہ میں (د) پہلے اور تیسرے دونوں

- ii. In a Developing country, generally:
(a) Birth rate is high (b) Death rate is high (c) Infant, mortality rate is high
(d) All a,b,c

ایک ترقی پذیر ملک میں بالعموم:

(الف) شرح پیدائش زیادہ ہوتی ہے (ب) شرح اموات زیادہ ہوتی ہے

(ج) نوزائیدگان کی شرح اموات زیادہ ہوتی ہے۔ (د) تینوں، الف، ب، ج

- iii. The theory that says that level of population at which per capita income is Maximum:
(a) Theory of population by Malthus (b) Theory of demographic transition
(c) Theory of optimum population (d) None

وہ نظریہ جو کہتا ہے کہ آبادی کا وہ حجم جہاں فی کس آمدنی زیادہ سے زیادہ ہو:

(الف) مالتھس کا نظریہ آبادی (ب) ڈیموگرافک ٹرانزیشن تھیوری (ج) نظریہ معیاری آبادی (د) ان میں سے کوئی بھی نہیں

- iv. Last census carried out in Pakistan in the year:
(a) 2017 (b) 1998 (c) 1981 (d) 1961

پاکستان میں آخری مردم شماری کا سال۔

(الف) 2017 (ب) 1998 (ج) 1981 (د) 1961

- v. Which is not social factor of High birth rate?
(a) Early marriage (b) Ignorance (c) Social Urge (d) More earning hands

کیا زیادہ شرح پیدائش کا سماجی متحرک نہیں:

(الف) نو عمری کی شادی (ب) جہالت (ج) سماجی ضرورت (د) زیادہ کمزور افراد

- vi. According to economic survey 2018-19 is our population growth rate is:
(a) 1.4% (b) 2.4% (c) 3.4% (d) 4.4%

پاکستان معاشی جائزہ 2018-2019 کے مطابق ہماری شرح آبادی بڑھنے کی رفتار ہے۔

(الف) 1.4 فیصد (ب) 2.4 فیصد (ج) 3.4 فیصد (د) 4.4 فیصد

- vii. Country with the smallest population of the world.
(a) Sri Lanka (b) Dubai (c) Kuwait (d) Vatican City

آبادی کے لحاظ سے دنیا کا سب سے چھوٹا ملک:

(الف) سری لنکا (ب) دبئی (ج) کویت (د) وٹیکن کن سٹی

P.T.O.

viii. Pakistan's ranking in most populated countries of the world:

- (a) 3rd (b) 4th (c) 6th (d) 8th

پاکستان کا نمبر دنیا کے زیادہ آبادی والے ممالک میں ہے۔

(الف) تیسرا (ب) چوتھا (ج) چھٹا (د) آٹھواں

ix. Unchecked high population growth rate is not responsible for:

- (a) Poverty (b) Increasing crime (c) Low per capita income
(d) Tax evasion

بے مہار آبادی کی بڑھوتری اس کی ذمہ دار نہیں:

(الف) غربت (ب) بڑھتے جرائم (ج) پست فی کس آمدنی (د) ٹیکس چوری

x. Pakistan's population is equivalent to world population.

- (a) 1.6% (b) 2.6% (c) 3.6% (d) 4.6 %

پاکستان کی آبادی دنیا کی آبادی کا ہے۔

(الف) 1.6 فیصد (ب) 2.6 فیصد (ج) 3.6 فیصد (د) 4.6 فیصد



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Population Economics

Course Code: ECON-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرچہ کو مہیا کی گئی جوابی کاپی پر حل کریں۔

Q # 2: Write Short Answers of the followings questions.

(4x5=20)

i. Discuss labour as a factor of production.

i. مزدور کو بحیثیت عامل پیدائش زیر بحث لائیں۔

ii. Merits of population increase

ii. آبادی کی بڑھوتری کے فوائد بتائیں۔

iii. Life expectancy & its determinant.

iii. متوقع عمر اور اس کے متعینات

iv. Main features of Pak Demography.

iv. پاکستانی آبادی کے نمایاں خدوخال بتائیں۔

Q # 3: Give Answer with long questions of the followings questions. (10x3=30)

i. Explain classical theory of population.

i. کلاسیکل نظریہ آبادی کی وضاحت کریں۔

ii. Impact of population growth on economic development.

ii. آبادی میں اضافے کے معاشی ترقی پر اثرات زیر بحث لائیں۔

iii. What are the sources of demographic data?

iii. ڈیموگرافک ڈیٹا اکٹھا کرنے کے ذرائع زیر بحث لائیں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Major Issues in Pakistan Economy

Course Code: ECON-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Part I

Elaborate the following shortly:

20 (4*5)

- i) Twin Deficit
- ii) Sources of Inflation
- iii) Green Revolution
- iv) Debt Management in Pakistan

Part II

Answer the following Questions in detail:

30 (3*10)

- i) Discuss WTO and examine the impact on the economy of Pakistan.
- ii) Discuss any three measures of unemployment in context of Pakistan.
- iii) How far foreign aid has been helpful in economic development of Pakistan?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research in Education

Course Code: EDE-324 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. What is the aim of educational research?
 - (a) Identifying major problems that need to be solved
 - (b) Searching for new facts and principles underlying the process of education
 - (c) Identifying the aims of education
 - (d) Identifying the values that need to be inculcated in the pupils.
2. Why is research in education important for teachers?
 - (a) It adds to their academic qualifications.
 - (b) It makes them wiser
 - (c) It makes them better teachers
 - (d) It enables them to judgments about what should be taught and how.
3. Which of the following is undesirable in a questionnaire?
 - (a) Asking for unnecessary information that lengthens the questionnaire
 - (b) Avoiding ambiguity in questions
 - (c) Simplest possible wording and suitable vocabulary
 - (d) Avoiding questions which the subjects will not answer or will not answer truthfully.
4. What is the meaning of Data?
 - (a) Facts
 - (b) Truths
 - (c) Observation
 - (d) Marks obtained
5. What are the kinds of variables?
 - (a) Continuous
 - (b) Discrete
 - (c) Both
 - (d) None of these.
6. What is the meaning of population in Educational Research?
 - (a) Male, Female, Children
 - (b) Observation of all the units
 - (c) Elites
 - (d) All of these.
7. Which is the most important characteristics of the survey method of research?
 - (a) It relies on a small sample
 - (b) It studies characteristics of a group instead of an individual
 - (c) It aims at developing some theory or the scientific laws
 - (d) It focuses on studying the cause effect relationship between variables.
8. What type of statistical data is used in educational research?
 - (a) Descriptive statistical analysis
 - (b) Inferential statistical analysis
 - (c) Both of them
 - (d) None of these.
9. What are the functions of statistical analysis?
 - (a) Explanation of results
 - (b) Presentation of data
 - (c) Both of them
 - (d) None of these
10. What is the meaning of Null Hypothesis?
 - (a) Difference between two parametric mean is zero
 - (b) The difference is due to error in sampling
 - (c) Both of them
 - (d) None of these



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research in Education
Course Code: EDE-324 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answer of following.

(5x4=20)

1. What is the definition of Educational Research?
2. Define Hypothesis
3. What are the characteristics of good researcher?.
4. What is Experimental Research? Give an example.
5. What are the basic differences between Basic research and applied research?

Q.3. Write brief answer of following.

(10x3=30)

1. Define sample. What are different Sampling techniques?
2. What is Survey Research method? Give details
3. Define variable. What are the types of Variables?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Methods of Teaching Mathematics in Elementary School

Course Code: EDE-371 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i. The goal of teaching is
 - (a) To give information
 - (b) To involve pupils in activities
 - (c) To impart knowledge
 - (d) Desirable change in behavior
- ii. The nature of mathematics is
 - (a) Ornamental
 - (b) Difficult
 - (c) logical
 - (d) Not for common
- iii. Mathematics is the science of
 - (a) Intellectual
 - (b) Calculations
 - (c) Numbers
 - (d) All the above
- iv. Students are passive in
 - (a) Project method
 - (b) Discovery method
 - (c) Lecture method
 - (d) Inquiry method
- v. We move from specific to general in
 - (a) Inductive method
 - (b) Deductive method
 - (c) Drill method
 - (d) Discussion method
- vi. Practice is made in
 - (a) Inductive method
 - (b) Deductive method
 - (c) Drill method
 - (d) Discussion method
- vii. The Socratic method is known as
 - (a) Lecture demonstration method
 - (b) Discussion method
 - (c) Inquiry method
 - (d) Question- Answer method
- viii. Which is not true about projects
 - (a) It is a purposeful activity
 - (b) It is proceeded in social environment
 - (c) It is accomplished in real life
 - (d) It is teacher centered activity
- ix. Which is not true about lesson plan
 - (a) It develops confidence
 - (b) It helps in orderly delivery of contents
 - (c) It is developed by students
 - (d) It saves from haphazard teaching
- x. Which is not the advantage of team teaching better
 - (a) utilization of resources
 - (b) planning
 - (c) use of teaching techniques
 - (d) financial benefits of teachers



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Methods of Teaching Mathematics in Elementary School
Course Code: EDE-371 Part -I

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answer of following.

(5x4=20)

1. Give good points in teaching of mathematics.
2. What are the objectives of teaching Mathematics at elementary level
3. Describe Heuristic method of teaching.
4. What is the criteria for the selection of method/strategy
5. Enlist four Principles of using Audio Visual aids

Q.3. Write brief answer of following.

(10x3=30)

1. Prepare a Lesson Plan for 5th class in the subject of mathematics
2. Differentiate between Analytical and Synthetic Methods of teaching.
3. What are the merits and demerits of subjective and objective items used in mathematics?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Methods of Teaching Social Studies in Elementary School

Course Code: EDE-375 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

(1x10=10)

Q.1. Encircle the correct choice.

1. Which is not the advantage of team teaching
 - (a) Better utilization of resources
 - (b) Better planning
 - (c) Better use of teaching techniques
 - (d) Better financial benefits of teachers
2. Example of psychomotor domain is that student
 - (a) Demonstrates awareness to environmental pollution
 - (b) Performs an experiment
 - (c) Can compute results of two experiments
 - (d) Can narrate a story
3. Example of cognitive domain is
 - (a) Describe a topic
 - (c) Type a letter
 - (b) Develop an X-ray film
 - (d) Take responsibility for tools
4. The right sequence of subgroups cognitive domain is
 - (a) Knowledge, Comprehension, Application, Synthesis, Analysis, Evaluation
 - (b) Knowledge, Comprehension, Application, Evaluation, Analysis, Synthesis
 - (c) Knowledge, Comprehension, Evaluation, Application, Analysis, Synthesis
 - (d) Knowledge, Comprehension, Application, Analysis, Synthesis Evaluation
5. Which is not true about projects
 - (a) It is a purposeful activity
 - (b) It is proceeded in social environment
 - (c) It is accomplished in real life
 - (d) It is teacher centered activity
6. Which is not true about lesson plan
 - (a) It develops confidence
 - (b) It helps in orderly delivery of contents
 - (c) It is developed by students
 - (d) It saves from haphazard teaching
7. Which is not the objective of Drama/ role play
 - (a) Recreation and enjoyment
 - (b) Development of social skills
 - (c) Development of skills of conversation
 - (d) Do make rehearsals
8. A field trip is arranged for
 - (a) Making an excursion
 - (c) Note the meanings of action
 - (b) See other people doing things
 - (d) all of the above
9. Which one is a standard for demonstration method?
 - (a) Student should observe the demonstration and teacher should not tell important finding
 - (b) To keep accuracy of results the teacher should dictate the result
 - (c) Demonstration should be pre- tested to remove the weakness in demonstration
 - (d) all of the above
10. Which one is NOT the Psychological principle of teaching?
 - (a) Proceed from concrete to abstract
 - (b) Proceed from complex to simple
 - (c) Proceed from known to unknown
 - (d) Proceed from simple to difficult



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Methods of Teaching Social Studies in Elementary School
Course Code: EDE-375 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answer of following.

(5x4=20)

1. What is the criteria for the selection of method/strategy
2. Differentiate between inductive and deductive methods of teaching
3. Give demerits of discussion method of teaching
4. Give merits of drill method
5. Describe merits of problem solving method

Q.3. Write brief answer of following.

(10x3=30)

1. Prepare a lesson plan for junior class on the topic of "Punjab Province".
2. What is the importance of AV aids in Teaching Social Studies? Give the principles of using AV aids for teachers.
3. What is the importance of teaching of Social Studies at Elementary level?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Methods of Teaching Islamiyat in Elementary School

Course Code: EDE-376 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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اس پرچے کو اسی سوالیہ کاپی پر حل کریں۔

سوال نمبر 1: مندرجہ ذیل میں سے درست جواب پر درست (✓) کا نشان لگائیں۔ کاٹ کر یا مٹا کر لکھا گیا جواب غلط تصور ہو گا۔ (1x10=10)

1. آنحضرت ﷺ دنیا کے لئے مثال۔۔۔۔۔ بنا کر بھیجے گئے ہیں۔
(الف) رسول (ب) نبی (ج) معلم (د) حکمران
2. معلم اول کون ہیں؟
(الف) حضرت آدم علیہ السلام (ب) حضرت نوح علیہ السلام (ج) حضرت عیسیٰ علیہ السلام (د) حضرت محمد ﷺ
3. معلم اسلامیات کے ذاتی اوصاف میں شامل ہے۔۔۔۔۔
(الف) تعلیمی قابلیت (ب) مضمون پر عبور (ج) بہتر سیرت و کردار (د) تاریخ اسلام پر عبور
4. تعلیم کا لغوی مفہوم ہے۔۔۔۔۔
(الف) تدریس (ب) تعلم (ج) درس (د) ادراک کرنا
5. قیام پاکستان کا پس منظر خالصتاً۔۔۔۔۔ تھا۔
(الف) سیاسی (ب) مذہبی (ج) معاشی (د) جغرافیائی
6. آپ ﷺ کا خلق۔۔۔۔۔ تھا۔
(الف) سیرت (ب) حدیث (ج) قرآن (د) فقہ
7. تبلیغ دین ہر مسلمان کا۔۔۔۔۔ ہے۔
(الف) حق (ب) فریضہ (ج) واجب (د) سنت
8. عمل تعلم کے لئے۔۔۔۔۔ کو فعال رکھنا ضروری ہے۔
(الف) توجہ (ب) دلچسپی (ج) حواس خمسہ (د) رجحان
9. نصاب اسلامیات کے مقاصد میں شامل ہے۔
(الف) توحید و رسالت کے عقیدے کو پختہ کرنا (ب) رسول اللہ ﷺ کی محبت پیدا کرنا (ج) سنت کو سمجھنے کی صلاحیت پیدا کرنا (د) مندرجہ بالا تینوں
10. تحریری آزمائشوں کی۔۔۔۔۔ قسمیں ہوتی ہیں۔
(الف) دو (ب) تین (ج) چار (د) پانچ



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Methods of Teaching Islamiyat in Elementary School
Course Code: EDE-376 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرچہ کو مہیا کی گئی جوابی کاپی پر حل کریں۔

(حصہ اول)

(10x2=20)

سوال نمبر 2: مختصر جوابات تحریر کریں۔

1. معلم کی اہمیت کی بارے میں دو آیات کا ترجمہ تحریر کریں۔
2. تعلیم کی اہمیت کے متعلق دو احادیث نبوی ﷺ کا ترجمہ لکھیں۔
3. قرآن مجید کے اہم مضامین کون کون سے ہیں؟
4. حضور ﷺ کے طریقہ تعلیم کی چار خصوصیات لکھیں۔
5. ثقافت سے کیا مراد ہے؟
6. نظریہ حیات کسے کہتے ہیں؟
7. تعلیمی مقاصد کی تین اقسام تحریر کریں۔
8. تدریس اسلامیات کے بنیادی مقاصد کون کون سے ہیں؟
9. تدریس اسلامیات کے دو قدیم طریقے تحریر کریں۔
10. معروضی آزمائشوں کی دو اقسام لکھیں۔

(حصہ دوم)

(10X3=30)

سوال نمبر 3: مندرجہ ذیل سوالات کے تفصیلی مگر جامع جواب تحریر کیجیے۔

1. معلم اسلامیات کے پیشہ ورانہ اوصاف پر روشنی ڈالیں۔
2. پاکستانی معاشرے میں تدریس اسلامیات کی ضرورت کے نکات تحریر کریں۔
3. سمعی و بصری معاونات سے کیا مراد ہے؟ عمل تدریس میں تختہ تحریر، پلیٹن بورڈ اور ریڈیو کے استعمال کی افادیت تحریر کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research Methods in Education

Course Code: EDU-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Which one of the following would be most appropriate synonym for the dependent variable?
 - A. Outcome variable
 - B. Response variable
 - C. Effected variable
 - D. Experimental variable
2. Survey research is of a value because it provides:
 - A. Educators with practical and useful information about the forthcoming phenomenon.
 - B. For up-to-date detail of what is taking place
 - C. Details of what had taking place
 - D. Details of cultural realities
3. The study conducted to collect data on a group by asking each member to select person in the group most preferred by him/her on the basis of specific criterion is called _____ study:
 - A. Sociometric
 - B. Follow up
 - C. Case
 - D. Survey
4. Chi- Square is suitable for:
 - A. Ratio data
 - B. Nominal data
 - C. Interval data
 - D. Both A & c
5. If, when reading information about a class, we assign 1 to girls and 2 to boys, the level of measurement is:
 - A. Interval
 - B. Nominal
 - C. Ordinal
 - D. Ratio
6. $000 X_1 000$ describe the:
 $000 X_2 000$
 - A. Two group pretest-posttest design
 - B. One group pretest-posttest design
 - C. Time series design with variation
 - D. Counter balance design

P.T.O.

7. Study conducted to determine the status of a group of interest after some period of time is referred as:
- A. Developmental
 - B. Follow up
 - C. Sociometric
 - D. Survey
8. When subjects in a study are selected on the basis of their extreme scores, and after receiving treatment, their scores reversed, it is referred to as:
- A. Maturation
 - B. Statistical regression
 - C. Testing
 - D. Mortality
9. An experimental study in which extraneous variables are controlled is said to be:
- A. Internally valid
 - B. Externally valid
 - C. Internally reliable
 - D. Externally reliable
10. Experimental research is the one type of research that enables researchers to make conclusions about:
- A. Group differences
 - B. The change of variables over time
 - C. Relationship among variables
 - D. Cause and effect



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research Methods in Education

Course Code: EDU-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Short Questions.

(5x4=20)

1. Discuss the advantages of doing literature review.
2. Describe the differences between independent, dependent, and intervening variables.
3. What is action research? Enlist its steps in sequential order.
4. 'Observational studies give us a true picture of reality, while survey research only give us perceptions.' Do you agree or disagree with this statement? Why? Support your answer with arguments and examples.
5. How qualitative research is different from quantitative research? Explain with examples.

Q.3. Essay type Questions.

(3x10=30)

1. What are the basic differences between true experimental and Quasi-experimental studies? Describe different types of design for conducting experimental and Quasi-experimental studies .
(2+4+4)
2. What is Mix-method research? Explain its different types by giving examples.
(1+3+3+3)
3. Describe situations in which you would like to use each of the following sampling techniques: (i) stratified random sampling, (ii) cluster sampling, (iii) multi-stage sampling, (iv) purposive sampling, and (v) snowball sampling.
(2+2+2+2+2)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Test Development and Evaluation

Course Code: EDU-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i. In general, group administered tests
 - a. should be used for program placement
 - b. are usually used for diagnostic purposes
 - c. permit observation of the students' approach to a task
 - d. are usually used for screening purposes
- ii. Which of the following does not need to be considered in order to establish content validity?
 - a. Appropriateness of the content
 - b. How content is measured
 - c. Completeness of the content
 - d. Gender of the student
- iii. Which statement is NOT true about observation in which the observer is present in the setting?
 - a. It usually involves artificial apparatus (e.g., video-recorder)
 - b. Reactivity usually is an issue
 - c. Reactivity is usually not an issue
 - d. It can be restrictive
- iv. Developing criterion-referenced curriculum-based assessment instruments involves
 - a. completing a psychological evaluation of the student
 - b. identifying skills to be measured, objectives, and standards of performance
 - c. prioritizing objectives
 - d. identifying objectives for a single student
- v. The Think Aloud procedure is often used with which assessment technique?
 - a. Authentic assessment
 - b. Portfolio assessment
 - c. Diagnostic interview
 - d. Criterion-referenced testing
- vi. The degree of reliability needed is dependent on the type of ____
 - a) Test
 - b) Subject
 - c) Decision
 - d) All of the above
- vii. The extent to which an assessment instrument measures what is supposed to measure is called
 - a) Reliability
 - b) Standardization
 - c) Validity
 - d) Practicality
- viii. To test student's mastery of classroom objectives, indicate which type of test would be used.
 - a) Achievement Test Battery
 - b) Separate Test of Content
 - c) Customized Achievement Test
 - d) Individual Achievement Test
- ix. Most standardized tests of aptitude and achievement are high in ____
 - a) Reliability
 - b) Usability
 - c) Objectivity
 - d) Validity
- x. The Design of an adaptive test usually start with the administration of an item that is expected to be ____
 - a) Very low difficulty
 - b) High difficulty
 - c) Average difficulty
 - d) Low difficulty



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Test Development and Evaluation

Course Code: EDU-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. II. Short Answer Questions (Attempt All Questions) (5 x 4 = 20)

1. Differentiate between Diagnostic and Formative Assessment
2. Marking a false statement false does not guarantee that the student knows what is true. How should a teacher handle this problem?
3. Define Adequacy and how it is determined while developing a test?
4. Define Criterion Reference Tests and what are its different uses?
5. What is Inter-rater Consistency? How it can be improved?

Subjective Part III

Q. III. Attempt All Questions (3 x 10 = 30)

1. Describe the relative merits of using correct-answer and best-answer multiple-choice items. What types of learning outcomes are best measured by each type of multiple-choice item?
2. What are the ethical issues related to assessment? Describe.
3. What are some of the perceived advantages and disadvantages of fixed-choice tests relative to complex-performance assessments?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Pedagogy-III (Methods of Teachings Related to Islamic Studies)

Course Code: EDU-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

(4)

سوال نمبر 1: (الف) خالی جگہ پُر کریں۔

- 1- منصوبی طریقہ میں ذہنی حل کو..... کہتے ہیں۔
- 2- سب سے اعلیٰ ذہنی سرگرمی..... ہے۔
- 3- انکشافی طریقہ کا دوسرا نام..... ہے۔
- 4- اصل اشیاء کے براہ راست مشاہدے سے..... کی ضرورت نہیں رہتی۔

(6)

سوال نمبر 1: (ب) درست جوابات کی نشاندہی کریں۔

- 1- منصوبی طریقہ متعارف کروایا؟
(الف) امام غزالی (ب) جان ڈیوی (ج) گراہم نیل (د) ارسطو
- 2- سمعی و بصری اعانات سے کیا مراد ہے؟
(الف) تدابیر (ب) وسائل (ج) لوازمات (د) یہ تمام
- 3- ایک منصوبہ کو مختلف طلبہ مل کر بانٹ لیں تو اسے کہا جاتا ہے؟
(الف) گروہی (ب) اجتماعی (ج) انفرادی (د) تفریحی
- 4- اسلامیات کو لازمی قرار دیا گیا؟
(الف) 1985 (ب) 1975 (ج) 1990 (د) 1980
- 5- تشکیلی جائزہ کب کیا جاتا ہے؟
(الف) دوران تعلیم (ب) تدریس کے ابتداء میں تدریس کے آخر میں
(ج) سابقہ معلومات سے (د) موجودہ تعلیمات سے
- 6- حضور اکرم طریقہ تدریس اختیار کرتے تھے؟
(الف) تفویضی طریقہ (ب) مظاہراتی طریقہ (ج) مسئلی طریقہ (د) یہ تمام



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Pedagogy-III (Methods of Teachings Related to Islamic Studies)

Course Code: EDU-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

(10x2=20)

سوال نمبر 2: درج ذیل سوالات کے مختصر جوابات دیں۔

1. تدریس اسلامیات کے عمومی مقاصد بیان کریں۔
2. اسلام میں تعلیم کی اہمیت بیان کریں۔
3. تعمیر سیرت میں تدریس اسلامیات کی اہمیت بیان کریں۔
4. تدریس اسلامیات بطور مضمون آغاز و ارتقاء مختصر بیان کریں۔
5. اسلامی تعلیم و تدریس کے اصول بیان کریں۔
6. امتحانات کی اہمیت بیان کریں۔
7. پراجیکٹ میتھڈ کی اہمیت پر پانچ نکات بیان کریں۔
8. کہانی کے ذریعے تدریس کو پانچ نکات کی صورت میں بیان کریں۔
9. پیپر بنانے کے پانچ اصول بیان کریں۔
10. ایک استاد کی خوبیاں بیان کریں۔

(10x3=30)

سوال نمبر 3: مندرجہ ذیل سوالات کے تفصیلاً جوابات تحریر کریں۔

1. نبی ﷺ کا طریقہ تدریس بیان کریں۔
2. قرآن و سنت کی روشنی میں استاد کے فرائض بیان کریں۔
3. اسائنمنٹ میتھڈ پر نوٹ لکھیں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Pedagogy-IV (Methods of Teachings Related to Pak Studies)

Course Code: EDU-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

I) What is the other name of lecture method of teaching?

- a. Speech b. discussion c. Presentation d. Question and answer

II) Which of the following technique is suitable to teach Pakistan Studies to larger classes?

- a. Group work b. Discovery c. Supervised study d. Written work

III) Which of the following technique may be used to supplement self-study in a Pakistan Studies classroom?

- a. Lecture b. Question and answer c. Group discussion d. Assignment

IV) A test commonly uses to measure students achievement in Pakistan Studies is _____.

- a. Behavioral test b. General Aptitude test c. Standardized test d. Attitude test

V) A teacher may enhance the effectiveness of whiteboard by _____.

- a. Using colored markers b. Drawing rough diagrams
c. Using each portion of the whiteboard d. Keep silent while writing on whiteboard

VI) Which of the following is the major strength of objective type questions?

- a. Lack validity and reliability b. 100% reliable
c. Easy to score d. Easy to prepare

VII) A text book of Pakistan Studies is used to _____ in the classroom.

- a. Increase teacher's efficiency b. Explain ideas and concepts
c. Achieve learning objectives d. Memorize answers of the questions

VIII) The purpose of the lesson planning in the subject of Pakistan Studies is to _____ the activities.

- a. Organize b. Analyze c. Evaluate d. Synthesize

IX) What is the very first step of a lesson plan?

- a. Setting objectives b. Devising the required apparatus
c. Assessing previous knowledge d. Assessment

X) Which of the following teaching method is generally considered as teacher centered?

- a. Inquiry method b. Lecture method c. project method d. Activity method



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Pedagogy-IV (Methods of Teachings Related to Pak Studies)

Course Code: EDU-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Part-II

Q.2. Write Short Answers to the following questions. (4×5=20)

مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

i. Write any four merits of lecture method of teaching.

تقریری طریقہ تدریس کی کوئی سی چار خوبیاں تحریر کریں۔

ii. Write any four activities which can make the teaching of Pakistan Studies interesting and effective?

کوئی سی چار ایسی سرگرمیاں تحریر کریں جو تدریس مطالعہ پاکستان کو دلچسپ اور موثر بنا سکتی ہیں؟

iii. What are the general characteristics of a good project in the subject of Pakistan Studies?

مطالعہ پاکستان کے مضمون میں ایک اچھے پروجیکٹ کی عمومی خصوصیات کیا ہوتی ہیں؟

iv. Enlist the Audio-Visual aids a teacher may use in teaching the subject of Pakistan Studies.

ان آئینی و بصری معاونات کی لسٹ تیار کریں جنہیں ایک استاد مطالعہ پاکستان کے مضمون کو پڑھانے میں استعمال کر سکتا ہے۔

v. Briefly describe the demerits of objective type of test in the subject of Pakistan Studies.

مطالعہ پاکستان کے مضمون میں معروضی طرز کے ٹیسٹ کی خامیاں مختصر بیان کریں۔

Part-III

Write answers of any THREE of the following questions. (10×3=30)

مندرجہ ذیل میں سے کوئی سے تین سوالات کے جوابات تحریر کریں۔

Q.3. If you are a teacher of Pakistan Studies then which kind of Audio –Visual Aids you will prefer to teach the topic of “Two Nation Theory”? Give relevant arguments and examples to support your answer.

اگر آپ ایک مطالعہ پاکستان کے استاد ہوں تو آپ دو قوی نظریہ کے موضوع کو پڑھانے کے لیے کس قسم کی آئینی و بصری معاونات کو ترجیح دیں گے۔ اپنے جواب کے حق میں متعلقہ دلائل اور مثالیں دیں۔

Q.4. How a teacher can use “Teacher’s Manual” in teaching the subject of Pakistan Studies? Explain in detail

ایک استاد teacher's manual کو مطالعہ پاکستان کے مضمون کو پڑھانے کے لیے کس طرح استعمال کر سکتا ہے؟ تفصیل سے وضاحت کریں۔

Q.5. Select a topic of your choice from the subject of Pakistan Studies and write a “Lesson Plan” on this topic.

مطالعہ پاکستان کے مضمون میں سے اپنی پسند کا کوئی ایک موضوع منتخب کریں اور اس موضوع پر ایک سبق منصوبہ بندی تحریر کریں۔

Q.6. What is Project Method of teaching? How it can be used in teaching the subject of Pakistan Studies? Explain in detail.

منصوبی طریقہ تدریس کیا ہوتا ہے؟ یہ مطالعہ پاکستان کے مضمون کو پڑھانے میں کس طرح استعمال ہو سکتا ہے؟ تفصیل سے وضاحت کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Criticism and Theory-II

Course Code: ENG-307

Time: 3 Hrs. Marks: 60

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Section A

- Q.1. Can a critic be also a creative artist? Discuss with reference to Oscar Wilde. (5)
- Q.2. Write a note on the primary and secondary qualities in Hume. (5)
- Q.3. What does Plotinus mean by the phrase "Intellectual Beauty". (5)

Section B

- Q.4. How does Terry Eagleton theorize literature in the essay in your syllabus? (15)
- Q.5. Write a detailed note on the work of condensation as theorized by Freud. (15)
- Q.6. Write a detailed note on the relationship between Idea and Sublime in Hegel. (15)



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Paper: Classics in Drama

Course Code: ENG-308

Roll No.

Time: 3 Hrs. Marks: 60

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Note: All questions are Compulsory.

SECTION A

- Q.1** What is the significance of the Oracles in Oedipus Rex? **05**
- Q.2** What is the significance of the duel scene in Shakespeare's Twelfth Night? **05**
- Q.3** What does Torvald's fascination with beauty and appearances imply about his personality? **05**

SECTION B

- Q.4** Bring out some of the tragic defects of Oedipus' character. To what extent are these responsible for his tragic suffering? **15**
- Q.5** The tragedy in Marlow's plays is always the tragedy of individual. How far is it applicable to Doctor Faustus? **15**
- Q.6** Describe the stages by which Macbeth degenerates from a hero into villain. **15**



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: 19th Century Poetry

Course Code: ENG-309

Roll No.

Time: 3 Hrs. Marks: 60

SECTION A

Q1: The poem "Old Cumberland Beggar" by William Wordsworth can be linked with the French Revolution's Leitmotif, "Liberty, Equality, Fraternity." Discuss. (5)

Q2: Shelley's revolutionary urge is seen through symbolism employed in "Ode to the West Wind." Comment. (5)

Q3: Blake's mysticism is a distinct feature of his poetry. Discuss in reference to the poems you have read. (5)

SECTION B

Q4: According to Middleton Murray, "Ode to Nightingale" is a poem of midnight sorrow and beauty. Elaborate. (15)

Q5: Discuss Coleridge as a supernatural poet. (15)

Q6: Lucy Grey by William Wordsworth is a meditation on death. Discuss in detail. (15)



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Note: Attempt all questions from both sections.

Section I

Q.1 How will you differentiate between fantasy and science fiction?

Q.2 Robbie is a robot without human feelings but he proves to be a great caretaker of Gloria. How is their relationship unique?

Q.3 Richard Hagstrom is husband to an indifferent wife, and a disgruntled, ungrateful teenage boy. How does the word processor change his life for good?

5+5+5

Section 2

Q.4 Hermione is an annoying perfectionist and is eager to impress others all the time. Does your assessment of her character match this observation or not?

Q.5 "the vanity of human wishes!", Cornelius Agrippa sighs in a broken and inward voice. All the characters in 'The Mortal Immortal' embody this statement. Discuss

Q.6 The door is more than a mere portal to imagination in short story 'The Door in the Wall'. Do you agree? Was it a real door or Wallace's hallucination?

15+15+15



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: World Literatures in Translation

Course Code: ENG-311

Roll No.

Time: 3 Hrs. Marks: 60

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

PART-I

(Short Questions)

3x5=15

Q:-1 What is the symbolic significance of the title "The Metamorphosis"?

Q:-2 Critically evaluate Faiz's poem, "Speak".

Q:-3 Discuss Rumi as a mystic poet.

PART-II

(Long Questions)

3x15=45

Q:-4 How does the novel "The Outsider" by Albert Camus is an absurdist novel?

Q:-5 How can Self be strengthened? Briefly describe with reference to the elements

described in Iqbal's "The Secrets Of the Self".

Q:-6 Discuss Don Quixote as a chivalric romance.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research Methodology-II

Course Code: GS-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Which of the following is not a qualitative research design?
 - a. Ethnography
 - b. Phenomenology
 - c. Grounded theory
 - d. Experimental
2. The primary goal in qualitative research is:
 - a. explanation
 - b. description
 - c. exploration
 - d. doing cross-sectional studies
3. Which one of the following techniques of data collection can be used for conscious raising:
 - a. unstructured interview
 - b. group interview
 - c. survey
 - d. focus interview
4. In a 'good' focus group, the discussion is:
 - a. directed towards moderator
 - b. among the participants
 - c. focused at key persons
 - d. focused at recorder
5. Playing the complete participant role in field research has the advantage that you will not affect what you are studying:
 - a. True
 - b. False
6. Which one of the following sampling technique will be more appropriate if you intend to make accurate conclusions about each group of the population?
 - a. quota
 - b. probability
 - c. accidental
 - d. stratified

P.T.O.

7. I selected a sample of schools where my class-fellows were working as head teachers.
This type of sample is known as:
- probability sample
 - convenient sample
 - snow-ball sample
 - stratified sample
8. The common feature of archival and historical research is that both:
- deal with history
 - use documentary sources
 - use remains as sources
 - conduct quantitative analysis
9. Case study is conducted of individuals who are:
- below average
 - above average
 - normal
 - a and b
10. The type of qualitative research that describes the culture of a group of people is called:
- Phenomenology
 - Grounded theory
 - Ethnography
 - Case study



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research Methodology-II
Course Code: GS-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write the short answers to FIVE of the following questions. (5x4=20)

1. The non-participant observation may change the behavior of people. What will you do to reduce this effect?
2. Suggest two topics which should be researched using Phenomenology as a research design.
3. Differentiate between structured and unstructured interview schedules.
4. Write names of any two Gender Studies Journals.
5. Discuss the role of researcher in Focus Group Discussions (FGDs).
6. Write short note on any TWO of the following:
 - i) Triangulation
 - ii) Action Research
 - iii) Idea Saturation

Q.3. Write the brief answers to THREE of the following questions. (3x10=30)

1. Explain the difference between Content Analysis and Historical Research.
2. Discuss Feminist Post-Modernism Research.
3. Differentiate between probability and non-probability sampling. Explain various types of non-probability sampling.
4. Discuss various stages in conducting a qualitative research.
5. Discuss how data is analyzed in Qualitative Research.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Gender and Media

Course Code: GS-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. A friend nods in agreement at something you've said. This is an example of
 - a) Feedback in interpersonal communication
 - b) Feedback in Mass communication
 - c) Noise in interpersonal communication
 - d) Encoding in interpersonal communication
2. Media sends important messages about
 - a) Women's place
 - b) Women's roles
 - c) Women's lives
 - d) All of the above
3. Which of the following is not attributed to men?
 - a) Aggressive
 - b) Dominant
 - c) Compassionate
 - d) Independent
4. The perception of being a male or a female refers to which of the followings?
 - a) Masculinity
 - b) Sex
 - c) Gender
 - d) Femininity
5. To understand news, it is necessary to understand the _____ in which news are contextualized.
 - a) Mainstreaming
 - b) Frame
 - c) Concept
 - d) Aspect
6. Being unable to concentrate on what your mother is saying because you are upset about something that happened with a friend is an example of
 - a) Transmission noise
 - b) Psychological noise
 - c) Physical noise
 - d) Geographical noise
7. The word sex refers to the biological differences between men and women, whereas "gender" refers to the:
 - a) Intellectual aspect
 - b) Physical aspect
 - c) Socio-psychological aspect
 - d) Economic aspect

P.T.O.

8. Media is more relentless with
- a) Men
 - b) Women
 - c) All of the above
 - d) None of the above
9. Women experience _____ effect very often in media organizations.
- a) Glass ceiling
 - b) Glass walls
 - c) Glass cliff
 - d) Glass bars
10. Women's involvement in news industry can improve the _____ of women in media.
- a) Status
 - b) Representation
 - c) Presentation
 - d) Portrayal



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Gender and Media
Course Code: GS-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write the short note on the following. (5x4=20)

1. Rapport Talk Vs. Report Talk
2. Men as the gate keeper of communication
3. Women as marginalized Group
4. Speech Codes
5. Gender portrayal in print media

Q.3. Questions with brief answers. (3x10=30)

- 1: Mass media have the ability to transfer the salience of items on their news agendas to the public agenda, Discuss.
- 2: TV is a social agent and there is a need to study the effects of TV exposure. Explain
- 3: What is communication process? Describe the types and existence of "Noise" in the communication process.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Gender, Peace & Security

Course Code: GS-309

Time: 3 Hrs. Marks: 60

NOTE: Attempt any *THREE* questions in all, while Question No. 4 is compulsory.

Q 1 What is development and how it effects mainstream development and peace process? 20 marks

Q 2 What is Peace and their basic principle of fundamental rights on Gender perspective? 20 marks

Q 3 What are the global issues of peace and security on gender perspective? 20 marks

Q 4: write a note on any one topic. 20 marks

- (i) How violence effects on women perspective for peace
- (ii) Role of media for Peace Building



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Gender, Art & Literature

Course Code: GS-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supd

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1 ----- are the codes of behavior that the society expects for one gender or another.

- Human characteristics
- Gender roles
- Peoples activities

2- Stage performances and puppetry are the types of -----

- Literature
- Art
- Calligraphy

3- Male and women when publish some work with assumed names ,it is called-----

- Biography
- nick name
- Pseudonym

4 -Poetry and prose are called-----

- Art
- Criticism
- Literature

5 -In ----- a group of women artists in New York city formed a collective organization called the Guerrilla Girls to protest at the unequal treatment of women professional artists in arts.

- 1985
- 1988
- 1995

P.T.O.

6. Culture refers to the ----- beliefs, values, traditions, and behavior patterns of a particular group.
- individual
 - shared
 - odd
7. ----- endorse man as breadwinner, woman as housewife.
- Marxist ideology
 - Traditional gender ideology
 - Contemporary gender ideology
8. Gender is a ----- concept.
- social
 - biological
 - psychological
9. The expression of human creative skill and imagination in a visual form such as painting or sculpture is called -----.
- Art
 - Religion
 - Culture
10. ----- is the organization of words to give pleasure is called
- Art
 - Literature
 - Language



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Gender, Art & Literature
Course Code: GS-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write the short note on the following.

(5x4=20)

1. Write down the names of some contemporary male and female poets.
2. Art of calligraphy is always dominated by males. Comment on this statement with some examples.
3. How literature is a predominant media to reflect cultural process and gender roles?
4. Define Literature and Art.

Q.3. Questions with brief answers.

(3x10=30)

1. What is the contribution of Feminist debate in Literature, Art and Gender?
2. While there is a feminization of the artistic practices, one cannot yet talk about a reversal of the dominant gendered order. Comment on this statement.
3. How do you evaluate and critically analyze the Gender and development of handicrafts in Pakistan



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Organizational Behaviour & HRM

Course Code: GS-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. "----- are social inventions for accomplishing goals through group efforts"
a. Management b. Organization c. Leadership d. Behavior
2. Which of the following is/are the key features of organization
a. Social invention b. Accomplishing goals c. Group efforts d. All of these
3. A study of human behavior in organizational settings is
a. Individual behavior b. Group behavior c. Organizational behavior d. None of these
4. Scientific Management approach is developed by a. Elton Mayo b. Henry Fayol c. F.W. Taylor d. A. Maslow
5. Who proposed "bureaucratic structure" is suitable for all organization a. Elton Mayo b. Henry Fayol c. F.W. Taylor d. Max Weber
6. "Hawthorne experiment" which was a real beginning of applied research in OB was conducted by a. Elton Mayo b. Henry Fayol c. F.W. Taylor d. Max Weber
7. Process or administrative theory of organization is being given by a. Elton Mayo b. Henry Fayol c. F.W. Taylor d. Max Weber
8. Whose concept states that interpersonal and human relations may lead to productivity a. Elton Mayo b. Henry Fayol c. F.W. Taylor d. Max Weber
9. Today's organization are
a. Open system b. Closed system c. Open as well as closed d. None of these
10. Organization Behavior is
a. An interdisciplinary approach b. A humanistic approach c. Total system approach d. All of

10



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Organizational Behaviour & HRM
Course Code: GS-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

2 .Compare and contrast Maslow's Hierarchy of needs theory with Herzbergs two factor theory.10

3. Write short note on:

a) Theories of Motivation b) Importance of Motivation.

10

4. "A good leader is not necessarily a good manager" Discuss this statement and compare leadership with management.

10

5. Discuss conflict resolution techniques? What are the strengths and weaknesses of each? 10

6. Define following terms

a). social organizations

b). Performance appraisal

c).informal organization

d).motivation.

10



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Family Sociology

Course Code: GS-312 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

سوال نمبر 1: صحیح جواب کے گرد دائرہ لگائیں۔

- i. Nuclear family can be defined as a family with _____ members.
نیوکلیئر فیملی ایسا نظام ہے جس میں افراد کی تعداد ہوتی ہے؟
(a) Two adults with children (b) Two adults with children and siblings
(c) Single adults (d) a and b both
- ii. Monogamy is a marriage in which number of spouse is _____.
مونو گیمی ایسی شادی ہے جس میں شریک حیات کی تعداد ہوتی ہے۔
(a) 4 (b) 1 (c) 2 (d) None of them
- iii. Polygyny is a type of marriage in which _____ has more than one spouse.
پولی گیمی ایسی شادی ہے جس میں _____ ایک سے زیادہ شریک حیات رکھتا ہے۔
(a) Men (b) Women (c) Both (d) None of them
- iv. Primary Socialization occurs at _____.
ابتدائی تعلیم و تربیت کا آغاز ہوتا ہے۔
(a) School (b) Home (c) Media (d) Work place
- v. By the age of _____, children have a partial understanding of what gender is.
_____ سال کی عمر میں بچوں کو اپنے جینڈر کے بارے میں کسی حد تک ادراک ہوتا ہے۔
(a) Two (b) Five (c) One (d) Three
- vi. The most influential and controversial theory of the emergence of gender identity is that of _____.
جینڈر کی شناخت کے حوالے سے سب سے مشہور اور متنازعہ Theory _____ کی ہے۔
(a) Sigmund Freud (b) Nancy Chodorow
(c) Carol Gilligan (d) None of them
- vii. Divorce refers to _____.
طلاق سے مراد ہے۔
(a) Illegal marriage (b) Child marriage
(c) Breaking the ties with spouse (d) Union of spouses
- viii. Endogamy is a marriage in which spouse is selected.
اینڈو گیمی ایک شادی ہے جس میں شریک حیات کا انتخاب کیا جاتا ہے۔
(a) Within some specified group (b) Outside the specified group
(c) Within close relatives (d) None of them
- ix. The functions of the family includes _____.
ایک خاندان کے کردار میں _____ چیزیں شامل ہیں۔
(a) Affection (b) Economic provision
(c) Protective (d) All of them
- x. Nancy Chodorow argues that gender learning derives from the infant's attachment to parents at _____ age.
نینسی چوڈرو کا خیال ہے کہ اپنے جینڈر کے بارے میں علم بچوں کو _____ عمر سے اپنے والدین کے ساتھ لگاؤ سے ہوتا ہے۔
(a) Early (b) Middle (c) Teen-ageing (d) a & B both



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Family Sociology

Course Code: GS-312 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرپ کو مہیا کی گئی جوابی کاپی پر حل کریں۔

Q # 2: Questions with Short Answers.

(4x5=20)

سوال نمبر 2: درج ذیل سوالات کے مختصر جوابات دیں۔

i. Define marriage and name its types.

i. شادی کی تعریف لکھیں نیز اس کی اقسام بتائیں۔

ii. Define Changing Gender Roles.

ii. بدلتے ہوئے جینڈر رولز کو مختصر آ بیان کریں۔

iii. What is socialization? Draw difference between primary and secondary socialization.

iii. بچوں کی تعلیم و تربیت سے کیا مراد ہے؟ ابتدائی اور ثانوی تعلیم و تربیت میں فرق واضح کریں۔

iv. Write down any three of the family's functions.

iv. معاشرے میں خاندان کے کردار سے متعلق کوئی سے تین نکات واضح کریں۔

Q # 3: Questions with brief answers.

(3x10=30)

سوال نمبر 3: درج ذیل سوالات کے جواب دیں۔

i. Write a detailed note on Gender Socialization process and factors responsible for Gender role socialization.

i. جینڈر سیکھنے کے عمل اور اس میں شامل عوامل پر تفصیل سے روشنی ڈالیں۔

ii. How women's working status is affecting family dynamics?

ii. خواتین کے نوکری / کام کرنے کے رجحان نے خاندان پر کیا اثرات ڈالے ہیں۔ واضح کریں۔

iii. Write a note on the following.

- Economic changes affecting the families
- Single parent families

iii. درج ذیل عنوانات پر نوٹ لکھیں۔

الف) بدلتی اقتصادی صورتحال کا خاندانوں پر اثرات

ب) سنگل پیرنٹ فیملیز



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Internet Programming (IT)

Course Code: IT-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Threads share the execution time of their process.
 - a. Yes
 - b. No
2. In CSS, we can apply different styles to a class.
 - a. True
 - b. False
3. JSP stands for _____.
 - a. Java Super Pages
 - b. Java Super Program
 - c. Java Server Pages
 - d. Java Server Program
4. Static member functions and data members can be accessed in non-static member functions of the same class.
 - a. Yes
 - b. No
5. Response of a request in web-architecture contains _____.
 - a. Response Text
 - b. Status Code
 - c. both a & b
 - d. none of these
6. Byte code can be executed on different OS without compiling the code.
 - a. True
 - b. False
7. Super keyword can be used for calling _____.
 - a. multiple constructors
 - b. constructor of parent class
 - c. function of child classes
 - d. All of above

P.T.O.

8. For-each loop can _____ in forward direction.

- a. move
- b. not move

9. In java, instanceof is a/an _____ operator.

- a. binary
- b. unary
- c. both a & b
- d. none of these

10. What will be the output of the program?

```
try{  
    int x = 0/5;  
}  
catch (Exception e){  
    System.out.println("Exception");  
}  
catch (ArithmeticException ae){  
    System.out.println("Arithmetic Exception");  
}
```

- a. Finished
- b. Exception
- c. Compilation fails
- d. Arithmetic Exception



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question # 2.

[2 x 10 = 20 Marks]

Precisely write down the answers of the following questions.

1. What is difference between static and constant variable in java?
2. In event handling, what is the purpose of ActionListener interface?
3. Write down a life cycle of java servlets.
4. Write down the benefits of threading.
5. What is the purpose of PreparedStatement object in JDBC?
6. In CSS, how can we apply style to the components?
7. What does JDBC and HTML stands for?
8. How packages give benefits to the developer?
9. In which cases, multiple inheritance is allowed in java?
10. How can we achieve polymorphism in java?

Question # 3.

[3 x 10 = 30 Marks]

Briefly write down the answers of the following questions.

1. Write a program in which a thread will be created. This thread will take a positive number as input from main thread and display all odd numbers from 0 to that number.
2. A client wants to send a request to server for counting the maximum character used in a string. So, you have to make a server-client application, in which client sends a string to the server and server resends the maximum count of the character used. (Do your task with serialization method in which either you can use built-in class String or make your own string class).
For example:
 - Client: "Hello, Ali! How are you?"
Server: "l:3, o:3"
 - Client: "I love Pakistan"
Server: "a:2"

3. Write a JSP page, which will dynamically create a drop down list with all drinks along with their rates saved in data base.

DB Name: Database

Table name: Beverages (drink_name (varChar(15)), rate(int))



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Computer Networks (CMP)

Course Code: IT-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. In the OSI model, what is the main function of the data link layer?
a) node-to-node delivery b) process-to-process message delivery
c) synchronization d) hop to hop delivery
2. which Topology require most extensive cabling
a) Star b) Bus
c) Mesh d) none
3. What is the size of Port address _____
a) 16 bits b) 32 bits
c) 48 bits d) 64 bits
4. Which multiplexing technique transmit Digital signal.
a)FDM b)TDM
c)WDM d)None of above
5. A Go-back-N ARQ uses a window of size 15, how many bits are needed to define the sequence number
a) 16 b) 5
c) 4 d) none
6. A stream of packets from a source to a destination is called data _____
a) congestion b) flow
c) process d) none
7. When data and acknowledgement are sent on the same frame ,this is called _____
a)Back packing b) Piggybacking
c)Piggypacking d) A good idea
8. In an optical fiber, the inner core is -----than cladding
a)More dense b)Less dense
c)Equally dense d)None of above
9. What is the data rate of Fast Ethernet?
a)100Mbps b)10Mbps
c)1000Mbps d)None of above
10. A periodic signal has a frequency of 10 MHz , what is the time period?
a)0.01micro sec b) 0.1micro sec
c) 0.10milli sec d) none



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Computer Networks (CMP)

Course Code: IT-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question No 2: Give the short answers of the following Questions? [2x10=20]

1. What will be the phase shift in degrees corresponding to $\frac{3}{4}$ cycle delays?
2. Calculate the bit rate for the baud rate of 1000 baud under 8-PSK modulation?
3. How many Bytes will be in the Pad field of an ethernet frame if Data is of 20 bytes?
4. Determine the level of sensitivity ('High' or 'Low') of each application in the following table for given parameters.

Application	Reliability	Delay	Jitter	Bandwidth
Text Chat				
Online Gaming				

5. Using a 5 bit sequence number, what is the maximum size of the send and receive windows for each of the following protocol:
 - i. Go-Back-N ARQ
 - ii. Selective Repeat ARQ
6. Which of the medium access protocol has vulnerable time equal to the frame propagation time?
7. Differentiate between Inter domain and Intra domain routing protocol?
8. Which metrics (at least two) can be observed in order to monitor the congestion in the network?
9. What is a socket address?
10. Where ICMP protocol is used?

Question No 3: Give the answers of the following Questions? [6x5=30]

- (1) Write a note on the wireless medium used in communication?
- (2) Consider a multiplexer having three input lines where each line has a data rate of 300kbps. If frame size is 9 bits. (3 bits taken from each input) then
 - i. How many frames are sent per second?
 - ii. What is the output bit rate?
 - iii. What is the duration of each bit in the output line
- (3) Given a remainder of 111, a data unit of 10110011, and a divisor of 1001, is there any Error in data unit?

P.T.O

(4) Draw only the sender and receiver windows for a system using selective repeat ARQ, given the following?

- a. Frame 0 is sent; frame 0 is acknowledged.
- b. Frame 1 and 2 are sent; frame 1 and 2 are acknowledged.
- c. Frame 3, 4 and 5 are sent; frame 4 is acknowledged; timer for frame 5 expires.

(5) Which of the following are easy/difficult to handle in Virtual-Circuit and Datagram subnets, and why? (Answer just in one line for each case)

- i. Address parsing time
- ii. Congestion control
- iii. Router failure
- iv. Quality-of-service

(6) Find the Initial addresses, Final addresses and also the Number of addresses in the block if one of the addresses is 140.120.84.24/20 ?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Information Systems (IT)

Course Code: IT-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Term software refers to _____.
 - a. computer manuals
 - b. computer programs
 - c. machinery
 - d. both computer programs and manuals
2. In order to produce a computer-based information system, we must together _____.
 - a. 5 parts
 - b. 3 parts
 - c. 2 parts
 - d. 4 parts
3. Term hardware refers to _____.
 - a. computer manuals
 - b. computer programs
 - c. machinery
 - d. both computer programs and manuals
4. Facts and figures that are used by programs to produce useful information are called _____.
 - a. Software
 - b. Data
 - c. Hardware
 - d. Procedures
5. Set of instructions and rules to design and use information system are called _____.
 - a. Software
 - b. Data
 - c. Hardware
 - d. Procedures
6. An _____ is a set of processes and procedures that transform data into information and knowledge.
 - a. information system
 - b. Knowledge system
 - c. Database system
 - d. Computer system

P.T.O.

7. A system is called _____ when the inputs, process and the outputs are known with certainty.
- Probablistics
 - Deterministic
 - Open
 - Close
8. Which of the following is included in the Office automation systems?
- Word processing
 - Electronic mail
 - Voice mail
 - Electronic calendaring
 - Audio conferencing
- i, ii, iii and v only
 - i, ii, iii and iv only
 - i, ii, iv and v only
 - All i, ii, iii, iv and v
9. In a typical _____ network, application processing is shared between clients and one more servers.
- client server computing
 - cloud computing
 - mobile computing
 - data computing
10. The _____ is defined as a set of activities performed across the organization creating as output of value to the customer.
- development process
 - business process
 - quality process
 - customer focus



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Information Systems (IT)

Course Code: IT-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question # 2.

[2 x 10 = 20 Marks]

Precisely write down the answers of the following questions.

1. What are the five components that make up an information system?
2. What are three examples of information system hardware?
3. Microsoft Windows is an example of which component of information systems?
4. What is application software?
5. What roles do people play in information systems?
6. List the following in increasing order (slowest to fastest): megahertz, kilohertz, gigahertz.
7. What is the bus of a computer?
8. Name two differences between RAM and a hard disk.
9. What are the advantages of solid-state drives over hard disks?
10. How heavy was the first commercially successful portable computer?

Question # 3.

[3 x 10 = 30 Marks]

Briefly write down the answers of the following questions.

1. With reference to the type of decisions made, define the followings.
a) Operational Management b) Strategic Management c) Tactical Management
2. Briefly discuss the advantages and disadvantages of choosing packaged software rather than developing customized software.
3. What are the main functions of a modern database management system?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No. in Fig.

Roll No. in Words.

Paper: Linear Algebra (MA)

Course Code: IT-312 Part – I (Compulsory)

Time: 30 Min. Marks: 10

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) If A and B are two square matrices of the same size then
 - (a) $tr(AB) = tr(A)tr(B)$
 - (b) $tr(AB) \neq tr(A)tr(B)$
 - (c) $tr(AB) = tr(A) + tr(B)$
 - (d) None of these
- (ii) A system of m homogeneous linear equations $Ax = 0$ in n variables has a non-trivial solution if and only if the rank of A is -----
 - (a) equal to n
 - (b) less than n
 - (c) greater to n
 - (d) None of these
- (iii) If A is a matrix of order 3×3 and $\det(A) = 2$, then the value of $\det(3A)$ is -----
 - (a) -24
 - (b) -6
 - (c) -27
 - (d) None of these
- (iv) A group has exactly ----- identity element.
 - (a) One
 - (b) Two
 - (c) Three
 - (d) Four
- (v) The subspace of R^3 spanned by the vector (a, b, c) is -----
 - (a) $x = t, y = bt, z = ct$
 - (b) $x = -at, y = -bt, z = -ct$
 - (c) $x = at, y = bt, z = ct$
 - (d) None of these
- (vi) The property $\forall a, b, c \in R$ then $a + (b + c) = (a + b) + c$ is called
 - (a) Associative property
 - (b) Transitive property
 - (c) Closure property
 - (d) None of these
- (vii) A linear transformation $T : U \rightarrow V$ is one-to-one if and only if -----
 - (a) $N(T) = \{0\}$
 - (b) $N(T) \neq \{0\}$
 - (c) $N(T) = \{1\}$
 - (d) $N(T) = \{-1\}$
- (viii) Let R^3 be the vector space of all ordered triples of real numbers. Then the transformation $T : R^3 \rightarrow R^3$ defined by $T(x, y, z) = (x, y, 0)$ is
 - a) Linear
 - b) Not Linear
 - c) Rational
 - d) None of these
- (ix) The dimension of $\text{Ker}T$ is called -----
 - (a) Rank
 - (b) Nullity
 - (c) basis
 - (d) none of these
- (x) The characteristic polynomial of the matrix $\begin{pmatrix} 4 & 0 \\ 0 & 7 \end{pmatrix}$ is.....
 - (a) $p(\lambda) = (2 - \lambda)^2$
 - (b) $p(\lambda) = (4 - \lambda)(7 - \lambda)$
 - (c) $p(\lambda) = (4 + \lambda)(7 + \lambda)$
 - (d) None of these



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Linear Algebra (MA)

Course Code: IT-312 Part – II

Time: 2 Hrs. 30 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. 2

SHORT QUESTIONS

(4x5 = 20 Marks)

- (i) Find the reduced echelon form of the matrix

$$\begin{bmatrix} 1 & -2 & 3 & -1 \\ 2 & -1 & 2 & 2 \\ 3 & 1 & 2 & 3 \end{bmatrix}$$

- (ii) Prove that

$$\begin{vmatrix} 1 & 1 & 1 \\ \alpha & \beta & \gamma \\ \alpha^3 & \beta^3 & \gamma^3 \end{vmatrix} = (\alpha - \beta)(\beta - \gamma)(\gamma - \alpha)(\alpha + \beta + \gamma)$$

- (iii) Show that the vectors $(1-i, i)$, and $(2, -1+i)$ C^2 are linearly independent over C but linearly independent over R .

- (iv) Define $T: R^3 \rightarrow R^3$ by $T(x_1, x_2, x_3) = (-x_3, x_1, x_1 + x_3)$. Find $N(T)$. Is T one-to-one?

- (v)

Find the Eigen Values and eigen vectors of

$$\begin{bmatrix} 2 & 2 & 1 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{bmatrix}$$

LONG QUESTIONS

(6x5 = 30 Marks)

- Q.3 Solve the system of linear equations

$$3x + 2y + 4z = 7$$

$$2x + y + z = 4 \quad 3x + 2y + 4z = 7$$

$$x + 3y + 5z = 3$$

Q.4

Show that

$$\begin{vmatrix} 1+x & 1 & 1 & 1 \\ 1 & 1-x & 1 & 1 \\ 1 & 1 & 1+y & 1 \\ 1 & 1 & 1 & 1-y \end{vmatrix} = x^2 y^2$$

Q.5

If $A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ determine the value of $A^2 - 4A - 5I$

Q.6

Determine whether or not the set of vectors $\{(1, 2, -1), (0, 3, 1), (1, -5, 3)\}$ is a basis for R^3 ?

Q.7

Find the real orthogonal matrix P for which $P^{-1}AP$ is orthogonal where $A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Introduction to Psychology (HM)

Course Code: IT-313 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. In Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Who focused on Psychology as the science of Consciousness :

- | | |
|-------------------|-------------------|
| (a) William Wundt | (b) Sigmund Freud |
| (c) J. B. Watson | (d) Carl Rogers |

2. A tube like structure that carries the neural message to other cells:

- | | |
|------------|----------|
| (a) Neuron | (b) Soma |
| (c) Glial | (d) Axon |

3. Who was the established of the first psychology laboratory?

- | | |
|----------|----------|
| (a) 1879 | (b) 1869 |
| (c) 1859 | (d) 1889 |

4. Variables that are result of introduced stimuli in the experimental method are:

- | | |
|------------------------------|-----------------------------|
| (a) The Independent Variable | (b) The Dependent Variables |
| (c) Both (a) & (b) | (d) None of these |

5. Two Factor theory of intelligence presented by:

- | | |
|--------------|-------------|
| (a) Spearman | (b) Termann |
| (c) Wechsler | (d) Binet |

6. psychoanalysis is a meathod of searching a person's:

- | | |
|------------------------|--------------------------|
| (a) Conscious Memories | (b) Unconscious Memories |
| (c) Latent Memories | (d) None of them |

7. whole is the greater than the sum of parts is the key point of

- | | |
|---------------------------------|------------------------------|
| (a) Cognitive School of thought | (b) Functionalism |
| (c) Behaviorism | (d) Getalt School of thought |

8. What is the duration of short term memory?

- | | |
|----------------|------------------|
| (a) 0.2 Second | (b) 10.05 Second |
| (c) 0.5 Second | (d) 20.00 Second |

9. Which disease is occurred due to malfunctioning of Rods:

- | | |
|---------------------|---------------------|
| (a) Nearsightedness | (b) Color blindness |
| (c) Farsightedness | (d) Night blindness |

10. Who opened the first psychology lab at the university of Leipzig?

- | | |
|-------------------|--------------------|
| (a) Wilhelm Wundt | (b) B.F. Sinner |
| (c) Ivan Pavlov | (d) E.B. Titchener |



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Introduction to Psychology (HM)

Course Code: IT-313 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question – 2:

Short Questions (4 Marks X 5 Question = 20 Marks)

- I. Define various processes in Learning?
- II. Differentiate between mind and brain?
- III. What is the subject matter of Developmental Psychology?
- IV. What is Analytical thinking?
- V. Explain the Internal Determinants of Attention?

Question – 3:

Long Questions (15 Marks X 2 Question = 30 Marks)

- I. Write a detailed note on Psychoanalytic theory of personality.
- II. Briefly explain the following School of Thoughts in Psychology:
 - Functionalism
 - Structuralism
 - Humanistic Psychology



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Introduction to Sociology (SS)

Course Code: IT-314 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Survey means:

- (a) Overlooking
- (b) Observation
- (c) Organizing social data
- (d) None of these

2. "Man is a social animal" are the famous word of:

- (a) Aristotle
- (b) Cristo
- (c) Spencer
- (d) Plato

3. When two or more persons interact with each other they form"

- (a) Community
- (b) Group
- (c) Society
- (d) None of these

4. The Greek thinkers Plato and Aristotle gave primacy to.....

- a) The individual
- b) Religion
- c) society
- d) The state

5: The term "Sociology" was first coined by..

- (a) charls Darwin
- (b) Max weber
- (c) Emile
- (d) Auguste Compte

6. The word "Sociology" is derived from..

- (a) Latin Word
- (b) Greek word
- (c) A. Latin & Greek word
- (d) None of these

7. Who has defined sociology as a branch of study attempting the interpretative understanding of social action?

- (a) Kimball
- (b) Raymond Aron
- (c) L.F. Ward
- (d) Max weber

P.T.O.

8. Max Weber focused on the idea of:

- (a) Communism
- (b) Symbolic interactionism
- (c) Functionalism
- (d) None of these

9. Sociology originated as a separate discipline in:

- (a) 1836
- (b) 1837
- (c) 1838
- (d) None of these

10. who used the analogy of living organism for society"

- (a) Max weber
- (b) C.W. Mill
- (c) Auguste Comete
- (d) Herbert spencer



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Introduction to Sociology (SS)

Course Code: IT-314 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question – 2:

Short Questions (5 Marks X 4 Question = 20 Marks)

- I. Define Ibn-e-Khuldun Laws of Sociology.
- II. Differentiate between Society and Community .
- III. Define the various Types of Authority and Status.
- IV. What is social interaction? Discuss the any three types of social interaction.

Question – 3:

Long Questions (10 Marks X 3 Question = 30 Marks)

- I. Define the term sociology? Discuss the major perspective of Sociology in detail.
- II. Define the term “Feudalism”. Discuss the Disadvantages of “Feudalism” in Pakistan.
- III. Terrorism has become a real and potential threat to global peace and stability. What role social scientist can play to combat their problem?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Tafsir-IV

Course Code: ISE-304 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

(10x1=10)

سوال نمبر 1: ممکنہ درست جواب پر () کا نشان لگائیں۔

- 1- وراثت کے مال میں مرنے والے کی وصیت نافذ ہوگی۔
(الف) سارے مال میں (ب) ایک تہائی مال میں (ج) بیٹوں اور بیٹیوں کے حصے دینے کے بعد
حدودہ شرعی سزا ہے۔
- 2- (الف) جو حاکم کی طرف سے معاف ہو سکتی ہے (ب) توبہ سے معاف ہو سکتی ہے (ج) معاف نہیں ہو سکتی
رجم کی شرعی سزا دی جاتی ہے۔
- 3- (الف) شادی شدہ زانی کو (ب) غیر شادی شدہ زانی کو (ج) زنا بالجبر پر
قرآن مجید میں حراہ کی سزائیں متعین کی گئی ہیں۔
- 4- (الف) تین (ب) چار (ج) دو
علم الفرائض سے مراد
- 5- (الف) علم میراث (ب) علم تفسیر (ج) پانچ ارکان اسلام کا علم
بدکاری کی تہمت لگانے پر شرعی سزا کو ----- کہا جاتا ہے۔
- 6- (الف) حد سرقہ (ب) حد الحراہ (ج) حد قذف
حد خمر سے مراد
- 7- (الف) سود خوری کی سزا (ب) شراب نوشی کی سزا (ج) ناجائز قتل کی سزا
حد زنا کی آیت کس سورت میں ہے۔
- 8- (الف) المائدہ (ب) النساء (ج) النور
للد کر مثل حظ الانثیین کا کیا مطلب ہے؟
- 9- (الف) بیٹی کے مقابلے میں بیٹے کے دو حصے (ب) بیٹی کا حصہ دو تہائی (ج) بیٹے کا حصہ دو تہائی
تفسیر معارف القرآن کے مؤلف کا نام ہے۔
- 10- (الف) مولانا مفتی محمد شفیعؒ (ب) مولانا امین احسن اصلاحیؒ (ج) مولانا سید ابوالاعلیٰ مودودیؒ



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(10x2=20)

سوال نمبر 2: مندرجہ ذیل میں سے دس سوالات کے مختصر جوابات تحریر کریں۔

- 1- حد سرقہ کے نفاذ کا نصاب کیا ہے؟
- 2- محمد علی صابونی کی احکام وراثت پر کتاب کا نام لکھیں؟
- 3- کیا جرم اور گناہ میں کوئی فرق ہے؟
- 4- تقسیم وراثت میں عول سے کیا مراد ہے؟
- 5- وراثت میں والدین کا حصہ تحریر کریں؟
- 6- اقسام قتل کیا ہیں؟
- 7- کسی کو قاذف قرار دینے کی شرائط کیا ہیں؟
- 8- انبیائی اور علائی بہن بھائیوں سے کیا مراد ہے؟
- 9- حنفیہ کے نزدیک نصاب سرقہ کیا ہے؟
- 10- تفسیر تفہیم القرآن کی دو خصوصیات تحریر کریں۔
- 11- ذوی الفروض کون ہوتے ہیں؟
- 12- محسن کسے کہتے ہیں؟

(10x3=30)

سوال نمبر 3: مفصل جوابات تحریر کریں۔

(الف) آیت کا ترجمہ اور تشریح کریں۔

الزَّانِيَةُ وَالزَّانِي فَاجْلِدُوا كُلَّ وَاحِدٍ مِّنْهُمَا مِائَةَ جَلْدَةٍ وَلَا تَأْخُذْكُمْ بِهِمَا رَأْفَةٌ فِي دِينِ اللَّهِ إِنْ كُنْتُمْ تُؤْمِنُونَ بِاللَّهِ
وَالْيَوْمِ الْآخِرِ وَلْيَشْهَدْ عَذَابَهُمَا طَائِفَةٌ مِّنَ الْمُؤْمِنِينَ

(ب) پاکستان میں حدود و آرڈیننس اور اس کے نفاذ کی صورت حال کا علمی و عملی جائزہ پیش کریں۔

(ج) اسلام میں قصاص و دیت کے تصورات کیا ہیں؟ تفصیلاً روشنی ڈالیں۔



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سوال نمبر ۱۔ درست جواب کی نشاندہی کریں۔ صرف دس سوالات کے جوابات دیں۔

۱۔ وہ حدیث جو روایت و درایت کے اعتبار سے قابل قبول ہو کہلاتی ہے۔

ج۔ حدیث مقبول

ب۔ حدیث موضوع

الف۔ حدیث مردود

۲۔ صحیفہ سمرہ بن جندب کس عہد میں مدون کیا گیا؟

ج۔ عہد تابعین

ب۔ عہد صحابہ

الف۔ عہد نبوی ﷺ

۳۔ جامع ترمذی کے مؤلف کا نام ہے؟

ج۔ ابو عبد اللہ محمد بن یزید

ب۔ ابو داؤد سلیمان بن الاشعث

الف۔ ابو عیسیٰ محمد بن عیسیٰ

۴۔ سقوط خفی کی کتنی اقسام ہیں؟

ج۔ ۴

ب۔ ۳

الف۔ ۲

۵۔ ڈاکٹر حمید اللہ کہاں پیدا ہوئے؟

ج۔ حیدر آباد دکن

ب۔ فرانس

الف۔ جرمنی

۶۔ خبر مشہور میں راویوں کی تعداد ہے؟

ج۔ تین

ب۔ دو

الف۔ ایک

۷۔ دوسری صدی ہجری میں سب سے پہلے فتنہ انکار حدیث کا رد کیا؟

ج۔ امام احمد بن حنبلؒ

ب۔ امام ابو حنیفہؒ

الف۔ امام شافعیؒ

۸۔ حضرت ابو بکر صدیقؓ کے تحریر کردہ صحیفہ میں احادیث کی تعداد تھی؟

ج۔ ایک ہزار

ب۔ چار سو

الف۔ پانچ سو

۹۔ وہ حدیث جس کی سند کے کسی راوی پر جھوٹ کا الزام ہو، کہلاتی ہے؟

ج۔ موضوع

ب۔ منکر

الف۔ متروک

۱۰۔ حضرت جابر بن عبد اللہؓ کی روایات کی تعداد ہے؟

ج۔ ۱۶۶۰

ب۔ ۱۵۴۰

الف۔ ۱۱۷۰



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حصہ انشائیہ

(10x2=20)

سوال نمبر ۲۔ مندرجہ ذیل میں سے دس اجزاء کے مختصر جواب لکھیے۔

۱۔ خبر واحد کی کتنی اقسام ہیں اور کونسی ہیں؟

۲۔ حدیث متواتر کی شرائط لکھیں۔

۳۔ مکثرین صحابہ میں سے چار کا نام لکھیں؟

۴۔ اہل مدینہ کے دو تابعین کرام کے نام لکھیں۔

۵۔ کتاب الام اور کتاب الاثار کن کی کتب ہیں؟

۶۔ متفق علیہ حدیث سے کیا مراد ہے؟

۷۔ حضرت عبداللہ بن عباسؓ اور حضرت عائشہؓ کی مرویات کی تعداد لکھیں۔

۸۔ عہد نبوی ﷺ کے دو صحیفوں کے نام لکھیں۔

۹۔ برصغیر میں منکرین حدیث کے کوئی سے چار مراکز کے نام لکھیں۔

۱۰۔ جھوٹی احادیث پر وعید سے متعلق حدیث مبارکہ لکھیں۔

۱۱۔ حدیث شاذ سے کیا مراد ہے؟ اسکی اقسام تحریر کریں۔

۱۲۔ صحاح ستہ سے کیا مراد ہے؟

حصہ سوم

(10)

سوال نمبر ۳: صحیح لفظ کی تعریف لکھیں اسکی شرعی حیثیت اور مراتب بھی بیان کریں۔

(10)

سوال نمبر ۴: حدیث موضوع سے کیا مراد ہے؟ اسباب وضع حدیث تحریر کریں۔

(10)

سوال نمبر ۵: برصغیر میں علم حدیث پر چند علماء کی خدمات بیان کریں۔



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- سوال نمبر 1: درج ذیل میں سے دس سوالات کے موزوں جوابات کا انتخاب کیجیے۔ (1x10=10)
- (i) نبی کریم ﷺ نے مدینہ میں پہلا داعی مقرر فرمایا۔
(ب) حضرت ابو بکر صدیق (i) حضرت ابو بکر صدیق
(ج) حضرت معاذ بن جبل (ب) حضرت مصعب بن عمیر
(ii) کس نبی کے عہد میں طب کا چرچا تھا۔
(i) حضرت ابراہیم (ب) حضرت موسیٰ
(ج) حضرت عیسیٰ
(iii) حضرت شعیب بھیجے گئے۔
(i) اصحاب مدین کی طرف (ب) ایکہ والوں کی طرف
(ج) دونوں کی طرف
(iv) نبی کریم ﷺ نے تمام انبیاء کی امامت فرمائی۔
(i) مسجد حرام (ب) مسجد نبوی
(ج) مسجد اقصیٰ
(v) امام عزیمت کے لقب سے معروف ہوئے۔
(i) امام ابو حنیفہ (ب) امام مالک
(ج) امام احمد بن حنبل
(vi) 80 ہجری میں پیدائش ہوئی۔
(i) امام جعفر صادق (ب) امام ابو حنیفہ
(ج) امام بخاری
(vii) مکتوبات امام ربانی کی نسبت کس شخصیت کی طرف ہے؟
(i) حضرت مجدد الف ثانی (ب) شاہ ولی اللہ
(ج) امام ابن تیمیہ
(viii) "آنحضور ﷺ کی حکمت اختلاب" کے معنی ہیں۔
(i) نعیم صدیقی (ب) ابوالحسن علی ندوی
(ج) سید اسعد گیلانی
(ix) حدیث میں منکر کو رد کرنے کے کتنے درجات بیان ہوئے ہیں؟
(i) دو (ب) تین
(ج) چار
(x) تحریک جماعت اسلامی کا قیام عمل میں آیا۔
(i) 1941ء (ب) 1943ء
(ج) 1945ء
(xi) بیعت عقبہ اولیٰ میں شرکاء کی تعداد تھی۔
(i) 12 (ب) 13
(ج) 17
(xii) قوم لوط پر عذاب آیا۔
(i) چیخ کا (ب) زلزلہ کا
(ج) ہتھکڑیاں لگانے کا

1



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حصہ انشائیہ

10x2=20

سوال نمبر 2۔ درج ذیل سوالات کے مختصر جوابات مطلوب ہیں۔ (کوئی سے دس)

- (i) "دعوت" کے دو مترادفات تحریر کریں۔
- (ii) آیت مکمل کریں: ولتكن منكم۔۔۔۔۔ عن منكر۔
- (iii) اصول دعوت کے متعلق کوئی فرمان نبوی ﷺ تحریر کریں۔
- (iv) آدم ثانی کس پیغمبر کا لقب ہے اور کیوں؟
- (v) خاتم الانبیاء بنی اسرائیل کا نام لکھیے۔
- (vi) نبی کریم ﷺ کے دعوتی مکتوبات کے مشترکہ نکات تحریر کریں۔
- (vii) مخاطبین دعوت کی اقسام لکھیے۔
- (viii) دعوت انبیاء کا بنیادی نکتہ کیا ہے؟
- (ix) فرقہ داریت کی مذمت میں قرآن و حدیث سے کوئی دلیل پیش کریں۔
- (x) السابقون الاولون سے کون لوگ مراد ہیں؟ ان میں سے دو کے نام لکھیں۔
- (xi) شاہ ولی اللہؒ کی دو تصانیف کے نام لکھیے۔
- (xii) امام ابن تیمیہ کا سن پیدائش نام اور لقب تحریر کریں۔
- (xiii) حضرت صالحؑ قوم کی طرف مبعوث ہوئے اور کون سا معجزہ دیا گیا؟

15x2=30

سوال نمبر 3: درج ذیل میں سے دو سوالات کے تفصیلی جوابات مطلوب ہیں۔

- 1۔ دعوت کا معنی و مفہوم، اہمیت و فریضیت نیز اغراض و مقاصد تحریر کریں۔
- 2۔ مدنی دور و دعوت میں نبی کریم ﷺ کی دعوتی حکمت عملی کن اقدام پر مشتمل تھی۔
- 3۔ انبیاء کرامؑ کی دعوت کے کوئی سے پانچ مشترکہ نکات تحریر کریں۔
- 4۔ تحریک انخوان المسلمون پر نوٹ لکھیں۔



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Q.1. Encircle the correct choice.

(1x10=10)

حصہ معروضی

سوال نمبر 1۔ دیے گئے ممکنہ جوابات میں سے درست کا انتخاب کیجیے۔

1. احکام سے مراد وہ احکام ہیں جن کا تعلق۔۔۔۔۔ کے افعال سے ہو

ا. مکلفین ii. متکلفین iii. متکلمین

2. عوارض کی اقسام

اردو ii. چار iii. چھ

3۔ اصول الثاشی کس کی کتاب ہے۔

ا. ملا جیون کی ii۔ امام غزالی کی iii اسحاق بن ابراہیم

4 احلیت و وجوب کب ثابت ہوتا ہے۔

ا. دور جنین سے ii. دور تمیز سے iii۔ دور بلوغت سے

5 جس کے وجود پر کسی شے کا وجود موقوف ہو وہ کہلاتی ہے

اسبب ii شرط iii مانع

6۔ حرام اس کو کہتے ہیں جس کی دلیل۔

ا. ظنی ہو ii۔ قطعی ہو iii۔ غیر قطعی ہو

7 کسی شخص کو جان یا عضو کی ہلاکت کی دھمکی دی جاوے تو یہ ہے۔

ا. خفی ii. اکراہ طبعی iii۔ اکراہ غیر طبعی

(ورق الٹئے)

8 اصول فقہ کے قواعد وضع کر کے دلائل سے مضبوط کرنے کا اسلوب کیا کہلاتا ہے؟

ا. طریقہ احناف ii. طریقہ متکلمین iii. جمع بین الطریقین

9 جس کا چھوڑنا کرنے سے بہتر ہو کہلاتا ہے۔

ا. مکروہ ii. مستحب iii. حرام

10 جس چیز کو جس مقصد کے لیے وضع کیا گیا وہ مراد نہ لینا۔

ا. کذب ii. ہزل iii. خطاء



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حصہ انشاء یہ

سوال نمبر 2: کوئی سے دس سوالات کے مختصر جوابات تحریر کیجیے۔ (10×2=20)

i. جمع بین الطریقین پر لکھی جانے والی کسی ایک کتاب کا نام لکھیں۔

ii. نسخ کا اصطلاحی مفہوم بیان کریں۔

iii. قیاس کے ارکان تحریر کریں؟

iv. ادائے کامل اور ادائے قاصر سے کیا مراد ہے

v. اکراہ کی اصطلاحی تعریف بیان کریں

vi. صغیر ماذون سے کیا مراد ہے

vii. ادلۃ الاحکام کی ترتیب سے بیان کریں

viii. مشترک اور مودل کی تعریف بیان کریں

ix. حجیت اجماع پر آیہ مبارکہ تحریر کریں

x. امام ابو بکر حصاص جی کتاب کا نام تحریر کریں۔

xi. مفسر اور محکم کے ااضداد لکھیے

سوال نمبر 3: درج ذیل سوالات میں سے کوئی سے دو سوالات کے مفصل جوابات تحریر کریں۔ (3×10=30)

i. حکم تکلیفی سے کیا مراد ہے اس کی اقسام پر مفصل نوٹ تحریر کریں

ii. عوارض سے کیا مراد ہے؟ نیز عوارض سماویہ پر مفصل بحث کیجیے

iii. سنت کی لغوی و اصطلاحی تعریف بیان کرتے ہوئے سنت کی حیثیت دلائل سے ثابت کریں۔



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Paper: Islamic Studies-VI

Course Code: ISE-332 Part – I (Compulsory)

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حصہ معروضی

1x10=10

درج ذیل سوالات کے درست جواب کی نشاندہی کریں۔

1۔ تذکیر بایام اللہ سے مراد ہے۔

(ا) قصص کی یاد دہانی (ب) انبیاء کی یاد دہانی (ج) نعمتوں کی یاد دہانی (د) قرض کی یاد دہانی

2۔ "سورۃ النحل" قواعد کی زد سے ہے۔

(ا) مرکب جاری (ب) مرکب توصیفی (ج) مرکب اضافی (د) مرکب تام

3۔ پہلی وحی مشتمل تھی۔

(ا) سورۃ البقرہ (ب) سورۃ الفاتحہ (ج) سورۃ العلق (د) سورۃ المدثر

4۔ "وَيَجْعَلُونَ بَيْنَهُمُ الْبَيْنَاتِ" کس کی صفت ہے۔

(ا) شیطان (ب) کافر (ج) مسلمان (د) انسان

5۔ کس صحابی کی تجویز پر قرآن حکیم کو ایک قراءت پر جمع کیا گیا۔

(ا) زید بن ثابت (ب) عمر فاروق (ج) حذیفہ بن یمان (د) ابی بن کعب

6۔ تاویل کے لفظی معنی ہیں۔

(ا) ظاہر کرنا (ب) رجوع کرنا (ج) وضاحت کرنا (د) اشارہ کرنا

7۔ حضرت شاہ ولی اللہ کی تاریخ پیدائش ہے۔

(ا) ۱۷۰۲ (ب) ۱۷۱۲ (ج) ۱۷۲۲ (د) ۱۷۹۹

8۔ کس صحابی کی قراءت مشہور ہے

(ا) عبداللہ بن مسعود (ب) ابو ہریرہ (ج) ابی بن کعب (د) ابن عباس

9۔ "وہو کظیم" کا معنی ہے۔

(ا) خوش اخلاق (ب) معزز (ج) غم زدہ (د) فرماں بردار

10۔ سورۃ نحل کے رکوع کی تعداد کتنی ہے؟

(ا) 14 (ب) 15 (ج) 16 (د) 17



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حصہ انشائیہ

(5x4=20)

سوال نمبر 2: درج ذیل میں سے پانچ سوالات کے مختصر جواب لکھیں۔

1۔ سورۃ النحل میں چوپاؤں کے بیان کردہ فوائد مختصر بیان کریں۔

2۔ تفسیر کی اصطلاحات محکمات و متشابہات میں فرق کرتے ہوئے ایک محکم اور متشابہ آیت لکھیں۔

3۔ ترتیب قرآن حکیم پر مختصر نوٹ لکھیے۔

4۔ سورۃ النحل میں بیان کردہ حضرت ابراہیمؑ کے امتیازات بیان کریں۔

5۔ اعجاز القرآن کے چار پہلو لکھیں۔

6۔ کیفیت وحی مختصر بیان کیجیے۔

7۔ سورۃ النحل میں محاسن اخلاق کے کن بنیادی اصولوں کا ذکر ہے۔ مختصر لکھیں۔

سوال نمبر 3: الفوز الکبیر کی روشنی میں علم تذکیر بالاء اللہ پر مفصل نوٹ لکھیے۔ (10)

سوال نمبر 4: تفسیر بالرائے پر جامع مضمون قلمبند کیجیے۔ (10)

سوال نمبر 4: درج ذیل آیت مبارکہ کا ترجمہ اور تشریح بیان کریں۔ (10)

وَلَقَدْ بَعَثْنَا فِي كُلِّ أُمَّةٍ رَّسُولًا أَنِ اعْبُدُوا اللَّهَ وَاجْتَنِبُوا الطَّاغُوتَ فَمِنْهُمْ مَّنْ هَدَى اللَّهُ وَمِنْهُمْ مَّنْ حَقَّقْنَا عَلَيْهِ الضَّلَالَةَ فَسِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الْمُكَذِّبِينَ إِن تَحْزُرْ عَلَى هُدَاهُمْ فَإِنَّ اللَّهَ لَا يَهْدِي مَن يُضِلُّ وَمَا لَهُمْ مِنْ نَّاصِرِينَ .



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Islamic Studies-II

Course Code: ISE-334 Part – I (Compulsory)

Time: 15 Min. Marks: 10

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اس پرچے کو اسی سوالیہ کاپی پر حل کریں

سوال نمبر-1 درج ذیل تمام کثیر الانتخابی سوالات کے درست جوابات کے گرد دائرہ لگائیں۔ (10)

1. تفسیر کی کتنی اقسام ہیں۔

C تین

B دو

A ایک

2. قرآن نے کس گناہ کو عظیم عقیم کہا ہے۔

C انبیاء کا قتل

B انکار آخرت

A شرک

3. جہاد کی اقسام ہیں۔

C پانچ

B چار

A دو

4. الاتقان کے مؤلف کا نام ہیں۔

C جلال الدین سیوطی

B تقی عثمانی

A ابن جریر طبری

5. جملہ اسمیہ کا پہلا حصہ ہمیشہ ہوتا ہے۔

C حرف

B فعل

A اسم

6. عربی کا معلم کتاب ہے۔

C عبدالستار کی

B امین احسن اصلاحی کی

A ابوالاعلیٰ مودودی کی

7. ربوا کے لغوی معنی کیا ہے۔

C حصہ داری

B کی

A بڑھوتی

8. اصول تفسیر کے موضوع پر شاہ ولی اللہ کی کتاب ہے۔

C الفوز الکبیر

B التفسیر

A مباحث فی علوم القرآن

9. معارف القرآن کے مؤلف کا نام ہے۔

C مفتی محمد شفیع

B شاہ ولی اللہ

A ابن کثیر

10. حروف مشبہ بالفعل کی تعداد ہیں۔

C چھ

B چار

A دو



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اس پرچے کو علیحدہ سے مہیا کی گئی جوابی کاپی پر حل کریں

سوال نمبر-2 درج ذیل سوالات کے مختصر جوابات دیجئے۔ (20)

- (1) مجلس نبوی ﷺ کے دو آداب بیان کریں۔
- (2) مرکب آضانی کسے کہتے ہیں۔
- (3) حجتہ اللہ البالغہ کے مؤلف کا نام لکھیں۔
- (4) اطاعت رسول پر قرآنی آیت لکھیں۔
- (5) دو صفات الہیہ لکھیں۔
- (6) پردے کے متعلق قرآنی آیت لکھیں۔
- (7) آیت مبارکہ کا ترجمہ لکھیں "وَأَقِيمُوا الصَّلَاةَ وَآتُوا الزَّكَاةَ وَأَطِيعُوا الرَّسُولَ لَعَلَّكُمْ تُرْحَمُونَ"
- (8) فعل ماضی کی تعریف لکھیں نیز مثال بھی دیں۔
- (9) التفسیر والمفسرون کے مؤلف کا نام ہے۔
- (10) تفسیر قرآن کے دو ماخذ کے نام لکھیں۔

حصہ الثانی

سوال نمبر-3 درج ذیل سوالات کے مفصل جوابات قلمبند کریں۔ (30)

- (1) پردے کے احکام
- (2) اطاعت رسول۔
- (3) صفات الہیہ۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Islamic Studies-III

Course Code: EDE-177

Part – I (Compulsory)

Time: 15 Min. Marks: 10

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سوال نمبر 1: صحیح جواب کے گرد دائرہ لگائیں۔
(1) دنیا کا پہلا تحریری دستور (دستوری معاہدہ) کسے کہا جاتا ہے؟

I. صلح حدیبیہ

II. بیٹاق مدینہ

III. حلف الفضول

(2) محبت بڑھانے کا نبی ﷺ نے کیا طریقہ بتایا

I. صدقہ کرو

II. بڑوں کی عزت کرو

III. جاننے والے اور نہ جاننے والے کو سلام کرو

(3) ترجمان القرآن کا لقب کالقب دیا گیا

I. حضرت عبداللہ بن عباس رضی اللہ عنہ

II. حضرت عبدالرحمن بن عوف رضی اللہ عنہ

III. حضرت سعد بن معاذ رضی اللہ عنہ

(4) قصر نماز ادا کی جاتی ہے

I. سفر میں

II. جنگ میں

III. چاند گرہن کے موقع پر

(5) جامع القرآن کا لقب دیا گیا

I. حضرت عمر رضی اللہ عنہ

II. حضرت ابوبکر رضی اللہ عنہ

III. حضرت عبداللہ بن عباس رضی اللہ عنہ

(ورق الٹئے)

(5) جامع القرآن کا لقب دیا گیا

- I. حضرت عمر رضی اللہ عنہ
- II. حضرت ابو بکر رضی اللہ عنہ
- III. حضرت عبداللہ بن عباس رضی اللہ عنہ

(6) حضرت محمد ﷺ نے اس شخص کو طاقور قرار دیا جو

- I. جس کے پاس مال سب سے زیادہ ہو
- II. جس کی جسمانی طاقت زیادہ ہو
- III. جس نے اپنے غصہ کا پورا پالا

(7) نقد کے معنی ہیں

- I. سمجھ بوجھ
- II. سفر کرنا
- III. معاملات کرنا

(8) مجموعہ ہائے حدیث صحیفہ الصلوٰۃ

- I. حضرت عبداللہ ابن عمر ابن العاص رضی اللہ عنہ
- II. حضرت ابو بکر رضی اللہ عنہ
- III. حضرت معاذ بن جبل رضی اللہ عنہ

(9) قرآن مجید کی کئی سورتوں کی تعداد

- I. 89
- II. 86
- III. 84

(10) شعب ابی طالب میں نبی ﷺ اور تمام اہل ایمان کو محصور رکھا گیا

1. پانچ سال
2. دو سال



UNIVERSITY OF THE PUNJAB
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Paper: Islamic Studies-III

Course Code: EDE-177

Part – II

Time: 2 Hrs. 45 Min. Marks: 50

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(5x4=20)

سوال نمبر 2: درج ذیل سوالات کے مختصر جوابات دیں۔

1. عہد نبوی ﷺ میں کتابت حدیث کی صورتیں تحریر کریں؟ 5
2. دور رسالت کے مشہور مجموعہ احادیث بیان کریں؟ 5
3. صحاح ستہ سے کون سی کتب احادیث مراد ہیں؟ 5
4. نمازوں کے ادا کرنے کے مستحب اوقات کون کون سے ہیں؟ 5

(3x10=30)

سوال نمبر 3: درج ذیل سوالات کے جواب دیں۔

(1) مندرجہ ذیل حدیث کا ترجمہ و تشریح بیان کریں؟ 10 (5,5)

1) وعن انس قال رسول الله ﷺ من أحب أن يبسط له في رزقه وينسأله في أثره فليصل رحمه (متفق عليه)

(2) مندرجہ ذیل عبارت کا ترجمہ تحریر کریں خط کشیدہ الفاظ کی وضاحت لکھیں؟ 10 (5,5)

سجود السهو واجب في الزيادة والنقصان بعد السلام يسجد سجدتين ثم يتشهد ويسلم ويلزمه سجود السهو اذا زاد في الصلوة فعلا من جنسها ليس منها او ترك فعلا مسنونا او ترك قراءة فاتحة الكتاب او القنوت التشهد او تكبيرات العبدین او جهر الامام فيما يخافت او خافت فيما يجهر

(3) مکی دور میں نبی ﷺ کی دعوتی حکمت عملی پر نوٹ تحریر کریں؟ 10



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Real Analysis-II

Course Code: MATH-307 Part – I (Compulsory)

Time: 30 Min. Marks: 10

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Q.1. Encircle the correct option.

(10x1=10)

1. If $f \in \mathcal{R}(\alpha)$ on $[a, b]$ and $f \geq 0$ on $[a, b]$, then

(1 mark)

- (a) $\int_a^b f d\alpha \leq 0$.
- (b) $\int_a^b f d\alpha \geq 0$.
- (c) $\int_a^b f d\alpha = 0$.
- (d) All of the above

2. Which one of the following is a correct statement.

(1 mark)

- (a) A constant function $f(x) = 6x$ is not integrable on $[0, 2]$.
- (b) A constant function $f(x) = 6x$ is integrable on $[0, 2]$.
- (c) A function $f(x) := 12x^3$ is not integrable on $[0, 2]$.
- (d) None of these.

3. A function f is said to be Riemann-Stieltjes integrable with respect to α on $[a, b]$, if f is bounded on $[a, b]$, and _____

(1 mark)

- (a) $\int_a^b f d\alpha = \int_a^b f d\alpha$.
- (b) $\int_a^b f d\alpha \neq \int_a^b f d\alpha$.
- (c) $\int_a^b f d\alpha > \int_a^b f d\alpha$.
- (d) None of these

4. The upper and lower Riemann-Stieltjes sums are _____

(1 mark)

- (a) unbounded.
- (b) bounded.
- (c) both (a) & (b)
- (d) None of these

5. If P^* is the refinement of the partition P , then _____

(1 mark)

- (a) $L(P^*, f, \alpha) \leq L(P, f, \alpha)$.
- (b) $L(P, f, \alpha) < L(P^*, f, \alpha)$.
- (c) $L(P^*, f, \alpha) = L(P, f, \alpha)$.
- (d) Both (b) & (c)

P.T.O.

6. Let $a < c < b$ and f is of bounded variations on $[a, b]$, then f is of bounded variations on (1 mark)

- (a) $[a, c]$.
- (b) $[c, b]$.
- (c) Both (a) & (b).
- (d) None of these.

7. Let f and g are of bounded variations on $[a, b]$, then (1 mark)

- (a) fg is not of bounded variations on $[a, b]$.
- (b) $\lambda g; \lambda \in \mathbb{R}$ is not of bounded variations on $[a, b]$.
- (c) fg is of bounded variations on $[a, b]$.
- (d) $\lambda f; \lambda \in \mathbb{R}$ is not of bounded variations on $[a, b]$.

8. Let h is of bounded variations on $[a, b]$, then (1 mark)

- (a) h is not of bounded variations on $[a, b]$.
- (b) h is of bounded variations on $[a, b]$.
- (c) Both (a) & (b).
- (d) None of these.

9. A sequence of function $f_n(x) := \frac{x}{n}; n \in \mathbb{N}, x \in \mathbb{R}$ is (1 mark)

- (a) not pointwise convergent on $[0, 1]$
- (b) not pointwise convergent on $[0, 1]$
- (c) More information is required
- (d) None of the above.

10. Which one of the following is not a true statement about the function f defined by (1 mark)

$$f(x) = \begin{cases} 0 & \text{if } x \text{ is irrational,} \\ 1 & \text{if } x \text{ is rational,} \end{cases}$$

- (a) f is not Riemann integrable on any interval.
- (b) f is not continuous on any point of \mathbb{R} .
- (c) is not a measureable function.
- (d) All of the above.



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Q #2

SECTION II-Questions with Short Answers

1. Let $f \in \mathcal{R}(\alpha)$ on $I := [a, b]$, then prove that $|f| \in \mathcal{R}(\alpha)$ on I . (4 marks)
2. Test the uniform convergence of $\int_1^\infty \exp(-xy) \sin x dx$. (4 marks)
3. Let f be a real valued bounded function on $I := [a, b]$. Show that the upper and lower Riemann integrals are bounded on I . (4 marks)
4. Let f be a real valued bounded function on $I := [a, b]$. Let α be a monotonically increasing function and P^* be the refinement of a partition P of I , then prove that $L(P^*, f, \alpha) \geq L(P, f, \alpha)$. (4 marks)
5. Check whether or not the following integral converges or diverges (4 marks)

$$\int_0^\infty \frac{x}{1+x^2 \sin^2 x} dx.$$

SECTION III-Questions with Brief Answers

Q3

Let $f : [a, b] \rightarrow \mathbb{R}$ be a continuous function. Show that there exists $c \in (a, b)$ such that

$$\frac{1}{b-a} \int_a^b f(x) dx = f(c).$$

Is this still true for Riemann integrable functions. (6 marks)

Q4

Show that the following integral is conditionally convergent. (6 marks)

$$\int_2^\infty \frac{\cos x}{\log x} dx.$$

Q5

Test for uniform convergence of the sequence $\{f_n(x)\}$, where (6 marks)

$$f_n(x) = \frac{nx}{1+n^2x^2}, \text{ for all real } x.$$

Q6

Let f be a real valued continuous function defined on $[a, b]$. If f' exists and is bounded on $[a, b]$, then f is a function of bounded variations on $[a, b]$. But its converse may not be true. (6 marks)

Q7

State and prove Cauchy's criterion of convergence for infinite integrals. (6 marks)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Rings and Vector Spaces

Course Code: MATH-308 Part – I (Compulsory)

Time: 30 Min. Marks: 10

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Q.1. Encircle the correct option.

(10x1=10)

- (i) The set $Z_6 = \{0,1,2,3,4,5\}$ under addition and multiplication modulo 6 forms
- (a) Division Ring (b) Integral domain (c) Commutative Ring (d) field
- (ii) If $\phi: R \rightarrow R'$ is a ring homomorphism such that $\phi(a)=0 \forall a \in R$ then $\text{Ker}\phi = \text{-----}$
- (a) R' (b) $\{0\}$ (c) R (d) None of these
- (iii) The set $Z_8 = \{0,1,2,3,4,5,6,7\}$ under addition and multiplication modulo 8 forms
- (a) Division Ring (b) Integral domain (c) Commutative Ring (d) field
- (iv) Z_n is a field if and only if n is
- (a) Natural number (b) Integer (c) Composite number (d) Prime number
- (v) A ring which is commutative with identity element and having no zero divisor is called
- (a) Division Ring (b) Integral domain (c) Prime Ring (d) nilpotent ring
- (vi) An indexed set of vectors $\{v_1, v_2, \dots, v_p\}$ in R^n is said to beif the vector equation $x_1v_1 + x_2v_2 + \dots + x_pv_p = 0$ has only the trivial solution.
- (a) Linearly independent (b) Linearly dependent (c) Basis (d) None of these
- (vii) The set $S = \left\{ \begin{bmatrix} 1 \\ 2 \end{bmatrix}, \begin{bmatrix} 2 \\ 3 \end{bmatrix}, \begin{bmatrix} 0 \\ 0 \end{bmatrix} \right\}$ of vectors in R^2 is
- (a) Linearly Independent (b) Linearly dependent (c) Basis (d) None of these
- (viii) Let $T: U \rightarrow V$ is a linear transformation from an n dimensional vector spaces U to a vector spaces V over the same field F then
- a) $\dim N(T) + \dim R(T) = 0$ b) $\dim N(T) + \dim R(T) = 2n$
c) $\dim N(T) + \dim R(T) = n^2$ d) None of these
- (ix) The vectors $(1,2)$ and $(1,-2)$ are.....
- (a) linearly independent (b) linearly dependent
(c) parallel (d) perpendicular
- (x) The characteristic polynomial of the matrix $\begin{pmatrix} 1 & 0 \\ 0 & 2 \end{pmatrix}$ is.....
- (a) $p(\lambda) = (1-\lambda)^2$ (b) $p(\lambda) = (1-\lambda)(2-\lambda)$ (c) $p(\lambda) = \lambda^2$ (d) None of these



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Rings and Vector Spaces
Course Code: MATH-308 Part – II

Time: 2 Hrs. 30 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

SECTION-II

Q.2

- (i) Show that the homomorphic image of a commutative ring is commutative. (4)
- (ii) Let R be a commutative ring and $a \in R$, then $aR = \{ar : r \in R\}$ is an ideal in R . (4)
- (iii) Let R be a commutative ring with 1 as its identity element. Let I be an ideal in the ring R , then $I = R$ if and only if $1 \in I$. (4)
- (iv) State Gram Schmidt Process and explain with example. (4)
- (v) Show that the vectors $(1, -2)$ and $(3, -5)$ span the vector space \mathbb{R}^2 . (4)

SECTION-III

- Q.3 Prove that a finite integral domain is a field. (6)
- Q.4 Let R be commutative ring with identity. The ideal P is a prime ideal in R if and only if the quotient ring R/P is an integral domain. (6)
- Q.5 Define the following terms: Linear Functional, Dual basis, Annihilator. (6)
- Q.6 State and prove rank and nullity theorem. (6)
- Q.7 Find the Eigen Values and eigen vectors of
$$\begin{bmatrix} 2 & 2 & 1 \\ 1 & 3 & 1 \\ 1 & 2 & 2 \end{bmatrix}$$
 (6)



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Paper: Complex Analysis-II

Course Code: MATH-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. An elliptic function with no poles in a cell is a
a) Entire function b) constant function c) Periodic function
d) None of these
2. For $f(z) = \frac{\sin z}{z}$, $z=0$ is
a) Isolated singularity b) nonisolated singularity c) essential singularity
d) removable singularity
3. If the principal part in the Laurent series contains an infinitely many nonzero terms, then the singularity is called a
a) Isolated singularity b) nonisolated singularity c) essential singularity
d) removable singularity
4. $\text{Res}(e^{-2/z^2}, 0) = \dots\dots\dots$
a) 2 b) 3 c) 1 d) 0
5. Sum of Residues of $f(z) = \frac{1}{(z-1)^2(z-3)}$ is
a) 0 b) -1 c) 7 d) -7
6. The number of poles of an elliptic function in any cell is
a) Finite b) infinite c) zero d) None of these

P.T.O.

7. An elliptic function of order less than two is a

- a) Entire function b) constant function c) Periodic function
d) None of these

8. $f(z) = \frac{2z+5}{(z-1)(z+5)(z-2)^4}$ has a zero at $z=2$ of order.....

- a) 1 b) 4 c) 2 d) 3

9. The principal part of $f(z) = \frac{\sin z}{z^2}$ is

- a) $\frac{1}{z}$ b) $\frac{-1}{z}$ c) $\frac{1}{z^2}$ d) 0

10. $\oint_C \frac{z}{z^2+9} dz = \dots\dots\dots$, where $C: |z-2i|=4$.

- a) 2π b) 0 c) π d) πi



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Complex Analysis-II

Course Code: MATH-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q2. Solve the following short questions

(4x5=20)

1. Determine whether $z=0$ is an essential singularity of $f(z) = e^{z+\frac{1}{z}}$
2. Evaluate $\oint_C e^{3/z} dz$ where the contour C is the circle $|z|=1$.
3. Prove that an elliptic function with no poles in a cell is a constant function.
4. Find the order of the poles of $f(z) = \tan z$.

SECTION II (Long Questions)

(3x10=30)

Q3. Prove that the sum of residues at the poles in a cell of an elliptic function is zero.

Q4. State and Prove Weierstrass's Factorization theorem.

Q5. Evaluate $\int_0^{2\pi} \frac{1}{10-6\cos\theta} d\theta$.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Paper: Mechanics

Course Code: MATH-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. In Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

- (a) The moment of inertia of a spherical shell of mass M and radius a about its diameter is
A. $\frac{M}{2a^2}$ B. $\frac{3M}{2a^2}$ C. $\frac{2M}{3a^2}$ D. $\frac{2M}{5a^2}$
- (b) Calculate gyroscopic couple acting on a disc which has radius of 135 mm. Angular and precessional velocities are 15 rad/sec and 7 rad/sec respectively. Assume density = 7810 kg/m^3 and thickness of disc = 30 mm
A. 12.83 N-m B. 10.99 N-m C. 11 N-m D. Incomplete data
- (c) Total angular momentum of a body is given by
A. $I \times \omega$ where I : moment of inertia of body, ω : angular velocity
B. $I^2 \times \omega$ where I : moment of inertia of body, ω : angular velocity
C. $I^2 \times \omega^2$ where I : moment of inertia of body, ω : angular velocity
D. $I \times \omega^2$ where I : moment of inertia of body, ω : angular velocity
- (d) The Parallel-Axis theorem can be applied to determine
A. only the Moment of Inertia B. only the Mass Moment of Inertia C. both the Moment of Inertia and Mass Moment of Inertia D. none of the above
- (e) The force $-2m\vec{W} \times \vec{V}_R$, called
A. Coriolis force B. Centrifugal force C. Transverse force D. Acceleration
- (f) The moment of inertia of a body is always minimum with respect to its
A. Base B. Centroidal axis C. Vertical axis D. Horizontal axis
- (g) Apparent acceleration is measured in _____ frame(s) of reference
A. fixed B. rotating C. both D. none
- (h) Equation of momental ellipsoid of a solid cube at its center represents a
A. Cube B. Angular box C. Both D. None
- (i) (1 mark) A surface having no thickness is called
A. Ellipsoid B. Cuboid C. Lamina D. Sphere
- (j) $\omega \times (\omega \times r)$ is called _____ acceleration
A. centripetal B. angular C. Coriolis D. none



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Mechanics

Course Code: MATH-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answers.

(10x2=20)

- (a) Define equimomental systems.
- (b) Find M.I of rod of mass M and length $2L$ about a line through end points and perpendicular to rod.
- (c) In the absence of external torque, write down the Euler's equations.
- (d) Write down the necessary and sufficient conditions for two systems S_1, S_2 to be equimomental.
- (e) Write down the formula for product of Inertia about x, z-axes.
- (f) Define inertia and write its units.
- (g) State parallel axis theorem.
- (h) Prove the principal of angular momentum for a rigid body rotating about a fixed axis.
- (i) A rigid body has its three mutually perpendicular axes of symmetry meeting at common point P . What do you know about principal axes of this body at point P .
- (j) Differentiate between inertial and non-inertial frames of reference.

Q.3. Write long answers.

(3x10=30)

i.

- (a) What is a spinning top? Express the equations for the motion of a spinning top having one point fixed on its axis in terms of Euler angles and find the condition of sleeping top.
- (b) Find the moment of Inertia of a triangular lamina of mass M about one of its sides.

ii.

- (a) Show that rigid body motion is screw motion.
- (b) Find the minimum spin of the gyroscope in above part so that it can sleep in the vertical position.

iii.

- (a) Discuss Torque free motion of a rigid body symmetric about an axis with one point fixed.
- (b) State and prove CHASLE's theorem.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

PAPER: Functional Analysis-I

Course Code: MATH-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

(i) The space $C[a, b]$ is a subspace of -----

(a) $B[a, b]$

(b) $B(X, Y)$

(c) $l^2[a, b]$

(d) None of these

(ii) Let $f: \mathbb{R} \rightarrow \mathbb{R}$ given by $f(x) = 5x$, then for any $\varepsilon > 0$, function f is uniformly continuous for $\delta =$ -----

(a) ε

(b) 5ε

(c) $\varepsilon/5$

(d) None of these

(iii) Let $A = (0, 1)$ be a subset of real line \mathbb{R} with usual metric on \mathbb{R} . Then $F_r(A) =$ -----

(a) $(0, 1)$

(b) $[0, 1]$

(c) $\{0, 1\}$

(d) None of these

(iv) A Cauchy sequence in $X = (0, 1)$ which does not converge in X -----

(a) $\left\{\frac{1}{n} : n \in \mathbb{N}\right\}$

(b) $\{n : n \in \mathbb{N}\}$

(c) $\left\{1 + \frac{1}{n} : n \in \mathbb{N}\right\}$

(d) None of these

(v) In (\mathbb{R}, d) with usual metric d on \mathbb{R} the closure of $(0, 2] \cup [3, 4)$ is -----

(a) $(0, 2] \cup [3, 4)$

(b) $[0, 2] \cup [3, 4)$

(c) $(0, 2] \cup [3, 4]$

(d) None of these

(vi) Let $A = \mathbb{N}$, $B = \left\{n - \frac{1}{n} : n \geq 2, n \in \mathbb{N}\right\}$. Then $d(A, B) =$ -----

(a) n

(b) $2n$

(c) 0

(d) None of these

(vii) In the plane \mathbb{R}^2 , which one of the following is convex -----

(a) $\{(x, y) \in \mathbb{R}^2 : x^2 + y^2 \leq 1\}$

(b) $\{(x, y) \in \mathbb{R}^2 : x^2 = y^2\}$

(c) $\{(x, y) \in \mathbb{R}^2 : y^2 = x\}$

(d) None of these

P.T.O.

(viii) In a linear space N , the convex combination of the vectors $x, y, z \in N$ can be written as follows: ---

(a) $\frac{1}{2}x + \frac{1}{3}y + \frac{1}{4}z$

(b) $\frac{1}{3}x + \frac{1}{3}y + \frac{1}{3}z$

(c) $\frac{1}{4}x + \frac{1}{4}y + \frac{1}{4}z$

(d) None of these

(ix) If π is the orthogonal projection from a Hilbert space H onto its proper closed subspace A , and for each $x \in H, x = y + z, y \in A, z \in A^\perp$, then -----

(a) $\pi(x) = 0$

(b) $\pi(x) = x$

(c) $\pi(x) = y$

(d) None of these

(x) In an inner product space V the parallelogram law is -----

(a) $\|x + y\|^2 + \|x - y\|^2 = 2(\|x\|^2 + \|y\|^2)$

(b) $\|x + y\|^2 + \|x - y\|^2 = \|x\|^2 + \|y\|^2$

(c) $\|x + y\|^2 + \|x - y\|^2 = 2\|x\| + \|y\|$

(d) None of these



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

PAPER: Functional Analysis-I
 Course Code: MATH-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

SECTION-II

- Q.2 (i) Prove that every open ball $B(a, r)$ in a metric space (X, d) is open. (4)
- (ii) Show that every Cauchy sequence in a metric space (X, d) is bounded. (4)
- (iii) If x_0 is an accumulation point of a set $A \subset (X, d)$. Then show that any neighborhood of x_0 contains infinitely many points of A . (4)
- (iv) Let $\{x_n\}, \{y_n\}$ be any sequences in an inner product space V . If $x_n \rightarrow x, y_n \rightarrow y$ then show that $\langle x_n, y_n \rangle \rightarrow \langle x, y \rangle$. (4)
- (v) For any x, y in a complex inner product space V prove that (4)

$$\langle x, y \rangle = \frac{1}{4} \left[(\|x + y\|^2 - \|x - y\|^2) + i(\|x + iy\|^2 - \|x - iy\|^2) \right].$$

SECTION-III

- Q.3 Let X, Y be topological spaces and $f: X \rightarrow Y, g: Y \rightarrow Z$ be uniformly continuous functions. Then show that $g \circ f: X \rightarrow Z$ is uniformly continuous. (6)
- Q.4 Show that the space \mathbb{C} of complex numbers with usual metric is complete. (6)
- Q.5 Let N be a normed space in which every absolutely convergent series converges. Then show that N is a Banach space. (6)
- Q.6 If Y is a Banach space then prove that the space $B(X, Y)$ of all bounded linear operators is Banach space under the norm defined by $\|T\| = \sup_{\|x\|=1} \|Tx\|, x \in X$. Deduce that the Dual space of a normed space X is a Banach space (whether or not X is). (6)
- Q.7 Let H be a Hilbert space and $y \in H$ then the function $f_y: H \rightarrow \mathbb{C}$ given by $f_y(x) = \langle x, y \rangle$ defines a linear functional on H . Moreover $\|f_y\| = \|y\|, y \in H$ (6)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Ordinary Differential Equations

Course Code: MATH-312 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. The general solution of $\frac{d^2 y}{dx^2} - 9y = 0$ is $y = \dots\dots\dots$

- a) $Ae^x + Be^{-x}$ b) $Ae^{3x} + Be^{-3x}$ c) $Ae^{2x} + B$
d) $Ae^{-2x} + B$

2. The singular points of the differential equation $(x^2 + 2)\frac{d^2 y}{dx^2} + 2x\frac{dy}{dx} + 6y = 0$ are.....

- a) ± 1 b) $\pm\sqrt{2}i$ c) 0 d) no singular point

3. The eigen values of S-L system $\frac{d^2 y}{dx^2} + \lambda y = 0$, $y(0) = 0$, $y(\pi) = 0$ are

- a) $\lambda = n^2$, $n = \pm 1, \pm 2, \pm 3, \dots$ b) $\lambda = n^2$, $n = 0, \pm 1, \pm 2, \pm 3, \dots$
c) $\lambda = n$, $n = \pm 1, \pm 2, \pm 3, \dots$ d) $\lambda = \sqrt{n}$, $n = \pm 1, \pm 2, \pm 3, \dots$

4. The differential operator that annihilates $1 - 5x^2 + 8x^3$ is

- a) D^4 b) $(D - 2)^2$ c) $D + 2$ d) $D - 2$

5. For a gamma function, the values of $\Gamma\left[\frac{3}{2}\right] = \dots\dots\dots$

- a) $\frac{1}{2}\sqrt{\pi}$ b) $\frac{\pi}{2}$ c) 1 d) none of these

6. The eigenfunctions of S-L system $\frac{d^2 y}{dx^2} + \lambda y = 0$, $y(0) = 0$, $y(\pi) = 0$ are

- a) $y_n = b_n \sin(nx)$, $n = \pm 1, \pm 2, \pm 3, \dots$ b) $y_n = b_n \cos(nx)$, $n = \pm 1, \pm 2, \pm 3, \dots$

P.T.O.

c) $y_n = b_n \tan(nx)$, $n = \pm 1, \pm 2, \pm 3, \dots$

d) $y_n = b_n \sin(\sqrt{n} x)$, $n = \pm 1, \pm 2, \pm 3, \dots$

7. $\frac{d}{dx}[x^{-n} J_n(x)] = \dots\dots\dots$

a) $nx^{n-1} J_n(x)$

b) $-x^{-n} J_{n+1}(x)$

c) $x^n J_{n-1}(x)$

d) $J_{n-1}(x)$

8. $J_{1/2}(x) = \dots\dots\dots$

a) $\sqrt{\frac{2}{\pi x}} \sin x$

b) $\sqrt{\frac{2}{\pi x}} \cos x$

c) $\sqrt{\frac{2}{\pi x}} \left(\frac{\sin x}{x} - \cos x \right)$

d) $-\sqrt{\frac{2}{\pi x}} \left(\frac{\cos x}{x} + \sin x \right)$

9. $P_3(x) = \dots\dots\dots$

a) $\frac{1}{2}(x^2 - 3)$

b) $\frac{1}{2}(3x^2 - 2)$

c) $\frac{1}{2}(3x^2 - 1)$

d) $\frac{1}{2}(5x^3 - 3x)$

10. The function $y = Ae^{-2x} + Be^{3x} + Ce^{2x}$ gives a differential equation of degree

a) 1

b) 2

c) 3

d) 4



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

SECTION I

Short Questions

Q2. Solve the following short questions

(4x5=20)

1. Find a solution of $\frac{dy}{dx} - 2xy = 0$ in the form of a power series in x .
2. Solve $4\frac{d^2y}{dx^2} + 36y = \csc 3x$.
3. Prove the identity $J_{-m}(x) = (-1)^m J_m(x)$.
4. Define Bessel functions of the second kind.

SECTION II (Long Questions)

(3x10=30)

Q3. Find the eigenvalues and eigenfunctions of the system

$$\frac{d}{dx} \left((x^2 + 1) \frac{dy}{dx} \right) + \frac{\lambda}{x^2 + 1} y = 0, \quad y(0) = 0, \quad y(1) = 0$$

Q4. Use the method of Frobenius to find a series solution in x of the differential equation

$$2x \frac{d^2y}{dx^2} + \frac{dy}{dx} - y = 0$$

Q5. Derive Rodrigue's Formula

$$P_n(x) = \frac{1}{2^n n!} \frac{d^n}{dx^n} (x^2 - 1)^n, \quad n = 0, 1, 2, 3, \dots$$



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Mathematical Methods of Physics-II

Course Code: PHY-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Fill in the blanks or answer True / False.

(1x10=10)

1. $\left(\frac{d}{dx}\right)^{1/2} + k^2$ is a linear operator. (True/False)
2. $(k-1)! = \Gamma(k)$ (True/False)
3. $\mathcal{F}\left[\frac{d^2}{dt^2}f(t)\right] = -\omega^2 g(\omega)$. (True/False)
4. If χ is a solution of Laplace's equation $\nabla^2\chi = 0$, then $\frac{\partial\chi}{\partial x}$ is not a solution of Laplace's equation. (True/False)
5. Legendre equation $(1-x^2)y'' - 2xy' + 2a(a+1)y = 0$ has singularity at $x = \pm 1$. (True/False)
6. $\Gamma(z) = \lim_{n \rightarrow \infty} \frac{1.2.3\dots n}{z(z+1)(z+2)\dots(z+n)} n^z$, $n \neq 0, -1, -2, \dots$. (True/False)
7. $\delta(1-x) = \sum_{n=0}^{\infty} \frac{2n+1}{2} P_n(x)$. (True/False)
8. $\Gamma(5/2) = \dots$
9. $\mathcal{L}\{f'''(t)\} = \dots$
10. $\mathcal{L}\{\cos(at)\} = \dots$



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Mathematical Methods of Physics-II
Course Code: PHY-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Section-II (Short Questions)

Marks=20

- Linear operator A has n distinct eigenvalues and n corresponding eigenfunctions: $A\psi_i = \lambda_i \psi_i$. Show that the n eigenfunctions are linearly independent. Do not assume A to be Hermitian.
- A triangular wave is represented by

$$f(x) = \begin{cases} x, & 0 < x < \pi \\ -x, & -\pi < x < 0. \end{cases}$$

Represent $f(x)$ by a Fourier series.

- Show that

$$\mathcal{F}[f^*(-t)] = F^*(\omega),$$

where $F(\omega) = \mathcal{F}[f(t)]$.

- Using

$$\Gamma(z) = \lim_{n \rightarrow \infty} \frac{1.2.3 \dots n}{z(z+1)(z+2) \dots (z+n)} n^z, \quad n \neq 0, -1, -2, \dots,$$

show that

$$\Gamma(z+1) = z\Gamma(z).$$

- Evaluate $\int_{-\infty}^{+\infty} x^3 e^{-x^2} H_n(x) H_n(x) dx$.

Section-III

Marks=30

- Show that

$$G(x, t) = \begin{cases} x, & 0 \leq x \leq t, \\ t, & t \leq x \leq 1, \end{cases}$$

is the Green's function for the operator $L = -\frac{d^2 y}{dx^2}$ and the boundary conditions $y(0) = 0, y'(1) = 0$.

- Verify the Dirac delta function expansions

$$\begin{aligned} \delta(1-x) &= \sum_{n=0}^{\infty} \frac{2n+1}{2} P_n(x), \\ \delta(1+x) &= \sum_{n=0}^{\infty} (-1)^n \frac{2n+1}{2} P_n(x). \end{aligned}$$

- Expand x^r in a series of associated Laguerre's polynomials $L_n^{(k)}$, with k fixed and n ranging from 0 to r (or to ∞ if r is not an integer).
- Show, by direct differentiation, that,

$$J_\nu(x) = \sum_{s=0}^{\infty} \frac{(-1)^s}{s! \Gamma(s+\nu+1)} \left(\frac{x}{2}\right)^{\nu+2s},$$

satisfies the two recurrence relations

$$\begin{aligned} J_{\nu-1}(x) + J_{\nu+1}(x) &= \frac{2\nu}{x} J_\nu(x), \\ J_{\nu-1}(x) - J_{\nu+1}(x) &= 2 \frac{dJ_\nu(x)}{dx}. \end{aligned}$$

- Evaluate

$$\int_{-1}^1 (1+x)^a (1-x)^b dx,$$

in terms of the beta function.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Solid State Physics-II

Course Code: PHY-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- i. Addition of pentavalent impurity to a semiconductor creates many**
 - a. Free electrons
 - b. Holes
 - c. Valence electrons
 - d. Bound electrons
- ii. Hall voltage is directly proportional to**
 - a. current
 - b. electric field
 - c. magnetic flux density
 - d. all of above
- iii. Boltzman constant is actually**
 - a. gas constant per mole
 - b. gas constant per kg
 - c. gas constant per molecule
 - d. product of pressure and area
- iv. The energy required to break a covalent bond in a semiconductor**
 - a. is equal to 1 eV
 - b. is equal to the width of the forbidden gap
 - c. is greater in Ge than in Si
 - d. is the same in Ge and Si
- v. In an insulator, the forbidden energy gap is of the order of**
 - a. 1 MeV
 - b. 0.1 MeV
 - c. 1 eV
 - d. Sev
- vi. P-type and N- type extrinsic semiconductors are formed by adding impurities of valency?**
 - a. 5 and 3 respectively
 - b. 5 and 4 respectively
 - c. 3 and 5 respectively
 - d. 3 and 4 respectively

P.T.O.

- vii. For metals conduction band and valence band are**
- a. Fully occupied
 - b. Empty
 - c. Partially occupied
 - d. Overlapping
- viii. Which is the correct ordering of the band gaps energy?**
- a. Diamond > silicon > copper
 - b. Diamond < silicon < copper
 - c. Diamond < silicon > copper
 - d. Diamond < silicon < copper
- ix. If the density of charge carriers is increased, the value of Hall voltage**
- a. Decreases
 - b. Increases
 - c. Remains constant
 - d. Changes the direction
- x. Specific heat capacity of a substance is equal to**
- a. mass of the substance \times heat capacity
 - b. heat capacity / mass of the substance
 - c. mass of the substance / heat capacity
 - d. None of the above



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Solid State Physics-II
Course Code: PHY-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question No.2: Answer the following short questions.

(10x2=20)

- 1 Define Bloch function and Bloch theorem.
- 2 Explain briefly intrinsic mobility.
- 3 Differentiate between metals and insulators on the basis of orbital band theory.
- 4 What are significances of Hall-co-efficient?
- 5 Plot the distribution of probability 'p' in the lattice for $|\Psi +|^2$, $|\Psi -|^2$ and for pure travelling wave.
- 6 What is meant by density of energy states in metals?
- 7 Define and draw Fermi sphere.
- 8 What factors affect the resistivity of electrical materials?
- 9 State Weidman Franz law.
- 10 Explain the difference between direct and indirect band gap materials.

Q.3.

(10)

- a. Give quantitative explanation of energy gap formation under periodic potential.
- b. Plot Fermi dirac distribution function for various temperatures.

Q.4.

(10)

- a. Show that the wavelength associated with an electron having an energy equal to Fermi energy is given by

$$\lambda_F = 2 \left(\frac{\pi}{3n} \right)^{1/2}$$

- b. Derive an expression for intrinsic carrier concentration in a semiconductor.

Q.5.

(10)

- a. Consider Free electron gas in 3-dimensions, then by using periodic boundary conditions, derive expressions for Fermi energy and density of states for the system.
- b. Explain collision time and mean free path as applied to free electrons.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Quantum Mechanics-II

Course Code: PHY-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) At classical turning points, the value of energy E is
(a) greater than potential (b) less than potential (c) equal to potential (d) None of these
- (ii) The wavefunction associated with Helium-4 is
(a) anti symmetric (b) symmetric (c) zero (d) None of these
- (iii) Pauli spin matrices are
(a) traceless (b) non-hermitian (c) singular (d) All of these
- (iv) The spin of photon is
(a) 1 (b) 0 (c) $1/2$ (d) $3/2$
- (v) WKB approximation is suitable for system with
(a) rapidly varying potential (b) slowly varying potential (c) classical turning points only
(d) None of these
- (vi) The sum of determinants for all Pauli spin matrices is equal to
(a) 0 (b) -1 (c) -3 (d) 2
- (vii) Which of the following particle does not obey Pauli exclusion principle?
(a) Proton (b) alpha particle (c) neutron (d) All of these
- (viii) The frame in which particles move with equal and opposite velocities before and after scattering is known as
(a) Inertial frame (b) Lab frame (c) center of mass frame (d) Non-inertial frame
- (ix) In Heisenberg picture, the state vector is
(a) time dependent (b) frozen in time (c) zero (d) None of these
- (x) Which of the following is not an approximate method for estimating solutions of systems?
(i) WKB method (ii) Perturbation Theory (iii) Rayleigh-Ritz variational method
(iv) None of these



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Quantum Mechanics-II

Course Code: PHY-309 Part – I (Compulsory)

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.No.2 Answer the following short questions. (4x5=20)

- (i) Compute $[S_z, S_x]$.
- (iii) Define (a) PERMUTATION operator (b) HILBERT space.
- (iii) Write down ANTI-SYMMETRIC WAVE FUNCTION for a system of three identical FERMIONS.
- (iv) Write down validity of WKB method.
- (v) What is difference between Schrodinger and Interaction pictures of Quantum mechanics?

Q.No.3 (a) Describe VARIATIONAL method as an approximate method. Write down the steps involved in this method. (5)

(b) Find the GROUND STATE ENERGY of a HARMONIC OSCILLATOR by using VARIATIONAL method. (5)

Q.No.4 Find the relation between scattering angles for two-particle scattering in LAB and CENTER of MASS frames. (10)

Q.No.5 Discuss briefly (5,5)

- (i) PAULI Exclusion Principle (ii) BORN approximation**



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Digital Electronics

Course Code: PHY-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- (i) In the decimal number system, what is the MSD?
(a) the middle digit of a stream of numbers (b) the last digit on the right
(c) the digit to the right of the decimal point (d) the digit with the most weight
- (ii) The domain of SOP expression $ABC + AB + ABCD + CD$ is
(a) ABC (b) ABD (c) ACD (d) ABCD
- (iii) In a 4-variable K-map, a 2-variable product term is produced by
(a) a 2-cell group of 1s (b) an 8-cell group of 1s
(c) a 4-cell group of 1s (d) a 4-cell group of 0s
- (iv) On a K-map, grouping the 0s produces
(a) a product-of-sums expression (b) a sum-of-products expression
(c) a "don't care" condition (d) AND-OR logic
- (v) A 5-variable K-map has
(a) sixteen cells (b) thirty-two cells (c) sixty-four cells (d) none as above
- (vi) An ADC is an
(a) alphanumeric data coder (b) analog-to-digital comparator
(c) analog device carrier (d) analog-to-digital converter
- (vii) How many Flip-Flops are required for mod-16 counter?
(a) 5 (b) 6 (c) 4 (d) 3
- (viii) How many clock pulses are required to enter a byte of data serially into an 8-bit shift register?
(a) 8 (b) 4 (c) 16 (d) 9
- (ix) An asynchronous counter differs from a synchronous counter in
(a) the number of states in its sequence (b) the method of clocking
(c) the type of flip-flops used (d) the value of the modulus
- (x) To serially shift a byte of data into a shift register, there must be
(a) one clock pulse (b) one load pulse
(c) eight clock pulses (d) one clock pulse for each 1 in the data



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Digital Electronics

Course Code: PHY-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write short answers of the following questions:

(2×10 = 20)

- i. Do the following conversions.
(a) $(650)_{10} = (?)_{16}$ (b) $(11000110)_2 = (?)_{\text{Gray}}$
- ii. Subtract the following hexadecimal numbers:
(a) $94_{16} - 2A_{16}$ (b) $84_{16} - 2A_{16}$
- iii. Verify that the NAND operation is commutative.
- iv. Sketch K-map for four variables.
- v. What is a "Don't Care" condition in a K-map?
- vi. By using laws of Boolean algebra, prove that $A + \bar{A}B = A + B$
- vii. Why D- flip flop is widely used for circuit implementation?
- viii. How a J-K flip flop is connected for toggle operation?
- ix. Define the term *Shift Registers*.
- x. Differentiate between ROM and RAM?

Q.3: (a) Use *K-map* to reduce the following expression to a *minimum SOP* form;

$$\bar{A}\bar{B} + A\bar{B} + \bar{C}\bar{D} + C\bar{D}$$

(b) Using Boolean algebra techniques, simplify the expression;

$$ABCD + AB(\bar{C}\bar{D}) + (\bar{A}\bar{B})CD, \text{ to obtain } CD + AB.$$

(5, 5)

Q.4: (a) Describe a method of edge triggering for an *S-R* flip flop.

(b) A device is needed to indicate when one or two HIGH levels occur on its inputs and to produce a LOW output as an indication. Specify the device.

(7, 3)

Q.5: (a) Explain in detail the operation of a 4-bit binary ripple counter.

(b) A 2MHz clock signal is applied to a live stage binary ripple counter. What is the frequency at the fifth flip flop?

(7, 3)



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Computational Physics-I

Course Code: PHY-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

i. C++ program statement ends with a:

- a) getch() (b) void main () (c) semicolon (d) comma

ii. In C++ what is not a selection:

- a) select (b) if (c) switch (d) if-else

iii. C++ language, LIBRARY TYPE that provides stream oriented input and output is called:

- (a) Header (b) #include (c) iostream (d) both (a) & (b)

iv. Which of the following is an assignment operator in C++?

- (a) == (b) = (c) + (d) !=

v. Which escape sequence can be used to begin a new line in C++:

- (a) \new (b) \n (c) \next (d) \t

vi. The pow () is a:

- (a) Operator (b) user defined function (c) built in function (d) None

vii. In C++, a loop with fix number of iterations is:

- (a) While (b) do-while (c) for (d) None

viii. If $x = 23$ and $y = 32$, then for statement " $y == x$ " which of the following result is true

- (a) x equals y (b) x is greater than y (c) true (d) false

ix. In C++ the expression $45\%2$ is evaluated to:

- (a) 2.0 (b) 1 (c) 22.5 (d) error

x. Which of the following is not a Boolean operator for in C++ :

- (a) && (b) || (c) = (d) none



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Computational Physics-I
Course Code: PHY-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

<p>Q.2.</p> <p>i. Explain with example the following terms in C++: a) float x; (b) cos () (c) switch() (d) sqrt()</p> <p>ii. Write syntax with example the following in C++: (a) do-while () loop (b) for ()</p> <p>iii. Explain arithmetic operators in C++?</p> <p>Write C++ program code segment for the following:</p> <p>(a) to calculate equivalent of two resistors connected in series (b) to print x against f(x) for the equation</p> $f(x) = \frac{5}{\sqrt{2x^3 - 4x^2 - 2x + 4}}$ <p>(c) to calculate and display table of a number (d) to convert grams to kilograms using a function</p>	<p>Write short answers of the following Questions:</p> <p>4</p> <p>4</p> <p>4</p> <p>8</p>	
<p>Q.3.</p>	<p>Write C++ program to evaluate the $\int_1^6 \frac{1}{x^3 - 5} dx$ by Simpson's rule or by Trapezoidal rule due to options 1 or 2 respectively (use n=6). Report error message for any other option pressed by the user.</p>	<p>10</p>
<p>Q.4.</p>	<p>Suppose A and B be 3x3 matrices. Write C++ program which reads in entries of A and B and prints out the entries of matrix which is (i) $7A - 3B$, (ii) $C = 2A'$ and (iii) to print diagonal elements of C.</p>	<p>2+4+4</p>
<p>Q.5.</p>	<p>Write C++ program for the forced harmonic motion (FHM) of a mass attached with a spring using Euler's method under the following conditions: (g=9.8 m/s², initial position zero and velocity 15 m/s, time step 0.1 sec. and maximum time 15 sec., k = 1 N/m, m=1kg, damping coefficient = 0.5 N/ms, $\omega = 0.01 \text{ s}^{-1}$ and $f_0 = 1.5\text{N}$). Calculate and print values for time, position, velocity and acceleration. How you can change the same program for Simple H.M., Damped. H.M</p> <p>Write C++ program which reads in 10 numbers into an array and display those numbers in reverse order.</p>	<p>7+3</p>



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Western Political Philosophy-II

Course Code: POL-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Dictatorship of the Proletariat is one of the concepts of:
(a) Karl Marx (b) Max Weber (c) MaoTzedung (d) None of these
2. Hobbian social contract is based on:
(a) Desire for peace
(b) Selfishness
(c) Fear
(d) None of these.
3. Leviathan* is written by:
(a) Thomas Hobbes (b) Hegel (c) Locke (d) None of these
4. Jean Jacques Rousseau was born at:
(a) London (b) Paris (c) Geneva (d) None of these
5. According to John Locke, the best form of Government is:
(a) Monarchy (b) Aristocracy (c) Democracy (d) None of these
6. "Introduction to the Principles of Morals and Legislation (1789)" Was written by:
(a) Jeremy Bentham (b) J.S. Mill (c) John Locke (d) None of these
7. Which of the thinkers is a social contractualist?
(a) Lenin
(b) Marx
(c) Hobbes
(d) None of these

P.T.O.

8. "Two treatises on civil Government" constitute the basic source of Political thought of :

- (a) Sia Robert Filmer
- (b) Locke
- (c) Plato
- (d) None of these

9. Marx and Engels produced the famous book 'Common Manifesto' In:

- (a) 1848
- (b) 1845
- (c) 1883
- (d) None of these

10. The distinction between Real Will and Actual Will was made by:

- (A) Green
- (B) Bosanquet
- (C) Rousseau
- (D) None of these



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Western Political Philosophy-II
Course Code: POL-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q # 2

Short Question:

4*5=20 Marks

1. Define concept of Human Nature by Thomas Hobbes.
2. Explain the relevance of Machiavelli's theory in contemporary times.
3. Evaluate the human nature and state of nature by John Locke.
4. Discuss Leninism and its main components.

Q # 3

Long Questions:

10*3=30 Marks

1. Critically evaluate Marxism.
2. Discuss the theory of Social Contract by J.J. Rousseau
3. Evaluate the Dialectic history of Hegel.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Muslim Political Philosophy-II

Course Code: POL-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Poet of the east is the title of _____
a) Afghani b) Iqbal c) Haali
"شاعر مشرق کس کا لقب ہے؟"
(الف) افغانی (ب) اقبال (ج) حالی
1.
2. Jamaluddin Afghani was a political activist of _____ century.
a) 17th b) 18th c) 19th
جمال الدین افغانی صدی کے سیاسی کارکن تھے۔
(الف) سترھویں (ب) اٹھارہویں (ج) انیسویں
2.
3. Muhammad Abdhu belonged to _____
a) Syria b) Egypt c) Lebanon
محمد عبدہ کا تعلق _____ سے تھا۔
(الف) شام (ب) مصر (ج) لبنان
3.
4. Iqbal's first poetry book was published in _____ language.
a) Urdu b) Persian c) Hindi
اقبال کی پہلی شاعری کی کتاب _____ زبان میں شائع ہوئی۔
(الف) اردو (ب) فارسی (ج) ہندی
4.
5. Treatise on the Oneness of God is written by _____
a) Iqbal b) Muhammad Abduh c) Jamaluddin Afghani
"اللہ تعالیٰ کی وحدانیت" یہ کتاب کس نے لکھی۔
(الف) اقبال (ب) محمد عبدہ (ج) جمال الدین افغانی
5.
6. Syed Qutb started the movement of _____
a) Muslim Brotherhood b) Revolution c) Evolution
سید قطب نے _____ تحریک شروع کی۔
(الف) مسلم بھائی چارہ (ب) انقلاب (ج) ارتقاء
6.
7. Syed Qutb was executed in _____
a) 1966 b) 1965 c) 1964
سید قطب کو _____ میں سزائے موت ہوئی۔
(الف) 1966 (ب) 1965 (ج) 1964
7.

P.T.O.

8. Imam Khumaini had a leading role in _____.
a) Afghan Revolution b) Iranian Revolution c) French Revolution
امام خمینی کا _____ میں کلیدی کردار تھا۔
(الف) افغان انقلاب (ب) ایرانی انقلاب (ج) فرانسیسی انقلاب
9. Khumaini was a _____ of Iran.
a) President b) Prime Minister c) Supreme Leader
خمینی ایران کے _____ تھے۔
(الف) صدر (ب) وزیراعظم (ج) سپریم راہنما
10. Iqbal was influenced by the teachings of _____.
a) Muhammad Ali Jinnah
b) Sir Thomas Arnold
c) Shah Waliullah
اقبال _____ کی تعلیمات سے بہت متاثر ہوئے۔
(الف) محمد علی جناح (ب) سر تھامس آرنلڈ (ج) شاہ ولی اللہ



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Muslim Political Philosophy-II
Course Code: POL-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(4x5=20)

1. Write a brief note about the life of Jamaluddin Afghani?
جمال الدین افغانی کی زندگی پر مختصر نوٹ لکھیں۔ 1
2. What are the contributions of Maulana Maudoodi in Muslim Philosophy?
مولانا مودودی کی مسلم فلسفے کی ترویج میں کیا کوششیں تھیں بیان کریں۔ 2
3. Discuss the concept of Modernity Presented by Muhammad Abdhu?
محمد عبدہ نے جدیدیت کا جو تصور دیا اس پر بحث کریں۔ 3
4. Discuss Iqbal's concept of Khudi.
اقبال کا تصور خودی بیان کریں۔ 4

Q.3. Give short Answers.

(3x10=30)

1. Write a detailed note about the poetry of Allama Iqbal?
علامہ اقبال کی شاعری پر ایک جامع نوٹ لکھیں۔ 1
2. Discuss in detail the efforts of Imran Khumaini for Iranian Revolution.
انقلاب ایران کے لیے امام خمینی کی کوششوں پر جامع نوٹ لکھیں۔ 2
3. Write a brief note about the life of Syed Qutb?
سید قطب کی زندگی پر ایک جامع نوٹ لکھیں۔ 3



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Comparative and Developmental Politics-II

Course Code: POL-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

- 1 In Traditional approach _____ are given much importance
i) Behaviours ii) Traditions iii) Facts
2. _____ is the author of the book "The System Analysis of Political Life
i) David Easton ii) G.A. Almond iii) Arthur Hughes
3. S.E. Finer has described the _____ kinds of political culture
i) 2 ii) 3 iii) 4
4. Constitutional Government is the major indicator of _____
i) Political culture ii) Political Development iii) Political system
- 5 According to Karl Marx _____ factor is vital for change.
i) Economic ii) Social iii) Political
- 6 _____ used the term 'Bureaucracy' first of all in his writing.
i) Mac Iver ii) Max Weber iii) Lucian Pye
- 7 _____ took over in 1999 in Pakistan
i) Ayub Khan ii) Zia ul Haq iii) Pervez Mushraf
- 8 _____ countries are often facing crisis of legitimacy.
i) Developing ii) Developed iii) Industrialized
- 9 _____ is considered charismatic leader in Pakistan
i) Mian Nawaz Sharif ii) Zulfikar Ali Bhutto iii) Benazir Bhutto
- 10 The main characteristic of political development is _____
i) Equality ii) Prejudice iii) Nepotism



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Comparative and Developmental Politics-II
Course Code: POL-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(4x5=20)

1. Define 'Legitimacy' in your own words.
2. What do you mean by participant political culture?
3. What is political development?
4. Define 'Social Change'.

Q.3. Give short Answers.

(3x10=30)

1. What are the common characteristics of political development?
2. Write the role of bureaucracy in your own words.
3. Explain the issue of National Identity with Special reference to Pakistan.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: History of International Relations

Course Code: POL-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x5=5)

- i. Cuban Crisis occurred during the presidency of:
a) Ronald Reagan b) Jimmy Carter
c) Eisenhower d) None of These
- ii. Soviet Union invaded Afghanistan in:
a) 1978 b) 1979
c) 1980 d) None of These
- iii. Globalization is caused by advancement in:
a) Military b) Technology
c) Economy d) None of These
- iv. New World Order is the policy of which state:
a) Israel b) Russia
c) United States d) None of These
- v. Which state was part of WARSAW pact:
a) United States b) Pakistan
c) USSR d) None of These

Q.2. Mark the True / False.

(1x5=5)

- i. World War I started in 1920. T / F
- ii. League on Nations was established after World War I. T / F
- iii. USSR was major supporter of socialist ideology. T / F
- iv. Cuban missile crisis took place in 1960. T / F
- v. Cold War started in 1930. T / F



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: History of International Relations
Course Code: POL-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.3. Give Short Answers.

(4x5=20)

1. Explain the treaty of Versailles.
2. Briefly explain Truman Doctrine.
3. Analyze the role of religion in contemporary world.
4. Critically evaluate major principles of New World Order.

Q.4. Give Long Answers.

(3x10=30)

1. Discuss the major developments in International Politics between World War I and II.
2. Analyze the major developments during cold war and its impacts.
3. Define Terrorism, its types and measures to counter it.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Introduction to Local Government

Course Code: POL-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Mark the True / False.

(10x1=10)

- | | | |
|-------|--|-------|
| i. | Local government is a government at central level. | T / F |
| ii. | There is no difference between local government and local self-government. | T / F |
| iii. | Central government influences the performance of local institutions. | T / F |
| iv. | Lack of political awareness among people is a major problem of local government. | T / F |
| v. | Local government depends upon provincial government for financial resources. | T / F |
| vi. | Local Government works at national level. | T / F |
| vii. | Local Government creates awareness at national level. | T / F |
| viii. | Local Government system in Pakistan was introduced by Zulfikar Ali Bhutto. | T / F |
| ix. | Local Government resolves issues at national level. | T / F |
| x. | Local Government coordinates with provincial government. | T / F |



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Introduction to Local Government

Course Code: POL-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(4x5=20)

1. Define nature of local government.
2. What is scope of local government
3. Discuss decentralization.
4. Difference between local government and local self-government.

Q.3. Give Long Answers.

(3x10=30)

1. Explain various approaches the study of local government.
2. Discuss different problems of local government in developing countries.
3. Discuss different characteristics of Local Government finance.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Pakistan Studies-VI

Course Code: PST-302 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Give True and False.

(5x1=5)

1. Quid e Azam joined Muslim league in 1916.....
2. Delhi proposals were given by Quid in 1926.....
3. Congress ministries resigned in oct 1939.....
4. Quid e Azam was given the title of ambassador of hindu-muslim unity by Sardar Patel.....
5. Quid-e-Azam led the Simla deputation in 1906.....

Q.2. Choose correct option.

(5x1=5)

1. 1st world war started in
(a) 1914 (c) 1916
(b) 1938 (d) none of above
2. Congress ministries resigned in
(a) Oct 1939 (C) Nov 1938
(b) Dec 1938 (d) none of the above
3. formed congress.
(a) Lord Atlee (c) A. O. Hume
(b) Pandit Nehru (d) none of above
4. Cabinet mission organized all provinces into groups
(a) 3 (c) 4
(b) 2 (d) none of above
5. In 1947 British P.M minister was
(a) Lord Atlee (c) Lord Mountbatten
(b) Lord Wavell (d) none of the above



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Pakistan Studies-VI Course Code: PST-302 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.3. Write short answers.

(5x4=20)

1. Write any 5 points out of 14 quid's points
2. Describe briefly 4 initial problems of Pakistan.
3. Short note on Delhi proposals.
4. Describe causes of M A Jinnah's reasons to leave All India National congress.
5. Four causes of partition f Bengal.

Q.4. Give detailed answers.

(3x10=30)

1. Discuss how Lucknow Pact was an effort of hindu-muslim unity by Quid-e-Azam?
2. Give detailed account of Khilafat movement and its results.
3. Give detailed account of formation of congress ministries and its atrocities on muslims.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Research Design & Sociometry

Course Code: SOC-307 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. The use of scientific research procedures to measure the effectiveness of an action program called.
 - a. Evaluation research
 - b. analytical research
 - c. Scientific research
 - d. None of these
2. The first step in any sociological research project is to.
 - a. collect data
 - b. define the problem
 - c. review previous research
 - d. formulate a hypothesis
3. Formulating the hypothesis is the _____ step in the scientific method.
 - a. First
 - b. Second
 - c. Third
 - d. fourth
4. In most instances how well a student does on a test is determined by how much the student studies for it In this example studying for an exam is a(n).
 - a. Correlation
 - b. independent variable
 - c. dependent variable
 - d. sample

P.T.O.

5. A researcher can obtain a higher response rate by using which type of survey?
 - a. Interviews
 - b. Questionnaires
 - c. representative samples
 - d. observation techniques
6. The Scientific study of human social life is termed as.
 - a. Society
 - b. Sociology
 - c. Anthropology
 - d. None of these
7. Karl Pearson said "The unity of all science consists alone in its methods not in its material It relates to the importance of.
 - a. Scientific research
 - b. Scientific method
 - c. Science unity
 - d. None of these
8. Experiments are of two types.
 - a. Laboratory
 - b. Field
 - c. both a & b
 - d. None of these
9. If the information needed has already been written down somewhere it is looked up. It is called.
 - a. Observational studies
 - b. Sociological analysis
 - c. Statistical Comparative studies
 - d. None of these
10. Questionnaire and interview studies are systematic ways of asking questions under.
 - a. Experiment situation
 - b. Scientific control
 - c. Normal circumstances
 - d. None of these



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Research Design & Sociometry
Course Code: SOC-307 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short Answers.

(5x4=20)

1. Research Methodology
2. Research Funding
3. Career Utilization
4. Quantitative Research
5. Qualitative Research

Q.3. Give Long Answers.

(3x10=30)

1. Define Research grant proposal. Explain the various points of research proposal.
2. How do you evolve research design? Briefly explain steps its research design.
3. What are the goals of literature review?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Introduction to Population Studies

Course Code: SOC-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. Which of the following is not a possible cost of high fertility rates and rapid population growth?
 - a. increasing returns to natural resources, with a direct impact on average food consumption.
 - b. increased urbanization and congestion.
 - c. a higher labor force growth rate and higher unemployment.
 - d. a working population that must support a larger number of dependents.
2. The total fertility rate (TFR) is
 - a. the total number of children born in a country in a given year divided by labor force.
 - b. the number of children born to the average woman during her reproductive years.
 - c. the number of births in a country divided by total population in a given year.
 - d. the number of women age 15-45 in a country divided by total population.
3. Positive checks on population growth can include:
 - a. warfare
 - b. famine
 - c. disease
 - d. All answers are correct
4. When people leave an area to go elsewhere that is called:
 - a. immigration
 - b. population transfer
 - c. migration
 - d. net-migration
5. Logic of growth argument is based on:
 - a. limited population growth.
 - b. the idea that the earth's resources are finite and need to be managed carefully
 - c. the idea that new technologies will make the future even better
 - d. none of the above

P.T.O.

6. The population growth rate in Pakistan is _____percent?
- a. 1.82
 - b. 1.92
 - c. 2.02
 - d. 2.12
7. Demographic processes does not include-
- a. fertility
 - b. morbidity
 - c. mortality
 - d. social mobility
8. In a standard population pyramid the age range of each bar is:
- a. 5 years
 - b. 10 years
 - c. 15 years
 - d. 20 years
9. The relationship between the economically active population and the non-working population is known as the:
- a. employment ratio
 - b. economic ratio
 - c. dependency ratio
 - d. critical ratio
10. Increase in population does not necessarily increase
- a. Unemployment
 - b. Resource generation
 - c. Health facilities
 - d. Per capita income



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Introduction to Population Studies
Course Code: SOC-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give Short Answers.

(5x4=20)

1. Population growth rate
2. Geographic distribution
3. Birth Rate
4. GNP growth rate
5. Sources of population data

Q.3. Give Long Answers.

(3x10=30)

1. Explain the theory in Ibn-e-Khaldun on Population. Discuss with examples.
2. What are demographic process? Explain in detail.
3. Explain the factors behind high fertility in Pakistan in detail.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Social Statistics

Course Code: SOC-309 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. In statistics out of 100, marks of 21 students in final exams are as 90, 95, 95, 94, 90, 85, 84, 83, 85, 81, 92, 93, 82, 78, 79, 81, 80, 82, 85, 76, 85 then mode of data is
 - a. 85
 - b. 95
 - c. 90
 - d. 81
2. Branches of statistics includes
 - a. applied statistics
 - b. mathematical statistics
 - c. industry statistics
 - d. both a and b
3. Procedures of descriptive statistics and control charts which are used to improve process are classified as
 - a. statistical tools
 - b. parallel tools
 - c. serial tools
 - d. behavioral tools
4. Sample statistics are denoted by the
 - a. upper case Greek letter
 - b. associated roman alphabets
 - c. roman letters
 - d. lower case Greek letter

P.T.O.

5. Which of the following is not an example of a discrete probability distribution?
- The sale or purchase price of a house
 - The number of bedrooms in a house
 - The number of bathrooms in a house
 - Whether or not a home has a swimming pool in it
6. The collection of one or more outcomes from an experiment is called
- Probability
 - Event
 - Random Value
 - Z-value
7. If you roll a pair of dice, what is the probability that (at least) one of the dice is a 4 or the sum of the dice is 7?
- $\frac{4}{36}$
 - $\frac{13}{36}$
 - $\frac{21}{36}$
 - $\frac{15}{36}$
8. To create a new data file in SPSS Statistics, you select:
- Open a New Data File
 - Type in Data
 - New Dataset
 - New Data File
9. What menu item do you select to find the "Descriptive Statistics..." selection?
- Frequencies
 - Graphs
 - Analyze
 - Utilities
10. The name of the tool in SPSS Statistics that creates a frequency polygon is called:
- Graph Builder
 - Figure Builder
 - Chart Builder
 - Graph Builder



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Social Statistics

Course Code: SOC-309 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give Short Answers.

(5x4=20)

1. Chi Square Test
2. Rules of Probability
3. Area Under the normal curve
4. Variance
5. Inferential Statistics

Q.3. Give Long Answers.

(3x10=30)

1. What are nominal, ordinal and Interval scales? Explain with examples.
2. Define Measures of Dispersion. Explain its types with examples.
3. What is Empirical relationship between Mean, Median, and Mode? Explain with graphs.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Urban Sociology

Course Code: SOC-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Urbanization is a _____ process.

- a. Straight lined
- b. Cyclical
- c. Social
- d. None of these

2. The current level of urbanization in Pakistan is _____ in SAARC Countries.

- a. Highest
- b. Normal
- c. Lowest
- d. None of these

3. Urbanization causes many Social problems such as _____

- a. Inflation
- b. Poverty
- c. Unemployment
- d. All of the above

4. Urbanization in preindustrial cities was restricted by _____

- a. Reliance on animal power as a source of energy
- b. The high levels of surplus produced by the agricultural sector
- c. The ease of migration to the city
- d. All of the above

5. In comparison with industrial cities preindustrial cities had _____

- a. Relatively open class systems
- b. Extensive social mobility
- c. A much more rigid division of labour by gender
- d. All of the above

6. The trend toward urbanization is most advanced in _____

- a. America
- b. England
- c. Japan
- d. None of these

P.T.O.

7. Who described urbanism as a way of life?

- a. Park
- b. Hawley
- c. Wirth
- d. Burgess

8. Urban recycling is shorthand for _____

- a. Encouraging existing residents to move out of an area
- b. Introducing local environmental strategies to an area
- c. The refurbishment or replacement of old buildings and land
- d. Providing incentives for urban dwellers to use public transport

9. In past Pakistan's population had relatively _____ growth rate.

- a. Low
- b. Medium
- c. High
- d. High none of these

10. The shift of a population from the countryside to cities is called.....

- a. Infrastructure
- b. Urbanization
- c. Land preservation
- d. An ecological footprint



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Urban Sociology

Course Code: SOC-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Questions with short answers.

(5x4=20)

- i. Urbanization
- ii. Megalopolis
- iii. City
- iv. Town
- v. Katchi Abadies

Q.3. Questions with brief answers.

(3x10=30)

1. Highlight the main social problems of the cities in Pakistan and also suggest remedial measures to resolve those problems.
2. What is the origin of urban life? What factors have contributed to the rise and decline of cities? Write by giving examples from Pakistani society.
3. Discuss the meanings of human ecology and elaborate its relationship with urban sociology.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Sociology of Law and Human Rights

Course Code: SOC-311 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. The term of judges of International Court of Justice is
 - a. Three years
 - b. Five years
 - c. Six years
 - d. Nine years
2. When was the Charter of Human Rights adopted?
 - a. 1945
 - b. 1948
 - c. 1951
 - d. None of these
3. A group of law enforcement officers who socialize only with one another would be considered a
 - a. Prescriptive norm
 - b. Subculture
 - c. Folkway
 - d. Proscriptive norm
4. Crimes are against individuals rather than the
 - a. Household
 - b. Investigation
 - c. Society
 - d. None of these

P.T.O.

5. In what kinds of societies are laws usually written down formally?
 - a. large-scale societies
 - b. small-scale societies
 - c. both of the above
 - d. none of the above
6. What are common laws?
 - a. laws that evolve slowly over time and are usually part of the existing cultural tradition rather than being enacted by legislatures or rulers
 - b. laws that are enacted by legislatures or rulers and that apply commonly to everyone
 - c. laws that are commonly found in all kinds of societies
 - d. All of the above
7. Courts are the institutions which deliver
 - a. Justice
 - b. Notice
 - c. Explanation
 - d. All of the above
8. Judicial process means the rules
 - a. Which determine the role of judge and jury in the courtroom
 - b. Socio-legal aspect
 - c. Human rights
 - d. None of these
9. Which of the following kinds of society are most likely to have formalized laws and special government institutions (e.g. police, courts, and jails) to enforce them
 - a. pastoralist
 - b. horticultural
 - c. advanced agricultural and industrial
 - d. primogeniture
10. Fundamental rights are----- rights
 - a. Justiciable
 - b. Legal
 - c. Political
 - d. Equality



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Sociology of Law and Human Rights
Course Code: SOC-311 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give Short Answers.

(5x4=20)

1. The nature of human rights
2. The functions of law
3. The role of NGOs
4. Society, culture and human rights
5. What are Fundamental Rights?

Q.3. Give Long Answers.

(3x10=30)

1. Define deviance and explain different types of deviant behaviors.
2. Briefly explain the critically perspectives on the sociology of law.
3. Write any theory of human needs or instincts. How human needs be a guide to determine human rights.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Advanced Experimental Design (Theory)

Course Code: STAT-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

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Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

- i) In a design, a complete row or column of a Latin square design is missing.
a) Factorial b) Youden Square c) Latin Square d) None of these
- ii) The following design facilitates to study the interaction effect :
a) Factorial b) Completely Randomized c) RCB d) Latin Square
- iii) When the factors do not interact, designs are more efficient than one-at-a-time designs:
a) Factorial b) Completely Randomized c) RCB d) Latin Square
- iv) A factorial model for data is called if the presence of any term in the model implies the presence of all lower order terms.
a) Hierarchical b) Completely Randomized c) Split Plot d) Latin Square
- v) When the factors were analyzed according to their importance in the design, the following design is useful:
a) Factorial b) Fractional Replication c) Split Plot d) Incomplete Block Design
- vi) In the following design, more than one randomization can be introduced:
a) Factorial b) Fractional Replication c) Split Plot d) Incomplete Block Design
- vii) The block size of a 2^5 design confounded into 4 blocks will be:
a) 5 b) 12 c) 16 d) 8
- viii) The BIBD is called “balanced” because the of the estimated difference of treatment effects $\hat{\alpha}_i - \hat{\alpha}_j$ is the same for all pairs of treatments i, j .
a) Mean b) Variance c) Ratio d) None of these
- ix) Partially Balanced Incomplete Block Designs (PBIBD) allow us to run incomplete block designs with blocks than may be required for a BIBD.
a) fewer b) larger c) same d) None of these
- x) A design with $a = 12$, $k = 7$, $r = 7$, and $b = 12$ will be called:
a) BIBD b) PBIBD c) Latin Square d) None of these



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

SHORT QUESTIONS

(5*4)

Q2. Define the following:

- Advantages and Disadvantages of Factorial Design
- iii. Fractional Replication
- Quasi Latin Squares
- iv. Split-Split Plot Designs

LONG QUESTIONS

Q3. Complete ANOVA table for the following factorial experiment. ABC is completely confounded. (08)

Replicate I		Replicate II	
Block I	Block 2	Block I	Block 2
b=4	(1)=10	a=6	bc=6
a=6	ab=7	abc=9	ac=8
c=9	bc=8	c=8	(1)=11
abc=5	ac=6	b=7	ab=8

Q4. In a split plot design the whole plot treatment (A) were applied to 3 blocks and sub-plot treatment (B) were then applied to split plot. The total SS, Block SS, whole Plot Error SS are 822.97, 77.55 and 36.28 respectively. The sum for 3 blocks are given in the following table:

	B ₁	B ₂	B ₃	B ₄
A ₁	89	104	118	117
A ₂	100	117	119	126
A ₃	92	92	104	121

Complete the ANOVA and draw your conclusions. Also Compute the standard error for the

- difference between two 'A' treatment means
- difference between two 'B' treatment means

(08)

Q5. Consider the 2^{8-4} fractional factorial with generator I = BCDE = ACDF = ABCG = ABDH. Find the aliases of C. (06)

Q6. Data on screen colour difference on a television tube measured in degrees Kelvin are to be compared for Four operators. On a given day only three operators can be used in the experiment. A balanced incomplete block design gave results as follows: (08)

Operators	Days			
	Monday	Tuesday	Wednesday	Thursday
A	173	174	--	171
B	-	175	167	172
C	183	175	168	-
D	175	-	172	175

Do a complete analysis of these data and discuss your findings with regard to difference between operators.

UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Advanced Sampling Techniques (Theory)

Course Code: STAT-312 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

1. The classical ratio estimators are generally -----
A. Unbiased
B. Biased
C. Zero
D. None of the above
2. People who are available, volunteer, or can be easily recruited are used in the sampling method called -----
A. Area
B. Probability proportional to size
C. Multi-stage
D. Convenience
3. The correlation co-efficient between elements in the same ----- is called Intraclass correlation.
A. cluster
B. stratum
C. sample
D. None of the above
4. The list of all units in the population is called -----
A. Parameter
B. Statistic
C. Sampling Frame
D. Bias
5. Like the ratio estimate, the linear regression estimate is designed to increase ----- by the use of an auxiliary variate x_i that is correlated with y_i .
A. Precision
B. Sample size
C. Variability
D. Confidence width
6. ----- estimator is unbiased when sample size is large.
A. BLUE
B. Regression
C. Ratio
D. None of above
7. In the regression method of estimation, the quantity $\left| \frac{b_0}{B} \right|$ must be close to '1' if ρ is -----
A. Low
B. High
C. Zero
D. Negative
8. All of the following are true about cluster sampling except
A. Samples are similar to those in simple random sampling
B. Is a rapid and simple method
C. The sample size may vary according to study design
D. It is a type of probability sample
9. The ----- estimate is more precise than the ratio estimate unless $B = R$
A. Regression
B. Unbiased
C. Robust
D. None of the above
10. In ----- number of units at each stage are different.
A. Simple random sampling
B. Stratified random sampling
C. Systematic sampling
D. Multistage sampling



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

- Q. No. 2. Write a short note on the following: (5 each)
- Application of Ratio Estimator
 - Non-response Error
 - Double Sampling
 - Cluster Sampling

- Q. No. 3. Compare combined and separate regression estimates. Under what condition they are equally good. (08)

- Q. No. 4. Show that the value of b_0 that minimizes $V(\bar{y}_{lr})$ is $B = \frac{s_{yx}}{s_x^2}$. (07)

- Q. No. 5. If a simple random sample of n clusters, each containing M elements, is drawn from N clusters in the population, show that the sample mean per element \bar{y} is an unbiased estimate of \bar{Y} with variance: (08)

$$V(\bar{y}) = \frac{1-f}{n} \frac{(NM-1)}{M^2(N-1)} S^2 [1 + (M-1)\rho]$$

- Q. No. 6. If a sample of n units are drawn with probability proportional to z_i and with replacement, show that an unbiased estimate of $V(\hat{Y}_{PPZ})$ is (07)

$$v(\hat{Y}_{PPZ}) = \frac{1}{n(n-1)} \sum_{i=1}^n \left(\frac{y_i}{z_i} - \hat{Y}_{PPZ} \right)^2$$



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Multivariate Techniques (Theory)

Course Code: STAT-314 Part – I (Compulsory)

Time: 30 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

i. Let $A = \begin{bmatrix} 3 & 2 \\ 3 & 8 \end{bmatrix}$. What are the eigenvalues of A?

a- 3 and 2

b- 9 and 2

c- -2 and -9

d- 2 and 3

ii. Dimension of a matrix with 6 columns and 4 rows is

a- 6 - 4

b- 4×6

c- 6×4

d- 4 + 6

iii. Let A and B be two $n \times n$ matrices such that A and B are similar. Let λ be an eigenvalue of A. Which of the following statements is wrong?

a- λ is an eigenvalue of A^T

c- λ is an eigenvalue of B^T

b- λ is an eigenvalue of A^{-1}

d- λ is an eigenvalue of B

iv. The eigenvalues of a 4×4 matrix A are 2, -3, 13 and 7. Then $|\det(A)|$ is

a- 546

b- 19

c- 25

d- cannot be determined

v. If the inverse of a matrix exists, it is classified as

a- non-singular matrix

b- singular matrix

c- unidentified matrix

d- linear matrix

vi. For matrices A, B and identity matrix I, $AB=I=BA$ then:

a- B is inverse of A

b- A is inverse of B

c- $A^{-1} = B, B^{-1} = A$

d- all of these

vii. For a matrix A, $A^3 = I$ where I is an identity matrix. Then, A^{-1} is equal to:

a- A^2

b- A^{-2}

c- A

d- I

viii. If $|\det(A)| = 0$ then A is:

a- identity matrix

b- singular matrix

c- non-singular matrix

d- none of these

ix. If A is a symmetric matrix then A^T is:

a- A

b- $|\det(A)|$

c- identity matrix

d- diagonal matrix

x. The determinant of the matrix $A = \begin{bmatrix} 1 & 0 & 0 \\ 100 & 1 & 0 \\ 100 & 200 & 1 \end{bmatrix}$ is :

a- 100

b- 200

c- 1

d- 0



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Multivariate Techniques (Theory)

Course Code: STAT-314 Part – II

Time: 2 Hrs. 30 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 For the data matrix, $A = \begin{bmatrix} 1 & 2 \\ 2 & -2 \end{bmatrix}$

- (i) Obtain eigen values and eigen vectors of A .
- (ii) Calculate A^{-1} and obtain eigen values and eigen vectors of A^{-1} . Compare the results with those obtained in (i).

Q.3 If a random sample of size n is taken from a multivariate normal population of random vector x of order $(p \times 1)$ with mean μ and covariance matrix Σ . Find the maximum likelihood estimators of μ and Σ .

Q.4 For the data matrix, $X = \begin{bmatrix} 1 & 2 & 5 \\ 4 & 1 & 6 \\ 4 & 0 & 4 \end{bmatrix}$

Calculate

- (i) sample means of $b^T X$ and $c^T X$
- (ii) sample variances of $b^T X$ and $c^T X$
- (iii) sample covariance of $b^T X$ and $c^T X$

where

$$b^T X = [2 \ 2 \ -1][X_1 \ X_2 \ X_3]^T,$$

$$c^T X = [1 \ -1 \ 3][X_1 \ X_2 \ X_3]^T.$$

Q.5 State and derive any two properties of Wishart distribution.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Probability Distributions (Theory)

Course Code: STAT-316 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

- i) In normal distribution, z-score and z-statistic are classified as names of
- a) standardized normal random variable
 - b) Poisson random variable
 - c) normal geometric variable
 - d) weighted average variable
- ii) Bivariate normal distribution has _____ number of parameters.
- a) 9
 - b) 3
 - c) 6
 - d) 5
- iii) In any continuous probability distribution, what is the probability that x equals the mean $P(x=\mu)$?
- a) 0.0
 - b) 0.5
 - c) μ
 - d) 1.0
- iv) What is the mean of the uniform distribution from 15 to 65?
- a) 40
 - b) 20
 - c) 11.5
 - d) 6.32
- v) If the probability density of X is given by $f(x) = 2(1-x)$ for $0 < x < 1$
To evaluate $E[(2X+1)^2]$
- a) 2
 - b) 1
 - c) 4
 - d) 3

P.T.O.

- vi) The square of t-distribution is
a) F distribution b) Gamma distribution
c) Lognormal distribution d) Laplace distribution
- vii) The range of Beta distribution is
a) 0 to 1 b) -1 to +1
c) 0 to α d) $-\alpha$ to $+\alpha$
- viii) If χ^2 - distribution has "n" degree of freedom then the mean of the χ^2 distribution is
a) n b) n-1
c) 2n d) n-2
- ix) If μ is equal to 8 then standard deviation of exponential probability distribution is
a) 0.425 b) 0.125
c) 0.225 d) 0.325
- x) If the value of the parameter of Beta distribution let $\alpha=5$ and $\lambda=25$ then the mean of beta distribution of first kind is
a) 0.1875 b) 0.1785
c) 0.16667 d) 0.2



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Probability Distributions (Theory)

Course Code: STAT-316 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

- Q2
- i) Show that the square of t- variate with n degree of freedom is distributed as F with 1 and n degree of freedom. (20)
- ii) Let $Y_1 < Y_2 < Y_3 < Y_4$ denotes the order statistic of a random sample of size 4 from distribution having p.d.f.
- $$f(x) = \begin{cases} 2x & 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$$
- Find the distribution of Y_3 .
- iii) Let X and Y are independent random variables with joint p.d.f.
- $$f(x, y) = \begin{cases} x + y & 0 < x < 1, 0 < y < 1 \\ 0 & \text{elsewhere} \end{cases}$$
- Find $E(XY)$ and $E(X + Y)$.
- iv) If the random variable X has normal distribution with mean 'm' and variance ' σ^2 '. Obtain the distribution of $Y=aX+b$.
- v) Find mean and variance of Pareto Distribution.
- Q3. Define lognormal distribution and obtain its rth moment about origin. (8)
- If $\log_e x$ is normally disturbed with $\mu=1, \sigma^2=4$. Find $P(\frac{1}{2} < X < 2)$.
- Q4. Let X_1 and X_2 be two independent standard normal variables. Let (7)
- $$Y_1 = X_1 + X_2 \text{ and } Y_2 = \frac{X_1}{X_2}. \text{ Find the marginal p.d.f. of } Y_2.$$
- Q5. Derive F-distribution. (8)
- Q6. Derive characteristic function of Cauchy distribution. (7)



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Paper: FORTRAN Computer Language

Course Code: STAT-318 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q1. a) Write a FTN expression corresponding to mathematical expression using library functions (5x1=5)

i) $\sin(x - 2y) + e^{xy} - |x^2 - y^2|$ _____

ii) $\cos(\log_{10}(an + 3b^2))$ _____

iii) $\frac{\sin x}{|y| + \cos xz}$ _____

iv) $1 + \sin^3(\phi)$ _____

v) $1 + \frac{a}{b + \frac{1}{c}}$ _____

b) Tick the correct option. (5x1=5)

i) The process of detecting and correcting logical errors in a program is known as

A) Tracing

B) Debugging

C) Error

D) Accuracy

ii) A Fortran variable is also called

A) Identifier

B) Standard

C) Grouping variable

D) All of the above

iii) A two dimensional array in Fortran is used to represents a _____.

A) vector

B) Matrix

C) Subscript

D) None of the above

iv) To terminate a Do loop _____ statement is used.

A) FORMAT

B) CONTINUE

C) EndIF

D) DIMENSION

v) E- Specification is used for _____

A) Integer variable

B) Real variable

C) Mix mode

D) All of the above



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2.a) Write a program to find the sum of geometric series. (5)

b) Find the final value of K (5)

i) K = 2
10 DO 20 I = 3, 8, 2
 IF(I. EQ. 5) GOTO 20
 K = K + I
20 continue
 K = 2 * K

ii) K = 3
 M = 2
 DO 10 J = 4, 9, M
 IF(J. EQ. 6) GOTO 10
 K = K + 2 * J
10 continue
 K = 3 * K

c) write a note on Fortran worksheet. (5)

d) write the types of main memory. (5)

Q.3. Write a function subprogram to compute f(x) where (7)

$$f(x) = \begin{cases} x^{3/2} + 9x & \text{if } x < 0 \\ x^5 + 2\sqrt{x} + 5 & 0 \leq x < 9.5 \\ |x| + 2.5 & x \geq 9.5 \end{cases}$$

Q.4. Write a Fortran program which reads an array and then sort this array in ascending order. (7)

Q.5. Write a Fortran program which prints multiplication table from 2 to 10. (7)

Q.6. Define subprogram and differentiate between function subprogram and subroutine subprogram. (7)

Q.7. Differentiate between I specification and F specification. (2)



UNIVERSITY OF THE PUNJAB
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A) FORMAT

B) CONTINUE

C) EndIF

D) DIMENSION

v) E- Specification is used for _____

A) Integer variable

B) Real variable

C) Mix mode

D) All of the above



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Urdu Afsaana aur Drama: Fiqri o Funny Mutaila
Course Code: URDU-304 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Signature of Supdt.:

سوال نمبر ۱: نوٹ: کسی ایک جواب پر (✓) کا نشان لگائیں

(i) پریم چند کا اصل نام کیا تھا؟

(ا) دھپت رائے (ب) امرت رائے (ج) عجائب لال (د) نواب رائے

(ii) پریم چند کے افسانے 'کفن' میں بہو کا کیا نام ہے؟

(ا) کرشمہ (ب) مادھوری (ج) رانی (د) بدھیا

(iii) کیٹھولال کھاری سنگ والا منٹو کے کس افسانے کا مرکزی کردار ہے؟

(ا) مدد بھائی (ب) سہائے (ج) نیا قانون (د) نعرہ

(iv) 'زندگی، نقاب، چہرے' کس افسانہ نگار کے افسانوں کی کلیات کا عنوان ہے؟

(ا) غلام عباس (ب) انتظار حسین (ج) سجاد حیدر یلدرم (د) پریم چند

(v) 'داستان سے افسانے تک' کے مصنف کا نام بتائیے؟

(ا) ڈاکٹر احسن فاروقی (ب) علی عباس حسینی (ج) سید وقار عظیم (د) ڈاکٹر سہیل بخاری

(vi) 'اردو ڈراما- تاریخ و تنقید' کا مصنف کون ہے؟

(ا) ڈاکٹر محمد اسلم قریشی (ب) عشرت رحمانی (ج) میرزا ادیب (د) سید وقار عظیم

(vii) کتاب 'مفتی جی' کس نے مرتب کی؟

(ا) ڈاکٹر انوار احمد (ب) ڈاکٹر رشید امجد (ج) ابدال بیال (د) عکسی مفتی

(viii) 'اردو افسانہ: روایت اور مسائل' کس نے مرتب کی؟

(ا) ڈاکٹر سلیم اختر (ب) ڈاکٹر انوار احمد (ج) ڈاکٹر مرزا حامد بیگ (د) ڈاکٹر گوپی چند نارنگ

(ix) اردو ڈرامے کے حوالے سے سید وقار عظیم کی تصنیف کا عنوان کیا ہے؟

(ا) ڈراما نگاری کا فن (ب) اردو ڈراما (ج) اردو ڈراما تاریخ و تنقید (د) اردو ڈرامے کی تاریخ

(x) "کچھ بابا" کس کا افسانہ ہے؟

(ا) احمد ندیم قاسمی (ب) ابوالفضل صدیقی (ج) کرشن چندر (د) غلام عباس



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Urdu Afsaana aur Drama: Fiqri o Funny Mutaila
Course Code: URDU-304 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

۲۰=۲×۵

سوال نمبر ۲۔ درج ذیل سوالات کے مختصر جواب دیں۔

- (۱) پریم چند کے افسانوں کی نمایاں خصوصیات اختصار کے ساتھ بیان کریں؟
- (۲) سجاد حیدر یلدرم کے افسانوں میں پائے جانے والے رومانوی عناصر پر روشنی ڈالیں؟
- (۳) اشفاق احمد کے ڈرامے ”من چلے کا سودا“ کا مرکزی خیال بیان کیجیے۔
- (۴) غلام عباس کے افسانے ”ادور کوٹ“ کا مرکزی خیال بیان کیجیے۔

- سوال نمبر ۳۔ آغا حشر کے ڈرامے ”رستم و سہراب“ کا فکری و فنی جائزہ پیش کیجیے۔ ۱۰
- سوال نمبر ۴۔ احمد ندیم قاسمی کی افسانہ نگاری کے حوالے سے اظہار خیال کیجیے۔ ۱۰
- سوال نمبر ۵۔ راجندر سنگھ بیدی کے افسانوں کی نمایاں خصوصیات بیان کیجیے۔ ۱۰



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Bisvey Saadi may Nawal ka Irtaka, aur es kay Fiqri o Funny Mubahas

Course Code: URDU-305 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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Signature of Supdt.:

سوال نمبر 1: مندرجہ ذیل میں سے درست جواب پر درست (✓) کا نشان لگائیں۔ کاٹ کر یا منٹا کر لکھا گیا جواب غلط تصور ہو گا۔ (1x10=10)

1. "اردو ناول بیسویں صدی میں" کے مصنف کا نام ہے۔
(الف) ڈاکٹر ممتاز احمد خان (ب) ڈاکٹر خالد اشرف (ج) ڈاکٹر یوسف سرمست (د) ڈاکٹر فاروق عثمان
2. "اردو ناول کے بدلتے تناظر" کے مصنف کا نام ہے۔
(الف) ڈاکٹر عبدالسلام (ب) احسن فاروقی (ج) علی عباس حسینی (د) ڈاکٹر ممتاز احمد خان
3. "برصغیر میں اردو ناول" کے مصنف کا نام ہے۔
(الف) سید وقار عظیم (ب) ڈاکٹر خالد اشرف (ج) ڈاکٹر انور سدید (د) ڈاکٹر ارنجی کریم
4. "اردو ناول میں مسلم ثقافت" کے مصنف کا نام ہے۔
(الف) ڈاکٹر فاروق عثمان (ب) ممتاز شیریں (ج) ممتاز منگلوری (د) ڈاکٹر سلیم اختر
5. "راجہ گدھ" کا کردار قیوم علامت ہے۔
(الف) راجہ گدھ کی (ب) وفاداری کی (ج) ایمان داری کی (د) ذہانت کی
6. "راجہ گدھ" کا قیوم پیشے کے اعتبار سے ہے۔
(الف) ریڈیو پروڈیوسر (ب) پروفیسر (ج) سائنسدان (د) کیمبرہ مین
7. "خدا کی بستی" میں دکھایا گیا ہے۔
(الف) جنگ آزادی کے بعد کا معاشرہ (ب) آزادی کے بعد کا معاشرہ (ج) ابتدائی انسانی معاشرہ (د) تقسیم ہند سے پہلے کا معاشرہ
8. قرۃ العین حیدر کا نیک نام (پیار کا نام) ہے۔
(الف) بینو (ب) پنکی (ج) جولی (د) عینی
9. قرۃ العین حیدر اپنے ناولوں میں استعمال کرتی ہیں۔
(الف) شعور کی رو (ب) عقل کی رو (ج) عشق کی رو (د) برقی رو
10. اردو کے پہلے ناول نگار ہیں۔
(الف) راشد الخیری (ب) مرزا ہادی رسوا (ج) ڈپٹی نذیر احمد (د) عبدالحلیم شرر



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Bisvey Saadi may Nawal ka Irtaka, aur es kay Fiqri o Funny Mubahas

Course Code: URDU-305 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرچہ کو مہیا کی گئی جوابی کاپی پر حل کریں۔

(5x4=20)

سوال نمبر 2: درج ذیل سوالات کے اختصار کے ساتھ جوابات دیں۔

1. "آنگن" کے سبھی کردار حالات کے سامنے بے بس نظر آتے ہیں۔ اظہار خیال کیجیے۔
2. "گریز" میں نفسیاتی جبلتوں کو عمدگی سے پیش کیا گیا ہے۔ رائے دیجیے۔
3. "آخر شب کے ہم سفر" کے دو بنیادی نسوانی کرداروں کا تعارف پیش کیجیے۔
4. "اداس نسلیں" تین نسلوں کا قصہ ہے۔ وضاحت کیجیے۔

(10X3=30)

درج ذیل سوالات کے تفصیلی مگر جامع جواب تحریر کیجیے۔

1. آشوب ذات میں مبتلا "راجہ گدھ" کی سبھی شاہ کے کردار کا تجزیہ کیجیے۔
2. "خدا کی بستی" میں قیام پاکستان کے بعد کے حالات کی حقیقت پسندانہ عکاسی کی گئی ہے۔ تائید یا تردید کیجیے۔
3. اردو ناول کی روایت میں "اداس نسلیں" کا مقام متعین کیجیے۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Urdu Nazam: Fiqri o Funny Mutaila
Course Code: URDU-306 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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اس پرچے کو اسی سوالیہ کاپی پر حل کریں

معروضی حصہ

10 سوال نمبر 1: درج ذیل میں سے درست جواب کا انتخاب کیجیے۔ کاٹ کر یا مٹا کر لکھا گیا جواب درست شمار نہ ہوگا۔

- (1) میراجی کا کلیات کس نے مرتب کیا۔
(ا) ڈاکٹر جمیل جالبی (ب) مظہر جمیل (ج) قمر جمیل (د) جمیل الدین عالی
- (2) مجید امجد کا کلیات کس نے مرتب کیا۔
(ا) خواجہ محمد زکریا (ب) شفق خواجہ (ج) خواجہ عبدالحمید (د) خواجہ حمید یزدانی
- (3) شب رفتہ کس کا مجموعہ کلام ہے۔
(ا) ضمیر جعفری (ب) جوش ملیح آبادی (ج) میراجی (د) مجید امجد
- (4) پانچ جدید شاعر کے مصنف کا نام کیا ہے۔
(ا) حمید نسیم (ب) الف۔د۔ نسیم (ج) نسیم درانی (د) نسیم حجازی
- (5) بن۔م۔راشد: شخصیت اور فن کس کی کتاب ہے۔
(ا) ڈاکٹر وزیر آغا (ب) ڈاکٹر ضیاء الحسن (ج) محمد حسن عسکری (د) ڈاکٹر سجاد باقر رضوی
- (6) اندھا کہاڑی کس کی علامت ہے۔
(ا) سیاست دان (ب) سائنس دان (ج) تخلیق کار (د) افسانہ نگار
- (7) سبادیراں راشد کے کس مجموعے میں شامل ہے۔
(ا) مادرا (ب) ایران میں اجنبی (ج) لا=انساں (د) گماں کا ممکن
- (8) قصیدہ مہینگی اعتبار سے کیا ہے۔
(ا) غزل (ب) مثنوی (ج) ترکیب بند (د) مسدس
- (9) مسدس مدو جزیر اسلام کے ہر بند میں کتنے مصرعے ہیں۔
(ا) چار (ب) پانچ (ج) چھ (د) آٹھ
- (10) سودا کا شہر آشوب کس بحیثیت میں ہے۔
(ا) مربع (ب) خمس (ج) مسدس (د) ترکیب بند



UNIVERSITY OF THE PUNJAB

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Paper: Urdu Nazam: Fiqri o Funny Mutaila
Course Code: URDU-306 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرچے کو علیحدہ سے مہیا کی گئی جوابی کاپی پر حل کریں

(20=5x4)

سوال نمبر ۲: درج ذیل سوالات کے مختصر جوابات تحریر کریں۔

(۱) میراجی کی شاعری کے چار مجموعوں کے نام تحریر کریں۔

(۲) مجید امجد کی نظم امر دز کا مرکزی خیال تحریر کریں۔

(۳) فیض کے چار مجموعوں کے نام تحریر کریں۔

(۴) راشد کی نصاب کے علاوہ چار نظموں کے عنوان تحریر کریں۔

(۵) ضمیر جعفری کی نظم کھڑا دُزر کا مرکزی خیال تحریر کریں۔

(10)

سوال نمبر ۳: درج ذیل اقتباسات میں کسی ایک کی تشریح کریں۔

(ب)

(الف)

سلیمان سر بزا نو اور سبا ویراں
سبا ویراں، سبا آسیب کا مسکن
سبا آلام کا انبار پایاں!
گیاه و سبزہ و گل سے جہاں خالی
ہوائیں تشنہ باراں،
پیور اس دشت کے منقار زیر پر
تو سرمہ در گلو انساں
سلیمان سر بزا نو اور سبا ویراں

بچو ہم ان اینٹوں کے ہم عمر ہیں، جن پر تم چلتے ہو،
صبح کی ٹھنڈی دھوپ میں بہتی، آج تمھاری اک اک صف کی وردی،
ایک نئی تقدیر کا پہناوا ہے
اجلے اجلے پھولوں کی پلٹن میں چلنے والو
تمھیں خبر ہے، اس فٹ پاتھ سے تم کو دیکھنے والے
اب وہ لوگ ہیں
جن کا بچپن ان خوابوں میں گزرا تھا جو آج تمھاری زندگیاں ہیں

(20=10x2)

سوال نمبر ۴: درج ذیل سوالات کے جوابات تحریر کریں۔

(۱) میر حسن کی مثنوی نگاری پر مضمون قلم بند کریں۔

(۲) ذوق کی قصیدہ نگاری کی خصوصیات بیان کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Pakistan Main Farogh-e-Urdu kay Aham Idaray
Course Code: URDU-308 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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(حصہ معروضی)

سوال: ۱۔
درست جواب کا انتخاب کیجیے۔

۱۔ انجمن ترقی کا دفتر ہے

(الف) لاہور میں (ب) کراچی میں (ج) اسلام آباد میں (د) حیدر آباد میں

۲۔ انجمن ترقی اردو کے تحت شائع ہونے والا رسالہ سہ ماہی اردو ابتدا شائع ہوا۔

(الف) حیدر آباد سے (ب) الہ آباد سے (ج) اورنگ آباد سے (د) نصیر آباد سے

۳۔ مجلس ترقی ادب کا ادارہ قائم ہوا۔

(الف) ۱۹۵۰ء میں (ب) ۱۹۶۰ء میں (ج) ۱۹۷۰ء میں (د) ۱۹۸۰ء میں

۴۔ مجلس ترقی ادب کا موجودہ نام رکھا گیا۔

(الف) ۱۹۵۸ء میں (ب) ۱۹۶۸ء میں (ج) ۱۹۷۸ء میں (د) ۱۹۸۸ء میں

۵۔ مقتدرہ قومی زبان کا دفتر ہے۔

(الف) لاہور میں (ب) کراچی میں (ج) اسلام آباد میں (د) حیدر آباد میں

۶۔ مقتدرہ قومی زبان کا قیام عمل میں آیا۔

(الف) ۱۹۶۹ء میں (ب) ۱۹۷۹ء میں (ج) ۱۹۸۹ء میں (د) ۱۹۹۹ء میں

(ورق الٹے)

۷۔ اردو ڈکشنری بورڈ کا ابتدائی نام تھا۔

(الف) اردو بورڈ (ب) ترقی اردو بورڈ (ج) تحقیق اردو بورڈ (د) تعمیر اردو بورڈ

۸۔ اکادمی ادبیات پاکستان وزارت کے تحت قائم ہوئی۔

(الف) وزارت ثقافت (ب) وزارت اطلاعات (ج) وزارت داخلہ (د) وزارت تعلیم

۹۔ اردو سائنس بورڈ کا دفتر ہے۔

(الف) کراچی میں (ب) حیدر آباد میں (ج) اسلام آباد میں (د) لاہور میں

۱۰۔ اردو ڈکشنری بورڈ کے تحت شائع ہونے والے لغت کا نام ہے۔

(الف) اردو لغت (ب) قومی اردو لغت (ج) تحقیقی اردو لغت (د) توضیحی اردو لغت



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Pakistan Main Farogh-e-Urdu kay Aham Idaray

Course Code: URDU-308 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

(حصہ انشائیہ)

(حصہ اول)

سوال ۲: درج ذیل سوالات کے مختصر جواب دیجیے۔

جواب پانچ سطور سے زائد نہ ہو۔ (۲۰)

(الف) اردو ڈکشنری بورڈ کے دو بنیادی مقاصد کون سے تھے؟

(ب) مجلس ترقی ادب کے چار خاص نمبر تحریر کریں؟

(ج) اکادمی ادبیات کا بنیادی مقصد کیا تھا؟

(د) اردو لغت کی تدوین کے لیے اردو ادب کو کن ادوار میں تقسیم کیا گیا؟

(ه) اردو سائنس بورڈ کے قیام کا اساسی مقصد کیا تھا؟

(حصہ دوم)

سوال ۳: درج ذیل سوالات پر جامع بحث کیجیے۔

سب سوالوں کے نمبر یکساں ہیں۔ (۳۰)

(الف) مقتدرہ قومی زبان پر تعارفی نوٹ تحریر کیجیے؟

(ب) انجمن ترقی اردو پاکستان کی تصنیفی خدمات پر اظہار خیال کیجیے۔

(ج) مجلس ترقی ادب کی اشاعتی خدمات کا جائزہ لیجیے؟



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Urdu-III

Course Code: EDE-173

Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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اس پرچے کو اسی سوالیہ کاپی پر حل کریں۔

سوال نمبر 1: مندرجہ ذیل میں سے درست جواب پر درست (✓) کا نشان لگائیں۔ کاٹ کر یا مٹا کر لکھا گیا جواب غلط تصور ہوگا۔ (1x10=10)

1. تلمیح کس زبان کا لفظ ہے؟
(الف) عربی (ب) فارسی (ج) ہندی (د) لاطینی
2. ادات تشبیہ کس کارکن ہے؟
(الف) استعارہ کا (ب) تشبیہ کا (ج) کنایہ کا (د) مجاز مرسل کا
3. استعارہ کے ارکان کی تعداد کتنی ہے؟
(الف) 1 (ب) 2 (ج) 3 (د) 4
4. کلام یا شعر میں ایسے الفاظ لانا جن کے معنوں میں مناسبت ہو۔
(الف) صفت تضاد (ب) لف و نشر (ج) مراعات النظیر (د) حسن تعلیل
5. ایک سب آگ ایک سب پانی دیدہ و دل عذاب ہیں دونوں اس شعر میں کون سی صفت ہے۔
(الف) لف و نشر (ب) تلمیح (ج) حسن تعلیل (د) صفت ترصیح
6. تشبیہ میں کون سا رکن موجود نہیں ہوتا (مثال میں)
(الف) شبہ (ب) مشبہ بہ (ج) وجہ تشبیہ (د) غرض تشبیہ
7. کلاسیکیت کا متضاد ہے۔
(الف) رومانویت (ب) آفاقیت (ج) داخلیت (د) خارجیت
8. نواب آئے ہمارے بھاگ آئے اس میں صفت ----- کا استعمال ہے۔
(الف) تشبیہ (ب) ابہام (ج) کنایہ (د) حسن تعلیل
9. میر و سودا کے دور میں کس صنف ادب نے عروج پکڑا؟
(الف) غزل (ب) نظم (ج) رباعی (د) نظم مصرعی
10. میر حسن کس دور کے شاعر ہیں؟
(الف) میر و سودا (ب) غالب و مومن (ج) آتش دناخ (د) غالب و آتش



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Urdu-III

Course Code: EDE-173

Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

اس پرچہ کو مہیا کی گئی جوابی کاپی پر حل کریں۔

(حصہ اول)

(5x4=20)

سوال نمبر 2: مختصر جوابات تحریر کریں۔

1. بحر مومن سالم کی پانچ مثالیں لکھیے۔
2. صنعت لفظ و نثر کی تعریف اور تین مثالیں لکھیے۔
3. تشبیہ اور استعارہ میں فرق بیان کریں اور دونوں کی الگ الگ تین تین شعری مثالیں بھی لکھیے۔
4. داخلیت پر مفصل نوٹ لکھیے۔

(10X3=30)

سوال نمبر 3: مندرجہ ذیل سوالات کے تفصیلی مگر جامع جواب تحریر کیجیے۔

1. میر و سودا کے دور کی خوبیاں بیان کیجئے۔
2. فصاحت اور بلاغت پر نوٹ لکھئے اور مثالوں سے وضاحت کیجئے۔
3. ادب اور زندگی پر مضمون تحریر کیجئے۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Molecular Genetics II

Course Code: ZOOL-310 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. Bonding between purines and pyrimidines of two strands of DNA is:

- (a) Ionic bonding (b) Hydrogen bonding (c) Covalent bonding (d) Vander wall forces

2. It is highly variable protein among different organisms:

- (a) H_i (b) H₂A (c) H₂B (d) H₃

3. Enzyme used in PCR is:

- (a) RNA polymerase (b) Taq polymerase (c) Helicase (d) Primase

4. Replication in which two original strands of DNA remain together (after serving as templates), as would the two newly synthesized strands:

- (a) Semi conservative replication (b) Conservative replication
(c) Dispersive replication (d) all of the above

5. Sequence of initiator (Inr) in case of Drosophilla is:

- (a) GCC (G/T) (G/T) C (b) GCA (G/T) T (T/G)
(c) GCA (G/T) T (T/C) (d) GCC (G/T) T (T/C)

6. Two regions in mRNA that are not translated:

- (a) Initiation codon (b) 5' UTR (c) 3' UTR (d) both (b) and (c)

7. Splicing takes place in:

- (a) Nucleus (b) Nucleolus (c) Cytoplasm (d) All of the above

8. Group of genes that are regulated together is called:

- (a) Repressor (b) Operator (c) Operon (d) Promotor

9. The process in which mature mRNA make proteins is called:

- (a) Replication (b) Transcription (c) Splicing (d) Translation

10. Transposable elements were first discovered in eukaryotic cells:

- (a) Viral genome (b) Maize (c) Pea (d) All of the above



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Molecular Genetics II

Course Code: ZOOL-310 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Write the short note on the following. (10x2=20)

- i. Differentiate between metacentric and telocentric chromosome.
- ii. Write down the requirements for replication in Eukaryotes.
- iii. Define topological domain.
- iv. Differentiate between Core promotor elements and Proximal promotor elements.
- v. What is Splisosome?
- vi. Draw structure of tRNA.
- vii. Discuss points of Watson and Crick model of DNA.
- viii. Draw the structure of premature mRNA.
- ix. Define Molecular Genetics.
- x. What is the function of Helicase?

Q.3. Questions with brief answers. (3x10=30)

- i- Give a detailed account of Transcription in prokaryotes.
- ii- Discuss Transposable elements in Eukaryotes in detail.
- iii- Give a detailed account of Leader and Traiter sequence.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Analysis of Development

Course Code: ZOOL-312 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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Q.1. Encircle the correct option.

(10x1=10)

- I. Pigmented retinal cells move internally to
(a) Neural retinal cells (c) Heart cell
(b) Epidermal cells (d) Ectodermal cells
- II. Liver develops from
(a) Endoderm (c) Ectoderm
(b) Mesoderm (d) none
- III. Regeneration that occurs through re-patterning of existing tissues is known as
(a) Stem-cell mediated (c) Epimorphosis
(b) Morphallaxis (d) compensatory
- IV. Ectoderm is responsible for the development of
(a) bone (c) kidney
(b) Skeletal muscle (d) Nervous system
- V. Human genome may contain genes
(a) 2000-3000 (c) 20000-30000
(b) 200000-300000 (d) none
- VI. There is at least _____ component/s to every inductive interaction.
(a) one (c) three
(b) two (d) four
- VII. Cadherin-cadherin interaction is _____ times stronger than regular-proteins interaction.
(a) 100 (c) 200
(b) 400 (d) 300
- VIII. Fragile X-syndrome is caused by
(a) FMR1 gene (c) eIF4E
(b) eIF4G (d) BDNF
- IX. Vertebrate gastrulation is the example of
(a) Matrix secretion and degradation (c) cell migration
(b) dispersal (d) delamination
- X. The mesoderm has positive affinity for
(a) Ectoderm (c) endoderm
(b) both ectoderm and endoderm (d) none



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Question No. 2: Shortly answer the following Questions.

(10×2=20)

- a) What is Bone morphogenetic Factor (BMP)?
- b) Differentiate between instructive and permissive interactions.
- c) Define cell potency with examples.
- d) Define critical period for teratogens during Pregnancy.
- e) Give names and functions of some cadherin molecules.
- f) What are Primordial germ cells? From where these originate in mammals Embryos.
- g) Enlist some basic Genes involved in eye development.
- h) What is the role of Nodal genes in axis specification?
- i) What is secondary induction?
- j) Define with example selective affinity.

Question No 3: Answer the following questions

(3×10=30)

- a) How different families of proteins are created by differential RNA Processing?
- b) Write a detailed note on Gonad development in vertebrates.
- c) Describe the Epimorphic Regeneration in Salamander's limb.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Wildlife

Course Code: ZOOL-314 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

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Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

i) The national mammal of Pakistan is

- a. Markhor b. Hog Deer c. Indus Dolphin d. Cow

ii) The species of animals that are living on earth are called

- a. Extant species b. Extinct species c. Endangered species d. Living species

iii) The largest national park of Pakistan is

- a. Kirthar b. Ayub c. Chingi d. Hazargangi

iv) Lal Suhanra National park is located in

- a. Punjab b. Sindh c. Kashmir d. Baluchistan

v) One of the National parks located on the highest peaks of Pakistan is

- a. Khunjerab N.P b. Ayubia N.P c. Hingol N.P d. Chinji N.P

vi) The variety of organism occupying a given place is called

- a. Alpha diversity b. Beta diversity c. Gamma d. None

vii) Maximum number of individuals of given species supported by a particular environment is called

- a. Carrying capacity b. Community c. Diversity d. Wild life

viii) The place or area where animals are kept in protection and their shooting is prohibited is called

- a. Sanctuary b. protected area c. national park d. Zoo

ix) Infectious diseases that are transmitted from animals to human are called

- a. Zoonotic diseases b. Infectious diseases c. Congenital diseases d. Genetic diseases

x) Red data book containing the details of threatened species of Pakistan is published by

- a. IUCN b. WWF c. WPA d. SSC



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Wildlife

Course Code: ZOOL-314 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2 SHORTLY ANSWER THE FOLLOWING QUESTIONS.

(2x10=20)

- 1). Differentiate between ENDEMIC AND EXOTIC species?
- 2). Differentiate between HOME RANGE and TERRITORY?
- 3). Define FERAL SPECIES?
- 4). Give any five ways for CONSERVATION AND MANAGEMENT of wild life?
- 5). EXTINCT IN WILD?
- 6). Any 2 MAJOR THREATS to wild life?
- 7). Any two NEGATIVE WILD LIFE VALUES?
- 8). Give any five ZOO RULES?
- 9). Define ECOREGIONS?
- 10). Define GAME RESERVE?

Q.3 Briefly answer the following questions. All questions carry equal marks.

(10x3=30)

- I). What do you know about NATIONAL PARKS, discuss in detail any three national parks of Pakistan.
- II). Discuss in detail RAMSAR CONVENTION and Ramsar sites of Pakistan.
- III). Describe IUCN categories of wild life.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Environmental Biology

Course Code: ZOOL-316 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option.

(10x1=10)

- i. Tropical forests cover about _____ % of the earth land area.
a) 6 b) 10 c) 60 d) 20
- ii. _____ is not a greenhouse gas.
a) CFCs b) Nitrous oxide c) Methane d) Ethane
- iii. Hot spots are:
a) Areas subjected to frequent fires
b) Area rich in biodiversity
c) Area rich in unique species
d) Area once had extinct species
- iv. Ozone depleting chemicals include:
a) Halons b) Methyl bromide c) Carbon tetrachloride d) All of above
- v. _____ tells us about proportion of individuals of different ages in a population.
a) Fecundity schedule b) Life table c) Age distribution graph d) Survivorship curves
- vi. Intrinsic per capita rate of increase 'r' is equal to maximum per capita rate of increase r_m when
a) Population size is high
b) Population size is low
c) Value of K is high
d) All of above
- vii. _____ are formed at high temperature in incinerator during reaction with chlorine and hydrocarbons.
a) Dioxins b) PCBs c) MTBE d) Ozone
- viii. A declining population have age distribution curve with maximum number of:
a) New born b) Youngster c) aged d) all age groups
- ix. An annual reproducing population with initial population size of 446 individuals and geometric rate of increase is 1.7, what will be the population size after 2 years?
a) 758 b) 1,288 c) 2,244 d) 564
- x. In tolerance model, Climax community;
a) Can be present at early stage
b) Modify the environment
c) Prevent other community to establish that area
d) None of these



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Sixth Semester – 2019

Roll No.

Paper: Environmental Biology
Course Code: ZOOL-316 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q. No. 2: Give short answers to the following questions.

(2x10)

- i. How exponential growth equation can be converted into logistic growth equation?
- ii. Define biomass accumulation model.
- iii. What information a survivorship curve can provide?
- iv. What is sustainable growth?
- v. What do you mean by particulate air pollution?
- vi. What is chemical warfare?
- vii. What factors in your life are contributing to water pollution? State any two of them.
- viii. Define Biochemical pesticides with example.
- ix. Per capita rate of increase depends on body size. Comment.
- x. Define sex ratio.

Q. No. 3: Describe the following with detailed answers.

(10x3)

- i. Explain MECHANISM OF SUCCESSION.
- ii. Write a note on sources, impacts, and control of LAND POLLUTION.
- iii. Discuss the environmental limits of POPULATION GROWTH.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2019

Paper: Animal Behavior

Course Code: ZOOL-318 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig.

Roll No. in Words.

Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct choice.

(1x10=10)

1. The color which insects cannot differentiate is
 - (a) blue
 - (b) white
 - (c) red
 - (d) green
2. A snake that uses trails to lead to its main prey- ants is called
 - (a) Viper
 - (b) *Gryllotalpa*
 - (c) *Leptotyphlops*
 - (d) Cobra
3. Kleptoparasitism mean
 - (a) Food searching
 - (b) food stealing
 - (c) food accumulation
 - (d) food sharing
4. *Lacerta agilis* is the scientific name of
 - (a) Sand Lizard
 - (b) Tree lizard
 - (c) wall Lizard
 - (d) Ground Lizard
5. The onset of migration is controlled by
 - (a) weather
 - (b) Temperature
 - (c) Biological clock
 - (d) Rainfall
6. Any animal that eat plant is known as
 - (a) carnivore
 - (b) omnivore
 - (c) Herbivore
 - (d) scavenger
7. Any stimulus that is associated with some unpleasant event is called
 - (a) Appetitive stimulus
 - (b) Aversive stimulus
 - (c) conditional stimulus
 - (d) unconditional stimulus
8. Scientists who study behavior are called
 - (a) Economist
 - (b) Entomologist
 - (c) Ethologist
 - (d) Psychologist
9. Blue eyes are because of
 - (a) Presence of blue pigment
 - (b) Presence of brown pigment
 - (c) absence of blue pigment
 - (d) absence of brown pigment
10. When a male mates with more than one female in one breeding season this condition is called as
 - (a) monogamy
 - (b) polyandry
 - (c) polygamy
 - (d) polygynandry



UNIVERSITY OF THE PUNJAB
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Paper: Animal Behavior
Course Code: ZOOL-318 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q2. Write short notes on the following

[2x10=20]

1. Polyandry
2. Synaptic facilitation
3. Lek
4. Bubble cloud feeding
5. Pleiotropic effect
6. Alarm calls
7. Differentiate innate learning from social learning
8. Foraging behavior
9. Habitat selection
10. Circannual rhythms

Q3. Discuss Migration? What is the genetics of migration?

[10x3=30]

Q4. Write a detailed note on sexual reproduction and parental care?

Q5. Write a detailed note on learning? Discuss associative learning and memory in aplysia?

