



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (10x3=30)

- i. Define journal. Why is it called the first book of accounts?
- ii. What do you understand by the term 'accounting period'?
- iii. Define balance sheet. Enlist its contents.
- iv. What are the common types of accounting errors?
- v. Define and differentiate between cash and trade discount in accounting.
- vi. What is the accrual basis of accounting?
- vii. Elaborate matching principle in accounting.
- viii. Define current assets and give examples of current assets.
- ix. What is meant by double entry system of accounting?
- x. What is the conservatism concept in accounting?

Q.2. Answer the following questions. (3x10=30)

- Sep. 01 Cash in Hand Rs. 135,400.
- 1 Cash at Bank Rs. 100,000.
 - 3 Purchased furniture and paid by cheque Rs. 9,000.
 - 6 Cash Sales Rs. 2,000
 - 10 Received from Sohail cash Rs. 1,000 and a cheque Rs. 6,000 and deposited in to the bank.
 - 12 Paid to Nisar by cheque Rs. 5,200.
 - 15 Purchased goods and paid by cheque Rs. 11,600.
 - 16 Withdrawn from bank by the owner for his own use Rs. 3,000.
 - 20 Received cash as commission Rs. 1,200.
 - 23 Received cash in full settlement from Khalid and sent the same into the bank Rs. 1,000.
 - 29 Withdrawn from bank for office use Rs. 10,000
 - 30 Paid salary Rs. 15,000 by cash.
 - 30 Paid rent Rs. 800 by cash.

Q.3 The trial balance of Sun Travels Company on 31st December 2024 follows:

Cash	Rs. 24,800	Account payable	Rs. 13,100
Account receivable	2,250	Unearned service revenue	450
Supplies	700	Capital	28,050
Prepaid rent	3,000	Service revenue	7,000
Furniture & Fixtures	16,500		
Salary expense	950		
Utilities expense	450		
Total	48,600	Total	48,600

Additional information:

- | | |
|--|--|
| <i>i.</i> Prepaid rent expired, Rs. 2,000. | <i>ii.</i> Accrued service revenue, Rs. 500 |
| <i>iii.</i> Supplies on hand, Rs. 800 | <i>iv.</i> Service revenue earned, Rs. 300 |
| <i>v.</i> Depreciation on furniture, Rs. 550 | <i>vi.</i> Accrued salary expense, Rs. 1,900 |

Required: Journalize the adjustments and prepare income statement and balance sheet.

Q.4 The Millennium Corporation incorporated on September 1, 2024. The company engaged in the following transaction during its first month of operations:

- Sept 2: Issued capital stock in exchange of Rs. 900,000 cash.
Sept 4: Purchased land and a building for Rs. 350,000. The value of the Land was Rs. 50,000 and the value of the building was Rs. 300,000. The company paid Rs. 200,000 in cash and issued a notes payable for the balance.
Sept 12: Purchased office supplies for Rs. 600 on account. The supplies will last for several months.
Sept 19: Billed clients Rs. 75,000 on account.
Sept 29: Recorded and paid salary expense of Rs. 24,000.
Sept 30: Received Rs. 30,000 from clients billed on September 19.

Required:

- a)** Prepare journal entries
- b)** Post each entry to appropriate ledger accounts
- c)** Prepare trial balance dated September 30, 2024.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Introduction to Psychology

Course Code: APSY-111A

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. Draw and label a Neuron?
- ii. Explain the factors affecting motivation.
- iii. Briefly explain short term memory.
- iv. What is the difference between S- factor and G- factor of intelligence?
- v. How will you explain the relationship between language and culture?
- vi. Write a note on behaviorism as a school of Psychology.

Q.2. Answer the following questions: (5x6=30)

- i. Explain the principles of Classical Conditioning.
- ii. Discuss in detail the process of memory.
- iii. Explain the role of Pituitary gland in performing various function in human body.
- iv. Explain any one assessment tool used to measure intelligence.
- v. Explain the process of problem solving in detail.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

1. What are the differences between clinical psychology and counselling psychology?
2. Describe classical conditioning.
3. Explain the role of an organizational psychologist.
4. Define observational learning.
5. What ethical issues are important in psychological research?
6. What is an experimental method of research?
7. What is the difference between sensation and perception.
8. Define thinking.
9. What is forgetting and its causes?
10. Define perceptual constancy.
11. Define positive and negative reinforcement.
12. Define survey research.
13. What are the differences between primary and secondary motives?
14. What is motivation?
15. Describe physiological changes experienced during emotions.

Q.2. Answer the following questions.

(3x10=30)

1. What is memory? Describe its types with an example.
2. What is psychology? Briefly describe its schools of psychology.
3. Define emotions? Write a detailed note on any TWO theories of emotions.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. How does neural localization of function contribute to cognitive processes?
- ii. Explain the concept of object perception and its role in everyday life.
- iii. Discuss the differences between depth perception and color perception.
- iv. What is mean-end analysis, and how is it used in problem-solving?
- v. How does linguistic determinism shape our understanding of thought and language?
- vi. Provide an example of syllogistic reasoning and explain its cognitive importance.

Q.2. Answer the following questions.

(3x10=30)

- i. Discuss the role of sensory memory in facilitating attention and perception.
- ii. Explain the process of problem-solving by analogy with examples from real life.
- iii. Analyze the stages of child language acquisition and their significance in cognitive development.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Environmental Psychology (Revised)

Course Code: APSY-232

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Explain the significance of environmental psychology.
2. What is the difference between over-stimulation and under-stimulation? Give an example.
3. What are the major data collection methods in environmental psychology?
4. What are the methods of studying cognitive maps? Explain briefly.
5. What is the difference between the crisis effect and the levee effect?
6. What are the major effects of heat on human behaviour?

Q.2. Answer the following questions.

(3x10=30)

1. Write a detailed note on the behaviour constraint model of environmental psychology.
2. Explain in detail the designing and planning for human behaviour.
3. Write a detailed note on high density and crowding and their impact on human behaviour.



ATTEMPT THIS PAPER ON SAME SHEET

السؤال الأول : ترجم العبارة التالية إلى اللغة الأردية أو الإنجليزية 10

Q.1. Translate the Following Paragraph into Urdu or English Language.

قابلت زينة في المكتبة منذ أسبوعين و سألتها عن خططها للمستقبل. فقالت زينة، سأدرس في المدرسة حتى شهر مايو. شهر مايو هو شهر الإمتحانات. و في الصيف سأكون مشغولة. في شهر يوليو سأسافر بيت جدي و جدتي في الريف. ثم سأطير إلى بيروت في شهر أغسطس لأزور صديقتي في لبنان.

السؤال الثاني : ترجم إلى اللغة الأردية Translate into Urdu or English 10

هذه صورة مدينة ، و هناك نهر في المدينة و بجانب النهر هناك شارع. في وسط الصورة هناك بنك و بجانب البنك هناك مدرسة. المدرسة بين البنك و المستشفى. و على يمين البنك هناك مصنع أسود و قبيح. وهو مصنع السيارات ولكن ليس هناك سيارات في الشارع. أمام البنك هناك شجر جميل. ولكن ليس هناك شجر أمام المصنع.

السؤال الثالث : اختر الكلمة الصحيحة : Choose the right word : 10

- 1- (القاهرة ، دمشق ، الخرطوم) عاصمة مصر .
- 2- أكلتُ (سمك ، سمكاً ، سمكٍ) في المطعم أمس .
- 3- (صنعاء ، مراكش ، عمان) عاصمة اليمن .
- 4- سمع (الأميرة ، الملك ، الملكة) من المهندسين عن السيارة الجديدة .

5- امس ، أنا (خرجتُ ، خرج ، خرجتِ) من البيت صباحاً.

6- منذ عشرين سنة كان على (غنياً، غني ، غنية)

7- هي (ذهب ، ذهبت ، ذهبن) الى البنك.

8- . قلمُ (محمودٍ ، محموداً ، محمودٌ) جديدٌ

9- فوق المكتب (كتب، كتاب ، الكتب) كثيرة.

10- أولئك رجال (طوال، طويلة ، طويل).

السؤال الرابع: هات أشهر السنة Give Months of the Year 10

السؤال الخامس : رتب الكلمات التالية Arrange the following words 10

1- كل ، أنظف ، بعد ، المطبخ ، الإفطار ، صباح

2- كبير ، الحديقة ، باب

3- العلم ، لون ، أخضر

4- التلاميذ ، كتب ، جديدة

5- فوق، خريطة ، الجدار، السعودية

السؤال السادس : هات الجموع للمفردات التالية Give Plurals of the following 10

1- لون 2- سعر 3- طبق 4- كوب 5- مَلِك 6- شكل 7- سيف 8- قلب

9- صاحب 10- عام



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Arabic Language

Course Code: ARB-103

Time: 3 Hrs. Marks: 60

Roll No.

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(5x6=30)

سوال نمبر: 1۔ مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

- (i) صحیح الأخطاء في الجمل حسب القواعد العربية (جملوں میں موجود غلطیوں کو گرامر کے مطابق درست کریں)
- (1) هي بنت عالم. (2) هذه فصلي. (3) دخل الطالبة في الفصل.
- (4) هذا كرسي قديمة. (5) القلم مكسورة. (6) من تلك الولد؟
- (ii) املأ الفراغات بوضع الضمائر المناسبة مما بين القوسين (خالی جگہوں کو دی گئی مناسب ضمیر لگا کر مکمل کریں)
- (هو - هي - أنت - هما - هن - هم)
- (أ) هل ----- مسلم؟ (ب) بنت المدرس؟ (ج) هل ----- أخوك؟
- (د) طيبات ----- (ه) وزراء باكستان. (و) ----- رجلاں.
- (iii) "خرج" سے فعل ماضی کی گردان لکھیں۔
- (iv) ما هي الحروف الشمسية؟ اكتب / اکتبی ستہ من الحروف الشمسية. (حروف شمس کے کہتے ہیں؟ کوئی سے چھ حروف شمس مثالوں کے ساتھ لکھیں)
- (v) ما هي الجملة الفعلية، وضع / وضعی بمثال واحد. (جملہ فعلیہ کی تعریف کریں اور ایک مثال ذکر کریں)

(3x10=30)

مندرجہ ذیل سوالات کے جوابات تحریر کریں۔

- سوال نمبر 2: درج ذیل حدیث کا ترجمہ کریں:
- قال الرسول ﷺ: "من نَفَسَ عن مسلم كربة من كرب الدنيا، نَفَسَ الله عنه كربة من كرب يوم القيامة، ومن يسر على معسر، يسر الله عليه في الدنيا والآخرة."
- سوال نمبر 3: درج ذیل اشعار کا ترجمہ کریں:
- ومن نزلت بساحته المنايا وأرض الله واسعة ولكن دع الأيام تلتد كل حين
- فلا أرض تقيه ولا سماء إذا نزل القضا ضاق القضاء فما يغني عن الموت الدواء
- سوال نمبر 4: درج ذیل جملوں کا عربی میں ترجمہ کریں:
- ۱- میں گھر میں ہوں۔
- ۲- میں مسلمان ہوں۔
- ۳- یہ آدمی کون ہے؟
- ۴- تم طالب علم ہو۔
- ۵- یہ نئی وی ہے۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program : Third Semester – Fall 2024

Paper: Arabic Language – I

Course Code: ARB-111

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Translate into Urdu.

السؤال الأول: اترجم إلى الأردية. 10

قال رسول الله صلى الله عليه وسلم: "مَنْ كَانَ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الْآخِرِ فَلَا يُزِدْ جَارُهُ وَمَنْ كَانَ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الْآخِرِ فَلَا يُنْكَرُ مَنْ خِيفَ وَمَنْ كَانَ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الْآخِرِ فَلْيَقُلْ خَيْرًا أَوْ لِيَقْمِمْ"

Q.2. Translate into Urdu.

السؤال الثاني: اترجم إلى الأردية. 10

يَا رَبِّ أَنْتَ خَالِقِي وَأَنْتَ أَنْتَ رَازِقِي
خَلَقْتَ أُمِّي وَأَبِي وَكُلَّ مَنْ فِي سَبِي
وَقَدْ خَلَقْتَ الْعَرَبَ وَالسَّيِّئِينَ النَّبِيَاءَ
وَكُلَّ أَجْنَاسِ الْبَشَرِ وَكُلَّ طَيْرٍ أَوْ شَجَرٍ
فَاثْنُكَ يَا رَبِّ لِلَّهِ وَالْحَمْدُ مَا دَارَ الْفَلَاحُ
أَلَكُنَّ مَا صُنِعَتْ وَالْعَدِي مَا هَدَيْتَهُ
فَسَيِّدِ الْخَطْوِ إِلَى رِضَاكَ يَا رَبِّ الْعَلَدُ

Q.3. Answer the following Questions

السؤال الثالث: أجب عن الأسئلة التالية 2x5 = 10

1- اَيْنَ نَسَكُنُ؟ 2- مَا أَنْتُمْ جِدَّة؟ 3- كَمْ أَخْتَالِكِ 4- مَاذَا أَكَلْتَ الْيَوْمَ 5- أَيْنَ أَنْتَ

Q.4. Arrange the words to make sentences.

السؤال الرابع: رتب الكلمات لتصبح جملًا. 10

1- مسافر، ي، صديق 2- هذا، الله، فضل 3- العلم، لون، اخضر
4- كتب، صديقة، الطلاب 5- رمة، واسعة، الله 6- استاذ، هذه، كريمة
7- واسعة، الاب، تلك 8- قميص، صغير، الولد 9- تلميذ، كتاب، ذلك
10- السقف، مربعة، تحت

Q.5. Give Singulars of the following Plurals.

السؤال الخامس: دعاء المفردات للمجموع التالية. 10

شُرٌّ، فَرْقٌ، سُبُلٌ، مَصَابِيحٌ، صُورٌ، مُرَادٌ، عُرُوفٌ، جُدُرٌ، أَصْدِقَاءٌ، نَوَافِدٌ

Q.6. Translate into Arabic

السؤال السادس: اترجم إلى العربية. 10

1- یہ استاد کا دفتر ہے۔ 2- عورتیں کپڑے دھوئی ہیں۔ 3- تم کالج جاتے ہو۔
4- آسمان کا رنگ نیلا ہے۔ 5- سکول کا دروازہ کھلا ہے۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر: 1۔ مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

- i. افعالِ خمسہ کی ایک ایک عربی مثال لکھیے۔
- ii. ثلاثی مجرد کی تعریف کیجیے۔ کوئی سے تین ابواب کی ایک ایک عربی مثال تحریر کیجیے۔
- iii. نائب الفاعل کسے کہتے ہیں، تین عربی مثالیں لکھیے۔
- iv. انواعِ خبر ”مفرد“ کی پانچ عربی مثالیں لکھیے۔
- v. ”المفعول مطلق“ کی پانچ عربی مثالیں لکھیے۔
- vi. باب تفعیل کی پانچ عربی مثالیں لکھیے۔

(3x10=30)

مندرجہ ذیل سوالات کے جوابات تحریر کریں۔

- سوال نمبر 2: کوئی سے دس افعالِ استمرار کو عربی جملوں میں استعمال کیجیے۔
- سوال نمبر 3: فعل لازم اور فعل متعدی کی تعریف لکھیے اور تین تین عربی مثالیں تحریر کیجیے۔
- سوال نمبر 4: ”السکن“ یا ”فی سوق الفاکهة“ کے عنوان پر عربی میں مکالمہ لکھیے۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Arabic Language-II

Course Code: ARB-211

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

10

السؤال الأول: رتب الكلمات لتكون جملاً.

Arrange the words to make sentences.

1- الله - الطيب - يقبل - طيب.

2- الأستاذ - الولد - يعلم.

3- العامل - في عمل - يجتهد - هـ.

4- كريم - لكن - الرجل - هـ - غنى.

5- النوم - اولاد - ثلاثة - استيقظ - من.

10

السؤال الثاني: ترجم الى العربية. Transalate into Arabic.

1- پر سوں بدھ کادن ہوگا۔ 2- کل اتوار تھا۔ 3- میں مفید بات سنا ہوں۔

4- بچہ دروازہ کھول رہا ہے۔ 5- لڑکا کینے سے کھلتا ہے۔

10

السؤال الثالث: أجب عن الأسئلة التالية باللغة العربية.

Answer the following questions in Arabic Language.

1- هل هذا المريض؟ 2- كيف جئت؟ 3- متى تعود الى بيتك؟

4- ماذا سقط على الارض؟ 5- حتى متى تتأخر؟

10

السؤال الرابع: ترجم الى الأردية. Translate into Urdu.

قال رسول الله صلى الله عليه وسلم: عجباً لأمر المؤمن إن أمره كله له خير وليس ذلك لأحد إلا للمؤمن. إن أصابته
سراء شكر فكان خير له وإن أصابته ضراء صبر فكان خير له.

10

السؤال الخامس: ترجم الى الأردية. Translate into Urdu.

وفى الطريق ظهر امامه الشيطان وقال له: ايها الشاب، الى اين تذهب؟ قال الى هذه الشجرة. قال: وماذا تعمل
عند الشجرة؟ قال الشاب: اقطعها.

10

السؤال السادس: استخدم الكلمات التالية في جمل.

Use the following words in sentences.

رَفَعَ، خَزَنَ، عاملة، جديدة، ثلاثة، خمس، غد، امس، يوم، مساء



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. Small Business
- II. Decentralize Purchasing
- III. Process of Marketing
- IV. Selecting Business Location
- V. Job Classification
- VI. Pay Scales

Answer the following questions.

(3x10=30)

Q.No.2: What are the different types of Cooperatives? Explain its advantages and disadvantages in detail?

Q.No.3: What is the difference between the Wholesale and Retail? Discuss it with respect to its Importance and functions in detail?

Q.No.4: Distinguish between Memorandum of Association and Article of Association?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. What are the advantages of publicity?
- II. What is Marketing management?
- III. Discuss new product pricing strategies
- IV. Explain the *Product Life Cycle* strategies
- V. Difference between market segmentation and targeting.
- VI. What is brand positioning?

Answer the following questions.

(3x10=30)

Q.No.2: Write a detailed note on marketing management process.

Q.No.3: Write a detailed note on marketing communication strategy?

Q.No.4: What are the major marketing mistakes? Briefly discuss that how these mistakes effect firm performance and achievement of its goals.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- Use of liquidity ratios
- Define and differentiate between operating and financial leverage
- Difference between D/E Ratio and D/TA Ratio and its implications
- Write and note on annuity due and ordinary annuity
- How turnover ratios are useful in analyzing company productivity
- What is Yield Curve

Answer the following questions.

(3x10=30)

Question 02:

Consider the balance sheets and selected data from the income statement of Keith Corporation that appear below and on the next page. Calculate Cashflow from operations for the firm.

Keith Corporation Balance Sheet

	December 31	
	2012	2011
Assets		
Cash	\$ 1,500	\$ 1,000
Marketable securities	1,800	1,200
Accounts receivable	2,000	1,800
Inventories	2,900	2,800
Total current assets	\$ 8,200	\$ 6,800
Gross fixed assets	\$29,500	\$28,100
Less: Accumulated depreciation	14,700	13,100
Net fixed assets	\$14,800	\$15,100
Total assets	\$23,000	\$21,800
Liabilities and Stockholders' Equity		
Accounts payable	\$ 1,600	\$ 1,500
Notes payable	2,800	2,200
Accruals	200	300
Total current liabilities	\$ 4,600	\$ 4,000
Long-term debt	5,000	5,000
Total liabilities	\$ 9,600	\$ 9,000
Common stock	\$10,000	\$10,000
Retained earnings	3,400	2,800
Total stockholders' equity	\$13,400	\$12,800
Total liabilities and stockholders' equity	\$23,000	\$21,800

Keith Corporation Income Statement Data (2012)

Depreciation expense	\$1,600
Earnings before interest and taxes (EBIT)	2,700
Interest expense	367
Net profits after taxes	1,400
Tax rate	40%

Question 03:

McCracken Roofing, Inc., common stock paid a dividend of \$1.20 per share last year. The company expects earnings and dividends to grow at a rate of 5% per year for the foreseeable future.

- What required rate of return for this stock would result in a price per share of \$28?
- If McCracken expects both earnings and dividends to grow at an annual rate of 10%, what required rate of return would result in a price per share of \$28?

Question 04:

Dave Hirsh publishes his own manuscripts and is unsure which of two new printers he should purchase. He is a novelist. Having slept through most of his Finance course in college, he is unfamiliar with cash flow analysis. He enlists the help of the finance professor at the local university to assist him. Together they estimate the following expected initial investment (a negative cash flow) and net positive cash flows for years 1 through 3 for each machine. Dave only needs one printer and estimates it will be worthless after three years of heavy use. Dave's required rate of return for this project is 10 percent.

Expected Net Cash Flow

Year	Cal's Project	Aron's Project
0	\$(2,000)	\$(2,500)
1	900	1,500
2	1,100	1,300
3	1,300	800

- Calculate the payback period, NPV, and IRR for each printer.
- Which printer do you think Dr. French will recommend? Why?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

- i. Elaborate maximum inventory level.
- ii. What is job costing and process costing?
- iii. Define cost and enlist their classification.
- iv. Express the term **debit note** and **credit note**.
- v. Delineate overhead absorption rate and how it is calculated.

Q.2. Answer the following questions.

(3x10=30)

1. HAIDER & HARIS KHAN group of Industries purchased raw material worth Rs. 340,000 and incurred direct labor cost of Rs. 220,000 during the year ended 31st December, 2024. Factory overheads is applied to production at the rate of 75% of direct labor cost. Raw material inventory is increased by Rs. 12,000 and other inventory balances were as follows:

	1st January	31st December
Finished goods	Rs. 44,000	Rs. 40,000
Work in process	Rs. 37,000	Rs. 34,000

Required: Prepare cost of goods manufactured and sold statement.

2. Elucidate the difference between periodic inventory system and perpetual inventory system. Which one of these two system is superior?

3. Following estimates relate to material of "**Kashif Bilal Majeed & Sons Company Ltd.**":

Requirement for six months	3,000 units
Cost to place an order	Rs. 20
Unit cost	Rs. 9.60
Carrying cost per unit p.a.	2.5%

Required:

- i. Calculate economic order quantity.
- ii. Currently the company is purchasing this material in lots of, 4,000 units. How much can the company save by buying in the most economical quantities?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- a) Describe Metadata with example.
- b) Define two different clauses of SQL with example.
- c) Differentiate between Database and DBMS.
- d) What is SQL? Discuss its role in database.
- e) Discuss about database transactions with example.
- f) Define database schema.

Answer the following questions.

(3x10=30)

Question 2. What is database key? Discuss different types of database keys with examples.

Question 3. Define data model and explain its following categories:

- a) Relational data model
- b) Entity-relationship (E-R) data model
- c) Object-Based Data Model
- d) Semi-structured Data Model

Question 4. Normalize the following “Sale Metro Store” Relation up to 3rd Normal form but step by step, show each intermediate resultant table with its data.

Sale Metro Store

Od_No	Od_Date	Cust_Name	Cust_Add	Prod_ID	Prod_Name	Prod_Price	Prod_Qty	Amount
1	12-3-11	Saad	England	F39	Fan	750	3	7050
				A23	A.C	1200	4	
2	22-01-97	Atif	London	C97	Chair	85	2	170
3	22-01-97	Usman	China	A23	A.C	1200	2	2400
4	22-01-97	Saad	England	A23	A.C	1200	2	2400
5	15-7-12	Saad	England	F39	Fan	750	3	7050
				A23	A.C	1200	4	



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions

(6x5=30)

- I. Differentiate between entrepreneurship and entrepreneurs.
- II. Differentiate between innovation and invention.
- III. SWOT analysis
- IV. Role of entrepreneurship in the economic world
- V. Risks involves in innovation.
- VI. Entrepreneurship Development Program (EDP)

Answer the following questions

(3x10=30)

Q.No.2: What is entrepreneurship? Explain the sociologist's view of entrepreneurship.

Q.No.3: Explain the Factors influencing entrepreneurship, The environment, Socio-cultural factors, and Support systems.

Q.No.4: Briefly explain the Framework for developing entrepreneurial marketing.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. Describe core fields of biology.
- II. Describe role of enzymes as catalysts.
- III. What are genes? How do they differ from alleles?
- IV. What are various applications of biotechnology?
- V. Give structure and functions of DNA.
- VI. Describe theory of natural selection.

Q.2. Answer the following questions.

(3x10=30)

- I. Give functions of major human endocrine glands.
- II. Describe structure and functions of human central nervous system.
- III. Describe Mendel's law of independent assortment.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Level of Organization
- ii. Human impact on Biosphere
- iii. Information flow and Neuron
- iv. Respiration
- v. Homeostasis
- vi. Environment Conservation

Answer the following questions.

(3x10=30)

Q.2 Write about Myths and Realities of evolution in detail.

Q.3 Describe Nervous system with suitable sketches

Q.4 Write a comprehensive note on nutrition and transport.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

- i. What is Acid Rain and what cause it?
- ii. Differentiate between cleavage and gastrulation?
- iii. What is Behavioral ecology?
- iv. What is convergent evolution and how does it occur?
- v. Differentiate between Co-operation and Competition?
- vi. Differentiate between Allopatric and Sympatric speciation?
- vii. Differentiate between organ and Tissue?
- viii. What is the role of liver in nutrient metabolism?
- ix. What is parthenogenesis?
- x. What is an ecological niche?
- xi. What is the role of producer in Biosphere?
- xii. What are biogeochemical cycles?
- xiii. Differentiate between endothermic and ectothermic animals?
- xiv. What are the three main neurons involved in reflex arc?
- xv. What is commensalism?

Q.2. Answer the following questions.

(3x10=30)

- i. Explain nervous system in detail? What roles do different components (such as neurons, neurotransmitters, and the brain) play in coordinating bodily functions?
- ii. What are the mechanisms of speciation, and how do they lead to the formation of new species over time?
- iii. Write a detailed note on the following:
 - a. Tropical rainforest ecosystem
 - b. Freshwater ecosystem



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Who is considered an unqualified person ?
2. Discuss features of common carriers?
3. What are the functions of National Industrial relation?
4. Discuss unfair labor practices
5. What is Lawful consideration?
6. Difference between Partnership and ownership?

Q.2. Answer the following questions.

(3x10=30)

- i. Define Contract? Discuss types of contract?
- ii. What are the functions and powers of National Industrial Relation Commission?
- iii. Who is Unpaid seller? Explain the rights of unpaid seller against goods?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Botany-III (Cell Biology, Genetics and Evolution)

Course Code: BOT-201

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. What is nuclear pore complex.
- ii. What is difference between lytic and lysogenic cycles.
- iii. What are functions of cytoplasm.
- iv. Enlist monosaccharides present in animals.
- v. What is importance of cholesterol in human beings.
- vi. What is sex linked inheritance.

Answer the following questions.

- | | | |
|-------------|---|----------|
| Q. 2 | What is DNA replication with help of diagram. | 10 Marks |
| Q. 3 | What is Karyotype analysis. Explain the human syndromes caused by changes in number of chromosomes. | 10 Marks |
| Q. 4 | a. What are microbodies. Explain the types along with functions | 05Marks |
| | b. What are basic genetic engineering techniques. | 05Marks |



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Cell Biology, Genetics and Evolution

Course Code: BOT-201 A

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- a. Name different disaccharides used in daily life.
- b. What is gene linkage and its types.
- c. What is difference between gene regulation and feedback inhibition.
- d. What are different types of proteins in plasma membrane.
- e. Define gene mutation. Describe its types.

Q.2. Answer the following questions. (3x10=30)

1. What are chromosomal aberrations. Explain changes in chromosome number.
2. Explain protein synthesis.
3. What are plastids. Describe its types and functions.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Cell Biology Genetics and Evolution

Course Code: BOT-205

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

- i. What are different types of plastids.
- ii. What is F factor. Give its different states.
- iii. What are applications of genetic engineering.
- iv. Define chromatin. Give its types.
- v. Define translation. Enlist enzymes involved in it.

Q.2. Answer the following questions.

(3x10=30)

1.
 - a. Explain gene regulation.
 - b. What is karyotype analysis.
2. What is DNA replication. Explain with help of diagram.
3. What are changes in structure of chromosomes.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(10x3=30)

- i. Draw tertiary structure of protein.
- ii. What is F factor. Give its different states.
- iii. What are applications of genetic engineering.
- iv. Define chromatin. Give its types.
- v. Define mutation. What are its types.
- vi. What is difference between starch and cellulose.
- vii. Differentiate between test cross and back cross.
- viii. Define linkage. Describe its significance.
- ix. What is difference between glyoxysomes and peroxisomes.
- x. What is genetic code. Enlist its properties.

Q.2. Answer the following questions.

(3x10=30)

1.
 - a. Explain gene regulation.
 - b. What is transduction.
2.
 - a. Define crossing over. Explain its mechanism.
 - b. What is inversion and translocations.
3.
 - a. What are different types of proteins in plasma membrane. Explain their functions.
 - b. Explain the functions of endoplasmic reticulum.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Persian Language-I

Course Code: BSAR-201C

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

سوال نمبر: 1۔ مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔ (5x6=30)

- (ا)۔ این بگفت و بر سپاہ دشمن زد و تتی چند مردان کاری بینداخت۔ چون پیش پدر آمد، زمین خدمت بیوسید و گفت: اسب لاغر میان بکار آید روز میدان، نہ گاو پرواری
- (ب)۔ پادشاهی با غلامی عجمی در کشتی نشست و غلام دیگر دریا را ندیده بود و محنت کشتی نیاز موده۔ گریم و زاری در نهاد و لرزه بر اندامش افتاد۔
- (ج)۔ یکی را از آنان که غدر کردند با من دم دوستی بود، ملامت کردم و گفتم: دوست و بی سپاس و سفلہ و حق ناشناس کہ باندک تغیر حال از مخدوم قدیم بر گردد و حقوق نعمت سالها در نوردد۔
- (د)۔ نوشیروان گفت: نمک بقیمت پستان تارسمی نشود و ده خراب نگرده۔ گفتند ازین قدر چه خلل آید؟ گفت: بنیاد ظلم در جهان اول اندکی بوده است، هر کہ آمد برو مزیدی کرد تا بدین غایت رسید۔
- (ه)۔ یکی از وزرا معزول شد و بحلقہ درویشان در آمد۔ اثر برکت صحبت ایشان درو سرایت کرد و جمعیت خاطرش دست داد۔ ملک بار دیگر برو دل خوش کرد و عمل فرمود۔ قبولش نیامد۔

سوال نمبر: 2۔ مندرجہ ذیل سوالات کے جوابات تحریر کریں۔ (5x2=10)

- | | | |
|--|----------------------------------|------------------------------------|
| (ج)۔ رخت بہ کاشمر کشا، کوه و تل و دمن نگر سبزہ جهان جهان بین، لاله چمن چمن نگر | (ب)۔ دلکش و زیباستی شاعر رعناستی | (ا)۔ جلوہ گہ شہود را بتکده نمود را |
| باد بہار موج موج، مرغ بہار فوج فوج | روکش حوراستی | رزم نبود و بود را |
| صلصل و سار زوج زوج بر سر نارون نگر | غیرت لیلاستی | کشمکش وجود را |
| | دختر صحراستی | عالم دیر و زود را |
| | تیز ترک گام زن، منزل ما دور نیست | می نگریم و می رویم |

- (د)۔ جهان را ز یک آب و گل آفریدم تو ایران و تاتار و زنگ آفریدی من از خاک پولاد ناب آفریدم تو شمشیر و تیر و تفنگ آفریدی
- (ه)۔ این فروتر رفت و تا گوهر رسید آن بگردابی چو خس منزل گرفت حق اگر سوزی ندارد حکمت است شعر می گردد چو سوز از دل گرفت

سوال ۳: سعدی شیرازی کے حالات زندگی پر نوٹ لکھیے۔ (10)

سوال ۴: پیام مشرق پر تفصیلی نوٹ لکھیے۔ (10)



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر: 1۔ مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

- (1) اذکر/اذکری ضمائر الرفع المنفصلة (ضمائر مرفوع منفصلہ لکھیں)۔
- (2) اکتب/اکتبی طریقہ تعریف الأسم المنکر مع ذکر الأمثلة. (اسم نکرہ کو معرفہ بنانے کا طریقہ لکھیں اور مثالوں سے وضاحت کریں)۔
- (3) اکتب/اکتبی صیغ اسم المفعول من الثلاثي المجرد. (ثلاثی مجرد سے اسم مفعول کے صیغے لکھیں)
- (4) عرف/عزّی الفعل اللازم والمتعدي مع ذکر الأمثلة. (فعل لازم اور متعدی کی تعریف کریں اور مثالوں سے وضاحت کریں)
- (5) اکتب/اکتبی أبواب الفعل الثلاثي المزيد بمهزة الوصل (ثلاثی مزید فیہ ہمزہ وصل کے ابواب لکھیں)۔
- (6) کیف يتحوّل الفعل الماضي المطلق إلى الماضي القريب والبعيد؟ (فعل ماضی مطلق کو کیسے فعل ماضی قریب اور بعید بناتے ہیں؟)

(3x10=30)

سوال نمبر: 2۔ مندرجہ ذیل سوالات کے جوابات تحریر کریں۔

- (1) عرف/عزّی بالاسم الجامد والاسم المشتق، واذکر الأسماء المشتقة كلّها في اللغة العربية. (اسم جامد اور اسم مشتق کی تعریف کریں، نیز تمام اسماء مشتقة لکھیں)
- (2) اذکر/اذکری العدد مع معدوده المذكر والمؤنث من 11 إلى 19 (مذکر اور مؤنث معدود کے ساتھ گیارہ تا انیس تک عربی گنتی لکھیں)
- (3) اکتب/اکتبی صياغة فعل الماضي المبني للمجهول مع تصريفه من مادة "كَتَبَ" بالتشكيل. (فعل ماضی مجہول بنانے کا قاعدہ ذکر کریں اور "كَتَبَ" کے مادہ سے اس کی گردان لکھیں (حرکات واضح کر کے)۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

السؤال الأول : ضع علامة (X) على الكلمة الغريبة . (5)

1. طبيب - مدرس - مهندس - ستارة
2. مطبخ - حمام - عمل - غرفة
3. يغسل - ينام - يكوي - يجفف
4. حافلة - فرن - ثلاجة - سخان
5. ساعة - مسجد - مدرسة - مصلى

السؤال الثاني: أكمل الجمل بالكلمات التالية. (5)

(الجمعة - متأخرا - الفاكهة - مريض - الطعام)

1. هل تستيقظ ؟ لا .
2. ماذا تفضل من ؟ التمر .
3. أين تصلي ؟ في المسجد الحرام، ان شاء الله .
4. هل أنت ؟ لا ، أنا بخير .
5. ما ذا تطلبين من ؟ الأرز والسمك .

السؤال الثالث: أكمل الحوار. (5)

الطالب الأول	الطالب الثاني
1. السلام عليكم.	
2. ما اسمك ؟	
3. كيف حالك ؟	
4. من أين أنت ؟	
5. ما جنسيتك ؟	

السؤال الرابع : صل بين الشئ والمكان الذي يوجد فيه . (5)

الشئ	المكان
1. فرن	غرفة النوم
2. سرير	حمام
3. أريكة	مطبخ
4. مرآة	مدرسة
5. كتاب	غرفة الجلوس

السؤال الخامس : صل بين الجملتين المتماثلتين . (5)

1. هذا جدي	ا. هي تصلي
2. هذه والدتي	ب. هو يصلي
3. هو يصلي	ج. هذا جده
4. هذا جده	د. هذه والدتي
5. هي تصلي	هـ. هذا جدي

السؤال السادس : صحح الأخطاء. (5)

1. ماذا تطلب من الطعام يا فاطمة ؟
2. هل تشربين الشاي يا أحمد ؟
3. أكل ثلاث وجبة في اليوم .
4. المسجد بعيدة عن البيت.
5. أنا مسافر الى مكة .

السؤال السابع : اقرأ الفقرة ثم أجب عن الأسئلة التالية (10)

أسرة أحمد لا تنام يوم العطلة . طه يكنس غرفة الجلوس ، و فاطمة تكنس غرفة النوم ، و أحمد يغسل الملابس ، و لطيفة تكوي الملابس . والجدة تغسل الأطباق ، و الجد يقرأ القرآن .

1. ماذا يفعل طه ؟
2. ماذا يفعل الجد ؟
3. ماذا تفعل فاطمة ؟
4. ماذا تفعل الجدة ؟
5. ماذا تفعل لطيفة ؟

السؤال الثامن: ترجم الجمل الاتية الى اللغة الأردنية . (10)

أختي مريم طالبة في جامعة دمشق . جامعة دمشق في سوريا . مريم تدرس في كلية الطب ، و ستكون طبيبة ، ان شاء الله . تسكن مريم مع الأسرة في شقة . الشقة بعيدة عن الجامعة ، و تذهب الى الجامعة بالحافلة ، مريم تدرس في الصباح والمساء ، و تذهب الى المكتبة و المختبر .

السؤال التاسع : أجب عن الاسئلة التالية. (10)

1. كم وجبة تأكل في اليوم ؟
2. ماذا تأكل في الغداء ؟
3. هل أنت جوعان ؟
4. ماذا تفضل من الشراب ؟
5. هل أنت سمين ؟



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Mass Communication

Course Code: BSCS-111

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. How does noise affect the effectiveness of communication?
- ii. Describe concept of framing in news making?
- iii. What are the key components of the communication process?
- iv. Elaborate the essentials of effective communication.
- v. Define SMCR model.
- vi. Define communication and explain its types briefly.

Q.2. Answer the following questions. (3x10=30)

- i. Write a comparison between print and electronic media. Elaborate which one is more effective.
- ii. Define mass communication. What are its different elements and how they differ from interpersonal communication?
- iii. Write a detailed note on Process of communication.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: National and International Affairs

Course Code: BSCS-201

Time: 3 Hrs. Marks: 60

Roll No.

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

سوال نمبر 1۔ مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

1- Explain bipolar System and it's mechanism in the world .

-1 دنیا میں بائی پولر سسٹم اور اس کا میکانزم کی وضاحت کریں۔

2- Discuss the post-independence history of Pakistan.

-2 پاکستان کی آزادی کے بعد کی تاریخ پر بحث کریں۔

3-What do you know about Kashmir issue.

-3 مسئلہ کشمیر کے بارے آپ کیا جانتے ہیں؟

4- Discuss the Bilateral relations of Pakistan with Afghanistan.

-4 پاکستان کے افغانستان کے ساتھ دو طرفہ تعلقات پر بحث کریں۔

5- Elaborates the different directions of war against Terrorism.

-5 دہشتگردی کے خلاف جنگ کی مختلف سمتوں کی وضاحت کریں۔

6- Discuss Nuclear Problems in your Words.

-6 جوہری مسائل پر اپنے الفاظ میں بحث کریں۔

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر 2۔ مندرجہ ذیل سوالات کے تفصیلی جوابات تحریر کریں۔

1- Describe the Geo Political status of Pakistan and it's role in the region?

-1 پاکستان کی جغرافیائی سیاسی حیثیت اور خطے میں اس کا کردار بیان کریں

2- Write a detailed Note on the contemporary issues of Pakistan

-2 پاکستان کے عصری مسائل پر تفصیلی نوٹ لکھیں۔

3- What kind of role can be Played by UNO in the Conflicts resolution in the World.

-3 دنیا میں تنازعات کے حل میں یو این او کس قسم کا کردار ادا کر سکتا ہے؟



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Mass Communication

Course Code: BSCS-211

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات دیں۔

i. What is communication?

i. ابلاغ کیا ہے؟

ii. Define journalism? Please enlist its major types?

ii. صحافت کی تعریف کریں۔ اس کی مختلف اقسام کی فہرست ترتیب دیں؟

iii. Describe concept of framing?

iii. فریمنگ کے تصور کو بیان کریں؟

iv. Define news values? Enlist different news values and explain any two of them?

iv. خبری اقدار کی تعریف کریں۔ مختلف خبری اقدار کی فہرست ترتیب دے کر کسی دو کو بیان کریں؟

v. Briefly discuss the concept of two step flow of communication?

v. ٹو سٹیپ آف کمیونیکیشن کا تصور بیان کریں؟

vi. Discuss the terms Encoding and Decoding.

vi. این کوڈنگ اور ڈی کوڈنگ کی اصطلاحات پر بحث کریں۔

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر 2: درج ذیل کے تفصیلاً جوابات دیں۔

i. Explain the Communication Process with the help of any Model.

i. کسی ایک ماڈل کے مدد سے ابلاغی عمل کی وضاحت کریں۔

ii. What is the Role of Mass Communication in Agenda Setting?

ii. ایجنڈا سیٹنگ کے عمل میں ابلاغ عامہ کا کیا کردار ہوتا ہے؟ وضاحت کریں۔

iii. In your opinion which type of Mass Communication is the Most Powerful one now a day? Also discuss some logic that why is so?

iii. آپ کی رائے میں آج کل ابلاغ عامہ کا کونسا ذریعہ سب سے زیادہ طاقتور ہے؟ منطق سے وضاحت کریں کہ ایسا کیوں ہے؟



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Critical Reading and Academic Writing

Course Code: BSU-201

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- a) What are formal and informal reports?
- b) Is persuasive essay being different from argumentative essay? How?
- c) What are the types of reports?
- d) Write any 03 characteristics of effective presentations.
- e) Define Literature review.
- f) Briefly explain critical reading with help of examples from academic life.

Q.2. Answer the following questions.

(3x10=30)

- a) How does communicating through critical thinking helps in problem- solving situations?
- b) Elaborate Research proposal and explain its components?
- c) How much time management is important while preparing and delivering an oral presentaions?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Urdu Language: Formation and Evolution

Course Code: BSU-204

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات دیں۔

- i. زبان اور بولی کا فرق بیان کریں نیز مثال دے کر جواب تحریر کریں۔
- ii. محمد حسین آزاد نے زبان کی تعریف تمثیلی انداز میں کی ہے ان کے نظریات مختصر بیان کریں۔
- iii. ڈراوڑی خاندان میں شامل زبانوں کے نام تحریر کریں۔
- iv. اردو زبان کے ابتدائی اور موجودہ عہد تک مختلف نام تحریر کریں۔
- v. برج بھاشا اور اردو کے مابین تعلق پر نوٹ لکھیں۔
- vi. ترنختہ سے کیا مراد ہے؟ اس پر نوٹ لکھیں۔

(3x10=30)

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

- i. حافظ محمود شیرانی کا اردو زبان کے بارے میں کیا نظریہ تھا؟
- ii. اردو زبان کی تشکیل میں مسلمان سلاطین بالخصوص اور بالعموم صوفی کرام کے نظریات اور خدمات کا احاطہ کریں۔
- iii. اردو زبان کے متعلق مسعود حسین خان کے نظریات کا جائزہ پیش کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر ۱: درج ذیل سوالات کے مختصر جوابات دیں۔

- ۱۔ نعت کیا ہے؟ نعت کے تین معروف شعراء کے نام لکھیں۔
- ۲۔ مرزا رفیع سودا کے کسی قصیدہ سے دو اشعار لکھیں۔
- ۳۔ مرثیہ کیا ہے؟ اس کی خصوصیات پر مختصر نوٹ لکھیں۔
- ۴۔ ناصر کاظمی کی غزل کے دو اشعار لکھیں۔
- ۵۔ مثنوی سحر البیان کے دو اشعار لکھیں۔
- ۶۔ غزل کیا ہے؟ اس کی فنی خصوصیات پر نوٹ لکھیں۔

درج ذیل سوالات کے تفصیلاً جوابات دیں۔

(2x5=10)

سوال نمبر ۲: درج ذیل اشعار کی تشریح کریں نیز شاعر کا نام لکھیں۔

- (الف)۔ تجھ لب کی صفت لعل بدخشاں سوں کہوں گا
جادو ہیں تیرے نین، غزالاں سوں کہوں گا
مجھ پر نہ کرو ظلم تم اے لیلیٰ خوباں
مجنوں ہوں تیرے غم کو پیا باں سوں کہوں گا
- (ب)۔ کبھی اے حقیقت منتظر نظر آلباس مجاز میں
کہ ہزاروں سجدے تڑپ رہے ہیں میری جبین نیاز میں
نہ کہیں جہاں میں اماں ملی جو اماں ملی تو کہاں ملی
مرے جرم خانہ خراب کو ترے عفو بندہ نواز میں

10

10

سوال نمبر ۳: مرزا غالب کی غزل گوئی کا جائزہ لیں۔

سوال نمبر ۴: حفیظ تائب کی نعت کا فنی فکری تجزیہ کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. Winding up features
- II. Enterpreneminal Qualities of Businessman
- III. Problems of Business
- IV. Joint Stock Company
- V. Prospectus
- VI. Classification of Business

Answer the following questions.

(3x10=30)

Q.No.2: What is the concept of employment division? Discuss its recovery and placement of promotion?

Q.No.3: Discuss in Detail the Finance its importance and Kinds of sources of finance?

Q.No.4: What is the concept of Marketing? Discuss its functions, scope and approaches to study the Marketing?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

1. Find the four 4th roots of the complex number $-64i$.
2. Solve the integral $\int \frac{1}{a+\sqrt{bx+c}} dx$.
3. Show that $\int_0^1 \frac{\ln(1+x)}{1+x^2} dx = \frac{\pi}{8} \ln 2$.
4. How do you characterize the time path $y_t = 3(2)^t + 4$? Explain briefly.
5. Solve the differential equation $2tdy + ydt = 0$.
6. Find the particular solution of the equation $y_{t+2} + \frac{1}{2}y_{t+1} - \frac{1}{2}y_t = 5$. Do these represent stationary or moving equilibria?

Q.2. Solve the following:

(3x10=30)

1. Evaluate $\int_1^5 [x] dx$, where $[x]$ denotes the greatest integer less than or equal to x .
2. As a phase line, use an inverse U-shaped curve. Let its upward-sloping segment intersect the 45° line at point L and let its downward-sloping segment intersect the 45° line at point R (right). Is this a case of multiple equilibria? If the initial value y_0 lies to the left of L , what kind of time path will be obtained? What if the initial value lies between L and R ? What if the initial value lies right to R ?
3. Find the solution of $y_{t+2} + 6y_{t+1} + 9y_t = 4$ and analyze the convergence of the solution.

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED****Q.1. Solve the following:****(6x5=30)**

- (i) Find the second derivative of $h(x) = \sin^2 x - 3\cos 2x$.
- (ii) For $q(t) = 3t^2 + 2(t-1)^{\frac{2}{3}}$. Find $q'(t)$ & $q''(t)$.
- (iii) Find two positive integers x and y whose sum is 9 and the product x^2y is maximum.
- (iv) Evaluate $\int (2t^2 - t + e^{-i\omega t}) dt$.
- (v) Evaluate $\int_{-1}^1 (3y^2 + 2x^2y) dy$.
- (vi) Evaluate $\frac{\partial g}{\partial x}$ and $\frac{\partial g}{\partial y}$ for $g(x, y) = 2x^3 + 5x^2y - 2xy^2$.

Solve the following:**(3x10=30)****Q. 2** Find $\frac{d^2y}{dx^2}$ if $x(t) = a\cos t$, $y(t) = b\sin t$.

Q. 3 Benish produces x units of commodity A and y units of commodity B . All the units can be sold for $p=50-x$ rupees per unit of A and $q=50-y$ rupees per unit of B . The cost of producing these units is given by the function $C(x, y) = x^2 + y^2$. What should be x and y to maximize the profit?

Q. 4 Evaluate (a) $\int (\ln x - x^2) dx$ (b) $\int_2^7 (e^{2y} + 3e^{-3y}) dy$.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Calculus-II

Course Code: CAL-212

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

Solve the following:

(3x10=30)



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions

(6x5=30)

- 1. Suppose address of OOP is 0804 and address of this pointer is 08D4. What will be the output of the following?**

```
1 #include<iostream>
2 using namespace std;
3 class Student
4 {
5 public:
6     int num;
7     void display()
8     {
9         cout << this << endl;
10    }
11 };
12 int main()
13 {
14     Student OOP;
15     OOP.num = 80;
16     OOP.display();
17     return 0;
18 }
```

- 2. What will be the output of the following?**

```
#include<iostream>
using namespace std;
class Demo
{
public:
    Demo FUN1()
    {
        cout << 1; return this;
    }
    Demo FUN2()
    {
        cout << 2; return this;
    }

    Demo* FUN3()
    {
        cout << 3; return this;
    }
};
int main()
{
    Demo ob;
    ob.FUN2()->FUN1()->FUN3();
    return 0;
}
```

3. Consider the following code. Which of the statement(s) is incorrect?

```
#include<iostream>
using namespace std;
class Demo
{
public:
    Demo FUN1()
    {
        cout << "\nFUN1 CALLED" << endl; return *this;
    }
    Demo* FUN2()
    {
        cout << "\nFUN2 CALLED" << endl; return this;
    }
    Demo FUN3()
    {
        cout << "\nFUN3 CALLED" << endl; return *this;
    }
    Demo* FUN4()
    {
        cout << "\nFUN4 CALLED" << endl; return this;
    }
    Demo* FUN5()
    {
        cout << "\nFUN5 CALLED" << endl; return this;
    }
    Demo FUN6()
    {
        cout << "\nFUN6 CALLED" << endl; return *this;
    }
};
int main()
{
    Demo ob;
```

4. Consider the following code. Can we access derived1() using the sptr pointer

Foo.h
class Ancestor {
private:
void base1();
protected:
void base2();
public:
void base3();
};

Bar.h
class Successor : public Ancestor {
private:
void derived1();
protected:
void derived2();
public:
void derived3();
};

int main() {
Successor * sptr = new Successor();
return 0; }

5. Is there any error in the following code? If yes pls identify the line number with error

```

1. #include <iostream>
2. using namespace std;
3. class Vehicle
4. {
5. private:
6. int* p;
7. public:
8. Vehicle ()
9. {
10. p = new int[2];
11. cout << " Vehicle" << endl;
12. }
13. int getAddressVehicle()
14. {
15. return 1;
16. }
17. ~ Vehicle() { delete[] p; }
18. };
19. class Bus : public Vehicle
20. {

```

```

21. public:
22. Bus()
23. {
24. q = new int[2];
25. cout << " Bus" << endl;
26. }
27. int getAddressBus()
28. {
29. return 0;
30. }
31. ~ Bus() { delete[] q; }
32. private:
33. int* q;
34. };
35. int main()
36. {
37. Bus c;
38. Vehicle * r;
39. r = &c;
40. cout << r->getAddressVehicle() << endl;
41. cout << r->getAddressBus() << endl;
42. }

```

6. Assume "file.txt" has following text in it. What will be the output of the given program?

"PUCIT is;; the;;largest institution, of;; higher, learning; in; Pakistan."

```

#include <iostream>
#include <fstream>
#include <string>
using namespace std;
int main()
{
    fstream file; string s;
    file.open("file.txt", ios::in);
    getline(file,s,';');
    cout << s << endl;
}

```

Q.2. Answer the following questions:

(2x15=30)

- i) Consider the following code. Assume you have following four classes: class A, class B, class C, and class D.

```

class A //base class
{
private:
    int privdataA;
protected:
    int protdataA;
public:
    int pubdataA;
    int getPublicA()
    {
        return pubdataA;
    }
    int getProtectedA()
    {
        return protdataA;
    }
    int getPrivateA()
    {
        return privdataA;
    }
};

```

```

class B : public A //publicly-derived class
{
private:
    int privdataB;
    int getPrivateB()
    {
        return privdataB;
    }
protected:
    int protdataB;
    int getProtectedB()
    {
        return protdataB;
    }
public:
    int pubdataB;
    int getPublicB()
    {
        return pubdataB;
    }
};

```



```

class C : private A //privately-derived class
{
private:
    int privdataC;
    int getPrivateC()
    {
        return privdataC;
    }
protected:
    int protdataC;
    int getProtectedC()
    {
        return protdataC;
    }
public:
    int pubdataC;
    int getPublicC()
    {
        return pubdataC;
    }
};

```

```

class D : protected A //protectedly-derived
class
{
protected:
    int privdataD;
    int getPrivateD()
    {
        return privdataD;
    }
    int protdataD;
    int getProtectedD()
    {
        return protdataD;
    }
    int pubdataD;
    int getPublicD()
    {
        return pubdataD;
    }
};

```

Assume you have a main() function as:

```

int main()
{
    int a,b,c,d;
    A objA; B objB; C objC; D objD;
    return 0;
}

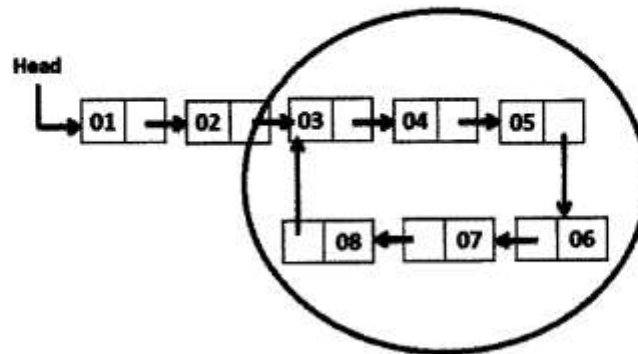
```

Fill in the following table considering the classes above. Assume the lines mentioned in the table have to be written in main(). Write "Error" against the line which has error. In case the line is correct, leave the space or write "Not an error".

<pre> a = objA.protdataA; a = objA.getPublicA(); b = objB.getPrivateB(); b = objB.getProtectedB(); c = objC.pubdataC; c = objC.getProtectedC(); d = objD.getProtectedD(); d = objD.getPublicD(); </pre>	
---	--

ii)

Suppose a linked list has only one pointer named head as shown in figure below. Write a code (in the space provided) that detects finds the length of a loop in a linked list (i.e. the number of nodes involved in a loop/cycle). Loop is shown as circled in figure below. You MUST follow the given implementation and write your logic according to it. Anything assumed will result in marks deduction.



```
#include <bits/stdc++.h>

using namespace std;

class Node{//linked list node

public:

    int data;

    Node* next;

};
```

```
int findLoopLength (Node *head){
```

****write code here****

```
}
```

```
Node *newNode(int k){ //defining new node
```

```
    Node *temp = (Node*)malloc(sizeof(Node));
```

```
    temp->data = k;
```

```
    temp->next = NULL;
```

```
    return temp;
```

```
}
```

```

/* Driver program to test above function*/

int main() {

    cout<<"linked list is built like the example\n";

    cout<<"1->2->3->4->5->6->7->8->3->4->....\n";

    Node *head = newNode(1);

    head->next = newNode(2);

    head->next->next = newNode(3);

    head->next->next->next = newNode(4);

    head->next->next->next->next = newNode(5);

    head->next->next->next->next->next = newNode(6);

    head->next->next->next->next->next->next = newNode(7);

    head->next->next->next->next->next->next->next = newNode(8);


    /* Create the loop */

    //the next pointer of node having value 8 connected to node having value 3
    head->next->next->next->next->next->next->next->next = head->next->next ;

    printf("loop length: %d \n", loopLength(head));

    return 0;

}

```



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions

(6x5=30)

1. Differentiate between a Hub and a Switch.
2. Name the associated protocols of transport layer.
3. Name some services provided by the application layer in the Internet model?
4. What is a zone-based firewall?
5. What is Confidentiality, Integrity & Availability?
6. What is the SMTP protocol?

Answer the following questions:

(3x10=30)

Question#2.

- (a) Differentiate between Time Division Multiplexing and Frequency Division Multiplexing.
- (b) Draw and compare any two LAN topologies.

Question#3.

- (a) What are Unicasting, Anycasting, Multicasting and Broadcasting?
- (b) What are the advantages of fiber optics over copper as a transmission medium? Is there any downside of using fiber optics over copper?

Question#4.

- (a) What VPN and write the advantages of using a VPN?
- (b) What is IPv4 addressing? Briefly differentiate classful and classless addressing.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Chemistry-I (Physical Chemistry)

Course Code: CHEM-101

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

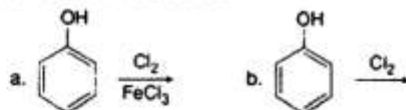
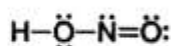
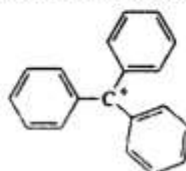
(6x5=30)

- 1 Derive a relation between standard Gibbs free energy and equilibrium constant.
- 2 What is difference between true solution and colloidal solution?
- 3 Give mathematical formulation of Langmuir adsorption isotherm for determination of adsorption coefficient.
- 4 What is surface tension? How can it be determined experimentally?
- 5 Derive an expression for entropy of mixing of two ideal gases.
- 6 Briefly describe the dialysis for purification of colloidal system.

Q.2. Answer the following questions.

(3x10=30)

1. What are thermodynamic processes? Discuss the isothermal reversible expansion of an gas.
2. Derive and discuss kinetic equation for 1st order reaction.
3. What is adsorption? Differentiate physical and chemical adsorption.

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED****Q.1. Answer the following short questions:****(15x2=30)****i. Draw the products of each reaction.****ii. How you might use S_N2 reactions to convert 1-chlorobutane into the following compounds. (a) Butan-1-ol (b) 1-iodobutane****iii. Draw a second resonance structure for nitrous acid. Label each resonance structure as a major, minor, or equal contributor to the hybrid. Then draw the resonance hybrid.**nitrous acid**iv. The triphenylmethyl cation is so stable that some of its salts can be stored for months. Explain why this cation is so stable.**triphenylmethyl cation**v. Predict the major products of acid-catalyzed dehydration of the following alcohols.**

(a) pentan-2-ol (b) 2,2-dimethylpropan-1-ol

vi. Briefly explain hyper conjugation with example.**vii. Propose a mechanism for the entire reaction of pent-1-yne with 2 moles of HBr.**

Show why Markovnikov's rule should be observed in both the first and second additions of HBr.

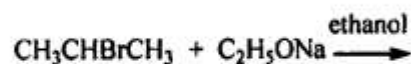
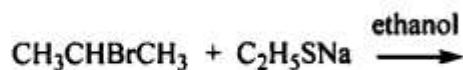
viii. Iodoacetic acid is ten times less acidic than chloroacetic acid. Should it be possible to convert $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ to $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$ by a nucleophilic substitution reaction with NaCl? Explain why or why not.**ix. Why tertiary carbocations are more stable as compared to secondary carbocation?****x. CPC (cetylpyridinium chloride), an antiseptic found in throat lozenges and mouthwash, is synthesized by the following reaction. Draw the structure of CPC.****xi. N, N-dimethylaniline is less basic than 2,6,N,N-tetramethylaniline.****xii. Predict the products of the sulfuric acid-catalyzed dehydration of the following alcohols. When more than one product is expected, label the major and minor products.**

(a) 2-methylbutan-2-ol (b) pentan-1-ol (c) pentan-2-ol (d) 1-isopropylcyclohexanol

xiii. How you will prepare ether by alkoxymercuration and demercuration of alkenes.**xiv. Write down all possible canonical forms of p-nitroaniline and indicate the most stable one.****xv. Define tautomerism with examples.**

Answer the following questions.

Q.2 (a) Indicate the major and minor products in the following reactions with mechanism. (5)

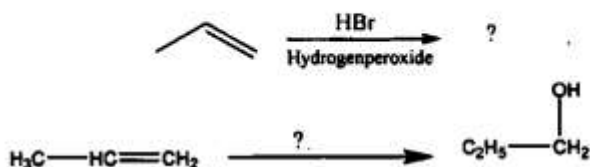
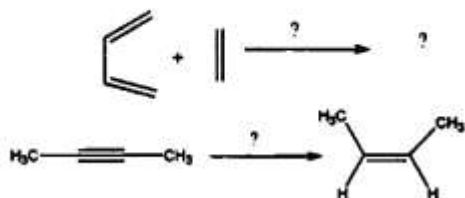


(b) Write down the preparation of naphthalene? (5)

Q.3 (a) Differentiate between markonikovs and anti markonikovs rule with examples. (5)

(b) Briefly discuss Rierner Tieman reaction with mechanism. (5)

Q.4 Complete the following reaction with mechanisms? (2.5x4=10)





THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- 1 Derive a relation between standard Gibbs free energy and equilibrium constant.
- 2 What is difference between true solution and colloidal solution?
- 3 Give mathematical formulation of Freundlich adsorption isotherm for determination of Freundlich constants.
- 4 What is surface tension? How can it be determined experimentally?
- 5 Derive an expression for entropy of mixing of two ideal gases.
- 6 Briefly describe the electro-dialysis for purification of colloidal system.

Q.2. Answer the following questions. (3x10=30)

1. What are thermodynamic processes? Discuss the isothermal reversible expansion of an ideal gas.
2. Derive and discuss kinetic equation for 2nd order reaction with same initial concentration of reactants.
3. What is adsorption? Differentiate physical and chemical adsorption.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Physical Chemistry

Course Code: CHEM-205

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- 1 What is rate constant? Give its units for zero order, 1st order and 2nd reaction.
- 2 What is difference between dialysis and electro-dialysis?
- 3 What is adsorption? Discuss Freundlich adsorption isotherm.
- 4 What is surface tension? How can it be determined experimentally?
- 5 Derive relation between Gibbs energy change, entropy change and enthalpy change.
- 6 Briefly describe dialysis for purification of colloidal system.

Q.2. Answer the following questions.

(3x10=30)

- 1 What are colloids? Discuss the methods of purification of colloids.
- 2 Derive kinetic equation for 2nd order reaction for same initial concentrations.
- 3 What is entropy? Give its formula and units. Discuss entropy change due to mixing of two ideal gases..



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(10x3=30)

- i. Give the various methods for redemption of debentures.
- ii. What is trading account? Why is it prepared?
- iii. What is statement of affairs? When it is prepared?
- iv. Describe different methods of companies' liquidation.
- v. Why do companies amalgamate?
- vi. What is meant by right shares?
- vii. What are the objectives of maintaining departmental accounts?
- viii. Define and differentiate between direct and indirect expenses.
- ix. What is Liquidator's statement of account? When it is prepared and how?
- x. Who are contributors in context of liquidation of a company?

Answer the following questions.

(3x10=30)

Q.2 Ms. Mah Rukh is appointed as liquidator of Beta Limited. The balance sheet at the time of liquidation January 1, 2023 is as under:

Liabilities	Rs.	Assets	Rs.
Equity Share capital	4,00,000	Fixed Assets	400,000
Debentures	2,00,000	Stock	100,000
Loans	100,000	Sundry Assets	240,000
creditors	100,000	Cash	10,000
		Profit and loss account	50,000

Fixed assets were realized for Rs. 240,000 to a debenture holder holding Rs. 80,000 debenture and cash is received after setoff. Cash realized from debtors was Rs. 160,000 and the liquidation expenses amounted to Rs. 2,000. Liquidator is paid for Rs. 2,000 fixed allowances plus 2% commission on collection including cash in hand Rs. 10,000 as remuneration. Stock is sold for Rs. 20,000.

Required: Prepare the liquidator statement of Account.

Q.3 The extracts are given from the draft balance sheet of Rose Limited as on 31st December 2023:

Authorized Capital: 100,000 shares of Rs. 100 each	Rs. 10,000,000
Issued, Subscribed and Paid up Capital: 40,000 ordinary shares of Rs. 100 each	4,000,000
Share Premium	200,000
General Reserve	3,200,000
Profit & Loss Account	800,000

The Board of Directors pass a resolution to capitalize a part of existing reserves and profit by issuing bonus shares. Four bonus shares are being issued for every ten shares of Rs. 100 each already held in the company. For the purpose of bonus issue, to utilize the share premium account, Rs. 600,000 out of profit & loss account and balance out of general reserve.

Company also offers to its shareholders the right to buy 3 shares of Rs. 100 each at Rs. 125 each for every 5 shares held. All the rights were taken up.

Required: Pass necessary journal entries and also re-draft the balance sheet after the above arrangements.

Q. 4 Serene Limited was incorporated with a nominal capital of Rs. 2,000,000 composed of equity shares of Rs. 10 each. The following data was extracted from the its books as on December 31, 2023.

Share capital	Rs. 800,000	Printing & Stationery	Rs. 2,000
Closing stock	200,000	Postage	3,000
Gross profit	400,000	Vehicles repairs	9,000
Sundry Debtors	290,000	Sundry Creditors	60,000
Furniture at cost	120,000	Investment at cost	30,000
Vehicles at cost	42,000	Dividends (Cr.)	3,000
Premises at cost	400,000	Audit Fee	1,500
Depreciation provision up to 31-12-2021		Director's fee	2,400
Furniture	20,000	Profit & Loss account	52,000
Vehicles	12,000	Cash in Hand	3,740
Premises	10,000	Cash at Bank	183,360
Salaries	70,000		

Adjustments:

- i. Depreciation to be charged on furniture at 10%, vehicles at 20%, and premises at 2.5%.
- ii. Provisions to be made for: Taxation Rs. 158,000 proposed dividend @ 15%.

Required: Prepare profit and loss account, profit & loss appropriation account and balance sheet for the year ended 31st December 2023.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. What are the essentials of a valid contract?
2. Explain the expressed and implied offer.
3. What is a contract of agency?
4. Explain the types of contract of sales.
5. What do you mean by endorsement and its types?
6. What is a breach of contract in case bailment?

Q.2. Answer the following questions.

(3x10=30)

1. Explain the characteristics and types of negotiable instruments.
2. Who is the unpaid seller? What are his rights provided in the sale of Goods Act?
3. What are the social security benefits available to factory workers in case of maternity under the Maternity Benefit Act?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Income Tax Law

Course Code: COMM-203

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Briefly explain the following: (6x5=30)

- (1) Components of Income Tax Law in Pakistan
- (2) Residential status of an Individual, & Company
- (3) Startup
- (4) Taxpayer
- (5) Legal provisions governing the exemption of Pension under second schedule of Income Tax Ordinance, 2001.
- (6) Legal provision regarding Medical Charges or Hospital Charges & Medical Allowance

Answer the following questions. (3x10=30)

Q.2 Discuss the various types of relief and allowance which can be claimed as tax credit by an individual

Q.3 Discuss the powers and function of Chief Commissioner Inland Revenue

Q4 Compute the taxable income of Mr. Abdul Mannan who during the tax year ended 30th June 2024 derived income from the following sources:

Salary	Rs. 11 15,000
Annual leave fare assistance	67,600
Interest free loan received from employer	7,00,000
Overtime payments received	90,500
Encashment of leave preparatory to retirement	90,000
Conveyance provided by employer	
(For personal use only) The employer took this car from a Leasing company at annual lease rent of Rs. 100,000 the fair market value of this car at the commencement of lease was Rs. 32,00,000	
Gratuity received from the employer (Approved by Board)	285,000
Reimbursement of gas, water and electricity bills	30,000
Income from property	380,000
Profit from speculation business	300,000
Loss from other speculation business	275,000
Capital gain on sale of shares of private company (Holding period more than 12 months)	100,000
Zakat deducted	44,920
Prize on prize bond	50,000
Tax deducted at source	42,000
Amount claimed for rebate:	
a) Shares of listed company purchased sold by Privatization Commission of Pakistan	99,000
b) Donation to Punjab University	42,000

Required: Computer taxable income and tax payable

Tax rate for salaried person Year 2024:

1.	Where taxable income does not exceed Rs. 600,000	0%
2.	Where taxable income exceeds Rs. 600,000 but does not exceed Rs.1200,000	2.5% on the amount exceeding Rs. 600,000
3.	Where taxable income exceeds Rs. 12,00,000 but does not exceed Rs.24,00,000	Rs. 15,000 + 12.5% of exceeding Rs. 12,00,000
4.	Where taxable income exceeds Rs. 24,00,000 but does not exceed Rs.36,00,000	Rs. 1,65,000 + 20% on the amount exceeding Rs. 24,00,000
5.	Where taxable income exceeds Rs. 36,00,000 but does not exceed Rs.60,00,000	Rs. 435,000 + 27.5% on the amount exceeding Rs. 3,60,00,000



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Money Banking & Finance

Course Code: COMM-204

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. List down basic functions of money
- ii. Differentiate between money and currency just in three points.
- iii. Explain fixed exchange rate system
- iv. Discuss currency principle of note issue
- v. Briefly explain interest free banking.
- vi. Just discuss any five duties of a customer towards banker

Q.2. Answer the following questions. (2x15=30)

- i. Elaborate the functions of a central bank in Pakistan.
- ii. Discuss the types of deposits maintained by a commercial bank.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. Differentiate between HDD and SSD.
- II. Explain Cache Memory.
- III. Define Ports and its types..
- IV. What is Command line Operating System?
- V. What is Table? How we can create a table in document?
- VI. Explain Slides views in MS-PowerPoint.

Q.2. Answer the following questions.

(3x10=30)

1. What is CPU and its Architecture? Explain in details.
2. What is “IF” formula in MS-Excel? Explain with the help of example.
3. Define Input Devices? Differentiate between Impact and Non Impact printers.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Computer-III

Course Code: COMP-201

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- a) What is abstraction in OOP? Why is it important?
- b) Explain the characteristics of a dynamic website.
- c) How does JSP handle SQL queries?
- d) What are the limitations of using static HTML for web development?
- e) How does the Java Virtual Machine (JVM) work?
- f) Explain why static websites are preferred for simple applications.

Q.2. Answer the following questions.

(3x10=30)

- a) Write a Java program to demonstrate exception handling in Java.
- b) Write a Java program to create a database table using JDBC.
- c) Write a Java program to demonstrate OOP concepts like inheritance.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- 1-Briefly Explain the concept of Cross Elasticity of Demand in case of Substitute goods
- 2-Graphically show the Producer's Equilibrium in case of Out put maximization subject to budget constraint.
- 3-Shortly explain the concept of MRS
- 4-Using graph explain the relationship between Average Cost and Marginal Cost
- 5- What is Multi Plant Monopoly
- 6- Is a firm's Marginal cost curve is always its Supply Curve? Explain with Graph

Answer the following questions:

Q. # 2 - Suppose that the initial price of one cup of Cofee is RS.100, The price of one Donut is Rs.200 while the Income of consumer is Rs.1000. Further suppose that the price of tea has been increased from RS.100 to Rs.200.

a-What will be the effect on Consumer equilibrium also graphically show that **PE=SE+IE** 05

b-How SE and IE do work to decrease or increase the Demand for tea 05

Q. #3 – Under Monopoly a firm always earn Abnormal Profit in the long run Discuss in detail 10
(5)

Q.#4- a)- Describe Price Discrimination and discuss the Conditions under which a firm may choose to follow Price Discrimination strategy 05

b)- Differentiate between First, Second, and Third degree Price Discrimination 05



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Basic Economics-III

Course Code: ECON-221

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. What do you mean by GDP? What are its components?
- ii. Discuss causes of unemployment.
- iii. What are the consequences of inflation on economy?
- iv. Discuss objectives of fiscal Policy.
- v. Differentiate between real GDP and nominal GDP.
- vi. Discuss instruments of fiscal policy.

Answer the following questions.

(3x10=30)

Q.2 What is monetary policy? What are its objectives? What are its instruments?

Q.3 Explain Keynesian theory of employment using saving – investment approach.

Q.4 Compare Keynesian and classical theory of income and employment.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Economics (Macro) for Commerce Course Code: ECON-231

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. What is national income at factor cost?
- ii. What are the determinants of Saving?
- iii. Enlist at least three merits and three demerit of a direct tax.
- iv. Just state the Heckscher-Ohlin theory of trade.
- v. When was the World Bank created and why?
- vi. What is double counting with reference to National Income Accounting? How can we avoid it?

Q.2. Answer the following questions.

(2x15=30)

- i. Describe the circular flow of National Income with the help of a diagram.
- ii. What are the functions of the World Bank and what role the bank can play in the developing countries?



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Education in Pakistan

Course Code: ED-303

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Write down the features of Dars-i-Nizami during Muslims rule in South Asia.
- ii. Discuss the responsibilities of textbook board.
- iii. What are the recommendations of National 1998 Education policy regarding Secondary Education?
- iv. Identify causes of low literacy in Pakistan. Give some suggestions to improve.
- v. Discuss the role of education in economic development of Pakistan.
- vi. What are the salient features of the education of “Jammia Millia Islamia”?

Q.2. Answer the following questions.

(3x10=30)

- i. Discuss the role of “Information Communication Technology” (ICT) in Education in Pakistan.
- ii. Identify and elaborate all the important suggestions and recommendations made in National Education Conference in 1947.
- iii. Describe the importance of Primary Education identify the problems and issues in universalization of Primary Education in Pakistan.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Write down the characteristics of Formal Education.
- ii. Enlist the post natal stages of the development.
- iii. Briefly explain the law of effect by Thorndike.
- iv. What is observational learning, give an example?
- v. Write a note on anxiety.
- vi. Write a note on direct discovery method.

Q.2. Answer the following questions.

(3x10=30)

- i. Write a comprehensive note on mods of education.
- ii. What is classical conditioning? Explain
- iii. Explain the social theory of learning by Albert Bandura.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Why was a pot of yellow rice with fish just a fiction of everyday?
- ii. Why did Manolin say to Santiago, "You're my alarm clock"?
- iii. Why did the old man always think of sea as feminine?
- iv. Is Santiago a winner or a loser?
- v. Why did the old man must have confidence and must be worthy of the great DiMaggio?
- vi. Why does in the end Manolin decide to fish with Santiago?

Answer the following questions.

(2x15=30)

Q.2. Write a letter to the editor of a newspaper about campaign against underage drivers.

Q.3. Write an application to the Deputy Commissioner of your district for the post of Computer operator.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following questions:

(5×6=30)

- A car passes 4 stations every 20 minutes. How many stations will pass it in two hours?
- The ages of A and B are in ratio 6:5 and the sum of their ages is 44 years. What will be the ratio of their ages after 16 years?
- Simplify the following to find the value of x , $\frac{(x+1)}{x+2} + \frac{(x+3)}{x+4} = \frac{2x(x+1)}{x(x+2)(x+4)}$.
- Ghous buys a new suit at the mall. The suit costs Rs. 1500 plus a 5.5% sales tax. What is the total cost of the suit, including the sales tax?
- Calculate the area of a rectangular field whose one side is 16 cm and the diagonal is 20 cm.

Solve the following questions.

(3×10=30)

Q.No.2 (a) The sum of two numbers is 5 and their difference is 1. Find the numbers?

(b) Find the area of a trapezium having parallel sides 65 m and 44 m and distance between them being 20 m.

Q.No.3 (a) Solve the linear equation, $2x + 2y = 5$ and $x - 2y = 3$.

(b) In a right-angle triangle ABC with hypotenuse c and sides a & b . Find the unknown length, $b = 10m$, $a = 4\sqrt{5}m$, $c = ?$

Q.No.4) The following is weight distribution of a class students

Weight	No. Of Students
100-104	5
105-109	15
110-114	20
115-119	25
120-124	30
125-129	20
130-134	16
135-139	14
140-144	5

(i) Define Mean, Mode and Median

1=1

(ii) Find the Mean, Mode and Median from the data.

3×3=9



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Geography II

Course Code: EDE-156

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

1. What is human geography?
2. Describe the three major types of human settlements.
3. Write the causes and consequences of urbanization.
4. What is the difference between a developed and a developing country?
5. What are the major causes and effects of climate change?

Q.2 Answer the following questions.

(3x10=30)

1. Explain the primary, secondary, and tertiary economic activities, focusing on their locational characteristics.
2. Describe the Central Place Theory and its significance in understanding the distribution of settlements.
3. Critically evaluate the role of human geography in understanding and addressing environmental issues, including climate change, deforestation, and pollution.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Content Elective A-II (History)

Course Code: EDE-160

Time: 3 Hrs. Marks: 60

Roll No.

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions.

(5x6=30)

سوال نمبر 1: مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

i. Umayyad's Architecture

i. اموی فن تعمیر

ii. Abdul Malik (R.A.)

ii. عبدالملکؒ

iii. Hazrat Abdullah Bin Zubair (R.A.).

iii. حضرت عبداللہ بن زبیرؓ

iv. Umayyad's Military System

iv. اموی فوجی نظام

v. Walid's Internal Policy

v. ولید کی داخلی حکمت عملی

Q.2. Answer the following questions:

(2x15=30)

سوال نمبر 2: مندرجہ ذیل سوالات کے جوابات تحریر کیجئے۔

i. Discuss Hazrat Umar Bin Abdul Aziz's (R.A.) religious reforms.

i. حضرت عمرؓ بن عبدالعزیز کی مذہبی اصلاحات بیان کریں۔

ii. Discuss the causes of the decline of Umayyad's rule.

ii. بنو امیہ کے زوال کے اسباب بیان کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Content Elective (Political Science – II)

Course Code: EDE-164

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Write down the definition of DEMOCRACY by Ibrahim Lincoln.
- ii. Write down the features of DICTATORSHIP.
- iii. Define Federal System.
- iv. What is meant by Proportional Representation?
- v. What is meant by Free Elections?
- vi. Define Fascism.

Q.2. Answer the following questions:

(3x10=30)

- i. Explain the methods of measurement of Public Opinion.
- ii. Write down the function of Legislature.
- iii. Write a detail note on Presidential System.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Content Elective-A (Sociology-II)

Course Code: EDE-168

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Define Cultural Traits and Patterns with examples.
2. Explain the concept of Ethnocentrism.
3. Define Socialisation and discuss the role of family in socialisation.
4. Define Personality and what are important factors in the development of personality?
5. Define cultural variabilities along with examples.
6. Discuss the theory of "Looking Glass Self".

Q.2. Answer the following questions.

(3x10=30)

1. Discuss the role of caste and class in Pakistani society.
2. What is meant by Culture? Discuss different type of culture in detail.
3. What is meant by mobility? Discuss the different types of social mobility.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Content Elective (Islamic Studies)

Course Code: EDE-176

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1: مندرجہ ذیل سوالات کے مختصر جوابات تحریر کیجئے۔

(۱) دو اُردو تفسیروں اور مفسرین کے نام لکھیں۔

(۲) سورۃ النور کے اہم موضوعات لکھیں۔

(۳) حدِ قذف کے نتائج پر روشنی ڈالیں۔

(۴) حسن معاشرت پر نوٹ لکھیں۔

(۵) صفاتِ الہیہ سے کیا مراد ہے؟ وضاحت کریں۔

(۶) لعان کے واجب ہونے کی کیا شرائط ہیں؟

(3x10=30)

سوال نمبر 2: مندرجہ ذیل سوالات کے تفصیلی جوابات تحریر کریں۔

(۱) واقعہ اُفک بیان کریں۔

(۲) استیذان کے احکامات تفصیل سے لکھیں۔

(۳) ثلاثی مجرد کے ابواب کی مثالوں کے ساتھ وضاحت کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

سوال نمبر 1: درج سوالات کے مختصر جوابات تحریر کریں۔ (6x5=30)

i. درج ذیل غیر مرتب جملوں کو درست ترتیب کے ساتھ لکھیں۔

1. كبير - الحديقة - باب 3. تلك - الأستاذ - بنت 5. هذه - نظيفة - مدينة

2. العلم - لون - أخضر 4. كرسي - صغير - ذلك

ii. مذکر کے مؤنث اور مؤنث کے مذکر لکھیں۔

أُمّ، جَمَل، فقير، غنيّة، تلميذة

iii. درج ذیل جملوں کا اردو ترجمہ لکھیں۔

1. جلسَتُ فوق السرير 3. دخل أحمد المسجد 5. ذلك الولد في المدرسة

2. لعبنا تحت الشجرة 4. خرج المدير

iv. جمع مؤنث سالم کی عربی میں پانچ مثالیں لکھیں۔

v. انسانی جسم کے پانچ اعضاء کے عربی نام اور ان کا ترجمہ تحریر کریں۔

vi. اردو میں ترجمہ کیجیے:

قال رسول الله صلى الله عليه وسلم: من كان يؤمن بالله واليوم الآخر فلا يؤذ جاره، ومن كان يؤمن بالله واليوم الآخر فليكرم ضيفه، ومن كان يؤمن بالله واليوم الآخر فليقل خيرا أو ليصمت.

سوال نمبر 2: مرکب اضافی اور مرکب توصیفی میں کیا فرق ہے؟ دونوں کی تین تین مثالیں تحریر کریں۔ (4+6=10)

سوال نمبر 3: دس عربی ضمائر (Pronoun) اردو ترجمہ کے ساتھ تحریر کیجیے۔ (10)

سوال نمبر 4: درج ذیل نظم کا اردو میں ترجمہ کیجیے۔ (10)

يا رب أنت خالقي	وأنت أنت رازقي
خلقت أمي وأبي	وكل من في نسبي
وقد خلقت العربا	والمسلمين النجبا
وكل أجناس البشر	وكل طير أو شجر
فالشكر يا ربي لك	والحمد ما دار الفلك
الكون ما صنعته	والهدى ما هديته



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Content Optional (Geography)

Course Code: EDE-252

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

1. What is Indus Plain
2. What is the total area of Pakistan?
3. What is Monsoon
4. Write names of 4 season in Pakistan?
5. Describe the natural vegetation of Pakistan.
6. Name the deciduous trees in Pakistan?
7. What do you Know about Mangla Dam project?
8. Write down the means of irrigation in Pakistan.
9. Enlist the 4 cash crops of Pakistan.
10. Where is arid agriculture practice in Pakistan?
11. Name the various power resource in Pakistan.
12. What is crude oil.
13. Where salt mine is located in Pakistan.
14. Why "Sui" is famous in Pakistan.
15. What is deforestation.

Answer the following questions.

(3x10=30)

- Q.2.** Divide Pakistan in major physical division discuss anyone in details.
- Q.3.** Explain with the details the climate in Pakistan.
- Q.4.** Discuss major problems of agriculture in Pakistan.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Home Economics

Course Code: EDE-254

Roll No.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q 1. Answer the following short questions.

(6x5=30)

1. Discuss the importance of childcare for a healthy adult personality?
2. Discuss how personal traits affect clothing selection?
3. Explain different steps of management?
4. How parental conflict affects child development, explain?
5. How malnutrition affects human health, discuss?
6. Discuss different cloth storage techniques?

Q.2. Answer the following questions.

(3x10=30)

1. Discuss the elements and principles of selection of clothing in lieu of personal choices?
2. Discuss the nutritive values of fruits, vegetables and milk products?
3. Discuss in detail the storage process and techniques of silk, wool and synthetic clothes?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Content Optional (Sociology)

Course Code: EDE-255

Time: 3 Hrs. Marks: 60

Roll No.

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. What is probation and parole?

پرویشن اور پیرول کی تعریف کریں

2. What is social interaction and why is it important in society?

معاشرتی تفاعل کیا ہے اور معاشرے میں اس کی کیا اہمیت ہے؟

3. What is the difference between social interaction and social action?

معاشرتی تفاعل اور معاشرتی عمل میں فرق بیان کریں

4. What is cultural diffusion? Give some examples of cultural diffusion from Pakistani society?

ثقافتی نفوذ کیا ہے؟ پاکستانی معاشرے سے ثقافتی نفوذ کی کچھ مثالیں تحریر کریں۔

5. Explain formal and informal groups with appropriate examples.

مناسب مثالوں کے ساتھ رسمی اور غیر رسمی گروہ کی وضاحت کریں

6. Describe ascribed and achieved status.

نسبی منصب اور اکتسابی منصب کی وضاحت کریں

Answer the following questions.

(2x15=30)

Q.2. Describe the characteristics of urban and rural society in detail.

دیہی اور بلدیاتی معاشرے کے اوصاف کی وضاحت کریں۔

Q.3. What is a social institution? List down major social institutions and write down the functions of social institutions in detail.

سماجی ادارے کیا ہیں؟ بڑے سماجی اداروں کے نام لکھیں اور ان کے وظائف کی تفصیلاً وضاحت کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (10x3=30)

- 1: Name a prominent Pre-Mughal school of painting in Indo- Pakistan history.
- 2: What is the characteristic style of Pahari School paintings?
- 3: Mention a common feature of all Mughal paintings.
- 4: Give one example from the Gujarati School of painting.
- 5: Name one famous Buddhist sculpture. .
- 6: During which period was the Mughal School of painting most prominent?
- 7: Name one monument built during the Mughal period.
- 8: Who was Aurangzeb, and how does he relates to Indo-Pakistan architecture?
- 9: What are two key periods in Indo-Pakistan history of sculpture?
- 10: Name the primary material used in Indus valley sculpture.

Q.2. Answer the following questions. (2x15=30)

- 1: Describe the architectural contributions of Mughal emperors to Indo-Pakistan history.
- 2: Compare and contrast the Gujarati and Rajput schools of paintings in detail. Give examples.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

سوال نمبر: 1- مندرجہ ذیل سوالات کے مختصر جوابات لکھیں۔

i. Write a short note on Environmental Education.

i. ماحولیاتی تعلیم پر ایک مختصر نوٹ تحریر کریں۔

ii. Write characteristics of Mentally Retarded Children.

ii. ذہنی معذور بچوں کی خصوصیات تحریر کریں۔

iii. Write only levels of Affective Domains of objectives in Bloom's Taxonomy.

iii. بلوم ٹیکسانومی میں Affective Domains کے صرف مختلف لیول تحریر کیجئے۔

iv. What is the role of school in a democratic society?

iv. ایک جمہوری معاشرے میں سکول کا کیا کردار ہے؟

v. Write concept of Axiology according to Philosophy of Realism.

v. فلسفہ حقیقت پسندیت کے مطابق قدریات کا تصور بیان کریں۔

vi. What is the role of Mosque in Social Change?

vi. سماجی تبدیلی میں مسجد کا کیا کردار ہے؟

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر: 2- مندرجہ ذیل سوالات کے تفصیلی جوابات لکھیں۔

i. What are the Primary Sources of Islamic Education? Explain

i. اسلامی تعلیم کے بنیادی ماخذ کون کون سے ہیں؟ مختصر اوضح کریں۔

ii. Define Visually Impaired children. Explain briefly its types.

ii. بینائی سے محروم بچوں کی تعریف کریں اور ان کی اقسام کی مختصر اوضاحت کریں۔

iii. Society and Culture are inter-dependent. Explain.

iii. معاشرے اور ثقافت ایک دوسرے سے متماثل ہیں۔ وضاحت کیجئے۔

OR

Write down briefly the objectives of Educational Conference 1947.

تعلیمی کانفرنس 1947 کے مقاصد مختصر بیان کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- Manipulate $AB'CD' + A'BCD' + AB'C'D + A'BC'D$ in such a way so that it can be implemented using exclusive-OR and AND gates only.
- What is an addressing mode? Explain the difference between direct and indirect addressing mode with the help of an appropriate example.
- Simplify $F(x,y,z) = \sum (1, 2, 3, 6)$ as Sum of Product and Product of Sum forms using K-map.
- Draw the logic circuit diagram of a half adder. Show the construction of a full adder using block diagrams of two half adders and an OR gate.
- Find out the number of address lines, data lines, and the size of a decoder to construct 128x8 RAM chip. How many 128x8 RAM chips are needed to construct a memory unit of capacity 2048 bytes?
- Show the construction of 4x2 ROM that has been programmed to implement the following functions:
 $X(A, B) = \sum (0, 2, 3)$ $Y(A, B) = A' + A'B'$

Answer the following questions. (3x10=30)

Question#2:

Perform the following tasks for a Boolean function $F(w,x,y,z) = (w + x'z)' + xy' + w'xy$

- Draw truth table.
- Express F as "sum of minterms" and "product of maxterms".
- Simplify F to minimum number of literals.
- Draw the logic circuit diagram of the simplified expression using NAND gates only.

Question#3:

What is decoder and multiplexer? Show the constructions of 3x8 decoder using two 2x4 decoders. Implement $F(A,B,C) = \sum (0, 2, 4, 5, 7)$ using i) decoder ii) 4x1 MUX by keeping A, B as selection inputs of MUX.

Question#4:

Draw the logic circuit diagram of D flip flop. Design a 4-bit register using D flip flops capable of performing the following operations. Also discuss the use of registers in a computer system.

Control Inputs $X_1 X_0$	Operation
0 0	No Change
0 1	Parallel Load
1 0	Complement
1 1	Shift Left



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: English-III (Advance Communication Skills)

Course Code: ENG-201

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answers the following short questions:

(6x5=30)

- i. What are some of the ways to control stage fright?
- ii. What is the importance of audio/visual techniques used during the presentation?
- iii) How do you think your participation in extra-curricular activities during your academic career can be mentioned as beneficial for the aspired job in your job application letter?
- iv) What are the ways to intelligently answer the question about salary expectation in a job interview?
- v) How should one choose to dress up for a job interview? Why
- vi) What is the polite way to begin a follow-up letter/email to your prospective employer if you do not receive a call for an interview after some weeks of sending the job application?

Q.2. Answer the following questions.

(3x10=30)

- i. Write a report ~~on the~~ type of crime in your area?
- ii. Write a letter ~~to the~~ newspaper editor about the deteriorating Air Quality Index in Pakistan and its solution.
- iii. Write a job application letter to the company/ institute where you intend to work. Mentioning your achievements ~~and~~ skills, show you desire to work with them



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to Literature-III (Fiction and Non-Fiction)

Course Code: ENG-202

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions. (6x5=30)

- i. What does the fox symbolize in the short story 'The Fox' by Lawrence?
- ii. What message does "The Piece of String" convey about judging others?
- iii. What does the apple tree symbolize in 'Araby'?
- iv. What is pessimism? Describe Hardy as a pessimist?
- v. Discuss Francis Bacon's aphorism with reference to his essays?
- vi. Describe the major stylistic features present in Rudyard Kipling writings?

Q.2. Answer the following questions. (3x10=30)

- i. Explain in detail the major themes in 'A Farewell to Arms'?
- ii. Highlight the themes of feminism, women subjugation, patriarchy and sacrifice in the novel 'The Mill on the Floss' by George Eliot?
- iii. How Jonathan Swift did express his hatred towards human beings in 'Gulliver's Travels'? Justify with relevant examples?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to Linguistics-III (Phonetics and English Phonology)

Course Code: ENG-203

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. What are consonant clusters? Provide examples from English words.
- ii. Explain English syllabic structure and types of Syllables.
- iii. Define triphthongs and provide three examples of each from English vocabulary.
- iv. Describe the speech organs involved in sound production and their functions.
- v. Transcribe the following words: pen, sit, map, light, frog.
- vi. Discuss the importance of intonation in spoken English communication.

Q.2. Answer the following questions.

(3x10=30)

- i. Explain how phonemes are classified into consonants and vowels; also describe their phonetic and phonological differences.
- ii. What are the effects of connected speech on language learners and teachers, particularly concerning assimilation and liaison?
- iii. Evaluate different teaching methods for pronunciation based on contrastive phonology principles.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: English III

Course Code: ENG-205

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following Short Questions:

(6x5=30)

- a). What do you mean by presentation skills?
- b). What are the requirements of a good argumentative essay?
- c). What do you mean by a narrative essay?
- d). What is a term paper?
- e). What do you mean by citation style in a term paper?
- f). Explain the contents of technical report writing. 5

Q.2. Answer the following questions.

(3x10=30)

1. What are the do's and don'ts of successful presentation? Explain
2. Write a detailed note on different categories of reports?
3. How is personality description different from object description? Explain with one example each.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(6x5=30)

- (i) Describe shortly the sections of formal letter.
- (ii) Elucidate the process of communication.
- (iii) What are the different kinds of communication?
- (iv) Describe the problems in the way of reading comprehension?
- (v) What are the different kinds of presentations?
- (vi) Describe shortly the kinds of paragraph in your own words?

Q.2. Answer the following questions.

(2x15=30)

1. Write a letter to WAPDA on low voltage in the supply of electricity in your area.
2. Write three connected paragraphs on Social Media.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following Short Questions: (6x5=30)

- i) Define communication and its role in teamwork.**
- ii) Explain kinesics in non-verbal communication.**
- iii) Impact of olfaction on communication.**
- iv) Identify and explain three non-verbal communication barriers.**
- v) Characteristics of effective public speaking.**
- vi) Importance of empathy in argumentation.**

Answer the following questions. (3x10=30)

- Q.2. Discuss the relationship between communication barriers and conflict resolution, providing examples.**
 - Q.3. Explain the role of paralanguage in non-verbal communication, considering tone, pitch, and volume variations.**
 - Q.4. Examine strategies for developing persuasive communication skills, with examples from marketing or advocacy campaigns.**
-



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Technical Writing and Presentation Skills of English (Compulsory 7)

Course Code: ENG-215

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Why is it not wise to talk about some public figures during presentations?
2. Why is public speaking a necessary skill?
3. Why is the progress report prepared for different projects?
4. What are three different possibilities of locating a TOPIC SENTENCE in an essay?
5. What is argumentative essay writing?
6. Define discursive writing? When do we choose to write discursively?

Q.2. Answer the following questions.

(3x10=30)

1. Being present oriented will stop spinning up the anxiety and fear during presentation' Explain how?
2. What is the concept of QUOTATION and PARAPHRASING in term paper writing.
3. How is SPACE ORDER described in descriptive essays? give one example.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following questions.

(3x10=30)

- 1. Write a brief note on formal and informal communication**
- 2. Write a short note on 'you attitude' in business writing**
- 3. Write a short note on conciseness in business writing**

Q.2. Attempt the following questions.

(3x10=30)

- 1. Your teacher has nominated you along with five other students to be part of student election campaign for the post of Class representative. Draft a detailed presentation to show how can you win the said election**
- 2. Write a cover letter for the post of teachers' assistant for the course of business communication**
- 3. Barriers in communication can be problematic. Think of any three recent situation you have encountered using three barriers in communication and write a detailed note**



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Expository Writing-III Professional Writing

Course Code: EW-201

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- a. What is the importance of **AIDA** for content writing?
- b. Make a **CV** for the job of computer operator?
- c. What are the characteristics of a **tech blog**?
- d. How is **social media** developing in Pakistani society?
- e. Why is the **research** required for the development of a country??
- f. Why **citation** is required, give examples from APA for an article and a book?

Answer the following questions.

(3x10=30)

Q. 2: Write a report of 100 words on any one of the following topics:

- a. use of social media
- b. pop culture
- c. use of accepted practices

Q. 3: What are the techniques of writing an email, also mention the kinds of email in a multi-national company?

Q. 4: A new technology plaza has asked you to write something for their promotion. They have asked you to share the parameters for your writing, write the parameters for sharing?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Sociology

Course Code: GC-120

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Explain the following terminologies with relevant examples.

(6x5=30)

سوال نمبر 1۔ متعلقہ مثالوں کے ساتھ درج ذیل اصطلاحات کی وضاحت کریں۔

- a) Material culture and non-material culture
- b) Informal group and formal group
- c) Primary Group and secondary group
- d) Cultural Relativism
- e) Multiculturalism
- f) Socialization agents

مادی ثقافت اور غیر مادی ثقافت
غیر رسمی گروپ اور رسمی گروپ
پرائمری گروپ اور سیکنڈری گروپ
ثقافتی رشتہ داری
کثیر الثقافتی
سوشلائزیشن ایجنٹس

Q.2. Answer the following questions:

(2x15=30)

سوال نمبر 2۔ درج ذیل سوالات کے مفصل جواب تحریر کریں۔

a) What is collective behavior? Explain the collective behavior with its types and relevant examples. (ا) اجتماعی رویہ کیا ہے؟ اجتماعی رویے کی اس کی اقسام اور متعلقہ مثالوں سے وضاحت کریں۔

b) What do you understand by social group? Explain the types and functions of social group with examples. (ب) سوشل گروپ سے آپ کیا سمجھتے ہیں؟ مثالوں کے ساتھ سماجی گروپ کی اقسام اور افعال کی وضاحت کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

- I. Differentiate between Population and Sample.
- II. Distinguish between Nominal Scale and Ordinal Scale.
- III. Write the Sources of Secondary Data.
- IV. Name the main parts of a Table.
- V. Define Median and also write it's any two merits.
- VI. Define Measures of Dispersion and name its types?
- VII. Define Cumulative Frequency Polygon or Ogive.
- VIII. In a symmetrical distribution $Q_1=15$ and $Q_3=40$. Find the Coefficient of Quartile Deviation.
- IX. Write down the uses of Index Number.
- X. Given $\sum P_o=1220$ and $\sum P_n=2025$. Find Price Index Number by using Simple Aggregative Method.
- XI. Define Time Series?
- XII. What is Secular Trend?
- XIII. Define the term Regression.
- XIV. Interpret the meaning of $r = 0$, where r is Coefficient of Correlation.
- XV. Define Scatter Diagram?

Answer the following questions:

(3x10=30)

Q. 2: Compute the Mean and Standard Deviation of the given data?

Weight(g)	100-110	110-120	120-130	130-140	140-150	150-160	160-170
No. of Apples	2	8	10	19	7	3	1

Q. 3: Find the trend by using Semi Average Method.

Years	2011	2012	2013	2014	2015	2016	2017
Values	125	144	187	215	245	270	337

Q. 4: For the following data calculate the Correlation between X and Y.

X	25	35	20	27	55	84	47	33	22	68
Y	145	324	567	404	157	366	231	189	530	410



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

- i. Why sigma bond is stronger than pi bond.**
- ii. Define co-ordinate covalent bond with one example.**
- iii. What is Bond energy? Which factors affect bond energy?**
- iv. Define sp hybridization.**
- v. Define dipole moment with its unit.**
- vi. Define surface tension. Write name of factors affecting surface tension.**
- vii. Define Lewis acid and Lewis base with examples.**
- viii. Define rate of reaction with its unit.**
- ix. Define order of reaction with one example.**
- x. Define nuclear fusion with one example.**
- xi. Arrange molecules as per descending order of their bond energy; HF, HI, HBr, HCl**
- xii. Draw Lewis structure of H₂ and NH₃.**
- xiii. What is modern periodic law?**
- xiv. Write two applications of dipole moment.**
- xv. What are the trends of electron affinity in groups and periods? Explain with reasoning.**

Answer the following questions. (6x5=30)

- Q. 2. Define resonance. Draw resonance contributing structures of phenol.**
- Q. 3. What is order of reaction. Derive first order kinetic equation with example.**
- Q. 4. Define law of mass action. Derive its general equation to measure K_c.**
- Q. 5. Differentiate between intermolecular and intramolecular forces with example.**
- Q. 6. Define sp hybridization. Discuss geometry of ethyne (C₂H₂) molecule with respect to hybridization.**
- Q. 7. Define ionization energy. Discuss four factors affect the ionization energy.**



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. Define and write truth tables for NOR and XOR logics (two inputs).
- ii. What is artificial intelligence AI based assistance program developed recently, and what are some potential drawbacks of using it for the students?
- iii. Write equivalent binary of i) $(981)_{10}$ ii) $(782)_{10}$ and iii) $(359)_{10}$
- iv. Write decimal number of i) $(11011)_2$ ii) $(1101)_2$ and iii) $(1100)_{10}$
- v. What is the difference between the input and output devices of a computer?
- vi. What is RAM, and how does it differ from storage devices like hard drives and flash drives?

Answer the following questions.

Q.2. Write C++ program to print the series and also display corresponding average and sum of numbers in the range from 22 to 222. 8

Write a flow chart to calculate surface area and volume of rectangular box with sides **a**, **b** and **c**, where **surface area** = $2(ab + bc + ca)$, and **volume** = $a b c$.

Q.3. The time period of a simple pendulum is given by: $T = 2\pi \sqrt{\frac{l}{g}}$. 10

Write program to determine and print the time (**T**) against length (**l**) values. Use length (**l**) varies from 20 to 80 meters in steps of 5. Take $g = 9.8 \text{ m/s}^2$.

Write an algorithm or a program to calculate and print number and its cube. Take number from the user.

Q.4. Write C++ program to determine sum and average of 10 integers. 12

Write C++ program to print the series from 2 to 5 and also factorial corresponding numbers.

Write C++ program to print table of number seven.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Introduction to Geography

Course Code: GEOG-111

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

1. Differentiate Physical and Human Geography.
2. Briefly explain the importance of Geography in everyday life.
3. What are the main themes of Geography?
4. Differentiate between Lithosphere and Asthenosphere.
5. Enlist any four uses of map.
6. Differentiate between small-scale and large-scale map
7. What are geographic coordinates?
8. Explain Lunar and solar eclipses.
9. Briefly explain the distribution of land and water on Earth.
10. What are the main elements of Weather and Climate?
11. Briefly explain the internal layers of Earth.
12. What is Moho discontinuity?
13. Briefly tell the resulting effects of Rotation of the Earth.
14. Narrate important facts about the shape of Earth.
15. Briefly explain the term Hydrosphere.

Q.2. Answer the following questions. (3x10=30)

1. Write a comprehensive note on the Solar System and origin of Universe.
2. Define Human Geography. Also briefly discuss the main branches of Human Geography.
3. Write a detailed note on the Chemical composition and vertical structure of Atmosphere.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. Write a short note on the concept of Possibilism.
- ii. Discuss briefly the various stages of Urbanization.
- iii. Write a short note on overpopulation.
- iv. Discuss briefly Life Expectancy.
- v. Discuss briefly the stages of Demographic transition.
- vi. Explain briefly the difference between Immigration and Emigration.

Answer the following questions.

(3x10=30)

Q.2: Discuss in detail the process and factors of Urbanization in the world.

Q.3: Describe in detail Environmental Determinism and give examples concerning today's Scenario.

Q.4: Write a comprehensive note on Epidemiological transition.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Introduction to Cartography

Course Code: GEOG-203

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

- i. Define Cartography.
- ii. Differentiate between General Reference and Thematic Maps.
- iii. Define Geodesy.
- iv. Enlist the main properties of Graticule.
- v. Briefly explain the uses of Charts.
- vi. Differentiate between Spherical and Ellipsoidal Earth.
- vii. Enlist various methods of Lettering.
- viii. Differentiate between Ordinal and Interval Scale
- ix. What are Memetic Symbols?
- x. What are Graphic variables?
- xi. Differentiate between Primary and Secondary Visual Variables.
- xii. Enlist the various types of Datum.
- xiii. Differentiate between Large scale and Small scale maps.
- xiv. What is a Daysmetric map?
- xv. Differentiate Between Qualitative and Quantitative Point Symbolization.

Q.2. Give detailed answers. Illustrate with the help of diagrams.

(3x10=30)

- i. Write a detailed note on the Contribution Greek Scholars in development of Cartography.
- ii. Write a comprehensive note on the different types of symbols used in modern mapping.
- iii. Define Cartographic Design. Also discuss the main elements of Cartographic Design.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to Geography

Course Code: GEOG-211

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Define geography and discuss its significance.
2. How does Earth's position in the solar system make it suitable for supporting life?
3. What are the major lines of latitude and longitude used in positioning on maps?
4. Discuss the "geological time scale."
5. What is the significance of the Prime Meridian in map-making and navigation?
6. What is the role of Earth's tilt in creating seasons?

Q.2. Answer the following questions.

(3x10=30)

1. Describe the structure and composition of Earth's atmosphere.
2. Discuss the formation and movement of ocean currents. How do they affect regional climates and global weather patterns? Provide examples.
3. Discuss the World's major landforms.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- i. What are the basic differences in approach and methodology of radical feminism and liberal feminism.
- ii. What is the major reason for discrimination and exploitation against women according to Socialist feminisms?
- iii. How does queer theory view gender?
- iv. What are the main features of ecofeminism?
- v. Did Marx himself carry out any gender analysis in his works? From where does Marxist feminism get its inspiration?
- vi. What do you understand by gender performativity?

Q.2. Answer the following questions.

(3x10=30)

- i. Write short note on postmodern feminism.
- ii. Define and compare Marxist and Socialist feminisms. Kindly also give critical analysis of these theories as per your understanding.
- iii. Write a note about Islamic feminism and today's world?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short notes on the following:

(6x5=30)

1. Informal sector and Economic Empowerment
2. First Women Bank Limited
3. Components of Empowerment
4. Indicators to measure women Empowerment
5. Agency and Process
6. Changing trends of women's work

Q.2. Answer the following questions.

(3x10=30)

1. What initiatives have government been taken to reduce poverty among women?
2. Discuss major feminist strategies for development and empowerment of women.
3. Analyze and present the issues faced by women entrepreneurs in Pakistan.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Feminism in Islam
2. Role of Ideal wife in Islam
3. Representation of women in Quran
4. Construction of masculinity in Islam
5. Contemporary challenges to theology
6. Cultural traditions of Sub-continent followed as religion

Q.2. Answer the following questions.

(3x10=30)

1. How do you define religiosity? Explain the feminist theory in religious studies.
2. Write a brief note on status of women in Islamic society and compare it with Pakistani society.
3. Give the gendered understanding of Ilhamic and non- ilhamic religions with reference to their authoritative texts.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to History

Course Code: HIS-111

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Write a note on the followings:

(5x6=30)

سوال نمبر 1۔ درج ذیل کے مختصر جوابات تحریر کریں۔

i. War of Independence 1857

i۔ جنگ آزادی 1857

ii. Indian National Congress

ii۔ انڈین نیشنل کانگریس

iii. Khilafat Movement (1919)

iii۔ تحریک خلافت (1919)

iv. Allahabad Address 1930

iv۔ خطبہ الہ آباد (1930)

v. Pirpur Report

v۔ پیرپور رپورٹ

Answer the following questions.

(2x15=30)

درج ذیل سوالات کے جوابات تحریر کریں۔

Q. No. 2. Describe the contributions of Aligarh Movement for the Indian Muslims

سوال نمبر 2۔ ہندوستانی مسلمانوں کے لئے تحریک علی گڑھ کی خدمات کو بیان کریں۔

Q. No. 3. Write a note on 3rd June Plan 1947.

سوال نمبر 3۔ تین جون 1947 پلان پر نوٹ لکھیں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

1. Define and explain role of Computer **Bus** in a computer
2. Write a note on **types of Networks**
3. Define and explain the **Web Server**
4. Define and explain **internet**
5. Define and explain **Application software**

Q.2. Answer the following questions.

(2x15=30)

1. Explain procedure to create a good **CV** in **Microsoft Word**.
2. Write a note on the **History of computers**.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. Social contents of Talent Identification
- II. Physiological contents of talent identification
- III. Modern methods of Talent Identification
- IV. Basics of Talent Identifications
- V. Social contents of Talent Identification
- VI. Traditional methods of Talent Identification

Answer the following questions.

(3x10=30)

- Q.2. Briefly explain Talent Identification Model of India?**
- Q.3. Briefly explain Talent Identification Model of USA?**
- Q.4. Briefly explain multidimensional model for Talent Identification according to Pakistani system?**



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- 1. What is the main structural difference between synovial and fibrous joint?**
- 2. Describe three (3) ways skeletal muscle differs from smooth muscle in terms of its structure.**
- 3. Why does pancreas secrete some enzymes in their inactive forms and where are these enzymes activated?**
- 4. What is pacemaker of heart? Describe its function.**
- 5. What are the main differences between the sympathetic and parasympathetic nervous system?**
- 6. Differentiate between gross anatomy and microscopic anatomy.**

Answer the following questions.

Q2. (a) How does parasympathetic nervous system affect the body? (5+5)

(b) Describe muscle hypertrophy and muscle atrophy.

Q3. (a) What is the role of pancreas in digestion? (5+5)

(b) Compare the pulmonary and systemic circulation.

Q4. What is bone? Describe the types of bones with examples. (10)



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Human Resource Management

Course Code: HR-211

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(15x2=30)

- i. What is organizational change?
- ii. What are the factors influencing the environment of HRM?
- iii. What are different types of rewards?
- iv. Describe different theories of motivation?
- v. Explain job-requirements matrix?
- vi. Describe contemporary OD approaches?
- vii. Provide a very brief history of HRM?
- viii. What is meant by changing the corporate culture?
- ix. What is the external environment in the context of HRM?
- x. Describe training need assessment?
- xi. What is the human resource planning process?
- xii. What is team building?
- xiii. Describe employee relations and security?
- xiv. Explain occupational health problems and issues?
- xv. Describe the HR response to cope with challenges?

Q.2. Answer the following questions.

(3x10=30)

- i. Write a detailed note on global and indigenous perspectives on safe and healthy environment?
- ii. Write a comprehensive note on compensation policies?
- iii. Elaborate HRM practices for the future?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Introduction to International Relations

Course Code: IR-111

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answers the following short questions:

(6x5=30)

- 1. Explain the evolution of modern state system**
- 2. Write down the Diplomacy after 9/11**
- 3. Discuss National Interest and its elements**
- 4. Explain the evolution of Sovereignty**
- 5. Elaborate theory of Liberalism**
- 6. Explain the concept Nationalism in international relations**

Q.2. Answers the following questions.

(3x10=30)

- 1. Define International Relations. Discuss the significance of international relations.**
- 2. Write a brief note on the concept of “Power” explaining the difference between tangible and intangible elements.**
- 3. Define Foreign Policy. What are main determinants of foreign policy?**



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1: مندرجہ ذیل سوالات کے جواب بالکل مختصر طور پر دیجئے۔

- (الف) اللہ تعالیٰ نے سورۃ احزاب میں ازواج مطہرات کو کیا ہدایات فرمائیں۔
- (ب) سورۃ حجرات کی روشنی میں نبی کریم ﷺ کے آداب و احترام لکھیں؟
- (ج) حدیث کی روشنی میں رسول ﷺ نے کن چار چیزوں سے بپناہ مانگی؟
- (د) السبع الموبقات سے کیا مراد ہے اور السبع الموبقات کے نام لکھیں؟
- (ه) خطبہ حجۃ الوداع کے پانچ اہم نکات لکھیں۔
- (و) رسول اللہ ﷺ کی ازواج مطہرات میں سے پانچ کے نام لکھیں؟

(3x10=30)

مندرجہ ذیل سوالات کے جواب پر دیجئے۔

(6+4=10)

سوال نمبر 2: درج ذیل آیت مبارکہ کا ترجمہ اور تشریح کیجئے۔

لَقَدْ كَانَ لَكُمْ فِي رَسُولِ اللَّهِ أُسْوَةٌ حَسَنَةٌ لِّمَن كَانَ يَرْجُو اللَّهَ وَالْيَوْمَ الْآخِرَ وَذَكَرَ اللَّهَ كَثِيرًا ۖ وَرَأَاهُ فِي الْآخِرَةِ ۚ

سوال نمبر 3: صلح حدیبیہ کی شرائط اور اس کی اہمیت پر مفصل نوٹ لکھیں؟

سوال نمبر 4: مغربی تہذیب کے مسلمانوں پر اخلاقی اثرات پر موضوع پر نوٹ لکھیں۔

ETHICS (For Non-Muslim Candidates)

(3x20=60)

نوٹ: مندرجہ ذیل سوالات کے جواب تحریر کیجئے۔

- سوال نمبر 1: حضرت محمد ﷺ کی اخلاقی تعلیمات پر کوئی سی دس احادیث کا ترجمہ لکھیں؟
- سوال نمبر 2: یہودیت اور عیسائیت کا تفصیلی تعارف پیش کریں۔
- سوال نمبر 3: سچائی کے مختلف نظریات کی تفصیل سے وضاحت کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Contemporary Muslim World

Course Code: ISE-201

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات دیں۔

- 1- عالم اسلام کو درپیش معاشی چیلنجز تحریر کریں۔
- 2- او آئی سی (OIC) کے اغراض و مقاصد بیان کریں۔
- 3- افغانستان میں قیام امن کے لئے پاکستان کے کردار کو واضح کریں۔
- 4- عالم اسلام کے اتحاد میں چار رکاوٹوں کا جائزہ لیجئے۔
- 5- رابطہ عالم اسلامی پر نوٹ لکھئے۔
- 6- اسرائیل کے فلسطین پر حملے کی وجوہات بیان کریں۔

1. Write down the economics challenges of Muslim World.
2. Describe the objectives and purposes of OIC.
3. Explain the role of Pakistan establishing peace in Afghanistan.
4. Describe the four hurdles for the unity of Muslim world.
5. Write a note on Rabta Alim-e-Islami.
6. Write the reasons behind Israel attacked on Palestine.

Q.2. Answer the following questions.

(3x10=30)

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

- 1- عالم اسلام کے اتحاد کے لئے تجاویز پیش کریں۔
- 2- عالم اسلام میں دہشت گردی کی وجوہات کیا ہیں؟ دہشت گردی کا خاتمہ کیسے ممکن ہے؟
- 3- عالم اسلام پر جہادی تحریکوں کے اثرات کیا مرتب ہوئے ہیں؟

1. Give the suggestions for unity of Muslim world.
2. Describe the causes of terrorism in Muslim world and how it can be eradicated?
3. What are the impacts of Jihadi movements on Muslim world?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات دیں۔

- i. روزہ کی قضاء کیا ہے اور یہ کیوں ہوتی ہے؟
- ii. صدقۃ الفطر کتنا ہے اور کیوں دیا جاتا ہے؟
- iii. حج کس پر فرض ہے نیز اس کے ارکان (فرائض) کون سے ہیں؟
- iv. وطن اصلی اور وطن اقامت کسے کہتے ہیں؟
- v. موزوں پر مسح کی شرائط کیا ہیں؟
- vi. عشر کیا ہے، اس کی اقسام کون سی ہیں؟

(3x10=30)

درج ذیل سوالات کے تفصیلی جوابات دیں۔

سوال نمبر 2۔ درج ذیل آیت مبارکہ کا ترجمہ اور تشریح بیان کریں۔

والصوم هو: الإمساك عن الأكل والشرب والجِماعِ نهاراً مع النية فإن أكل الصائم أو شرب أو جامع ناسياً لم يفطر وإن نام فاحتلم أو نظر إلى امرأة فأنزل أو أدهن أو احتجم أو اكتحل أو قبل لم يفطره فإن أنزل بقبلة أو لبس فعليه القضاء۔

سوال نمبر 3۔ تیمم کی مشروعیت، فرائض اور احکام تفصیل سے بیان کریں۔

سوال نمبر 4۔ زکوٰۃ کے مصارف سے کیا مراد ہے، ان کو تفصیل سے بیان کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(10x3=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات لکھیں۔

- ۱۔ خلافت راشدہ کے لغوی و اصطلاحی معانی بیان کیجیے۔
- ۲۔ حضرت عمر فاروق رضی اللہ عنہ کی اصابتِ رائے کے دو واقعات لکھیے۔
- ۳۔ اموی خلیفہ ولید بن عبد الملک کے مشہور فاتح سپہ سالاروں کے نام لکھیے۔
- ۴۔ خوارج فرقہ کے عقائد مختصراً بیان کیجیے۔
- ۵۔ سقوطِ بغداد کے پانچ اسباب بیان کیجیے۔
- ۶۔ عباسی عہد میں جمع و تدوین حدیث پر مختصر نوٹ لکھیے۔
- ۷۔ کوئی سے دو خلفائے راشدین کی مدتِ خلافت الگ الگ بیان کریں۔
- ۸۔ سیدنا عمر فاروق کے عہد میں فتح ہونے والے شہروں میں سے تین کے نام لکھیے۔
- ۹۔ فرقہ اسماعیلیہ کے تین عقائد تحریر کیجیے۔
- ۱۰۔ سن ہجری کے آغاز کے بارے میں آپ کیا جانتے ہیں؟ مختصراً لکھیے۔

(3x10=30)

درج ذیل سوالات کے تفصیلاً جوابات تحریر کریں۔

- سوال نمبر ۲: حضرت عمر فاروق رضی اللہ عنہ کے عہد کی انتظامی اصلاحات پر نوٹ لکھیے۔
- سوال نمبر ۳: حضرت عثمان بن عفان رضی اللہ عنہ کی شہادت کے اسباب بیان کیجیے۔
- سوال نمبر ۴: بنو عباس کے سیاسی زوال کے اسباب و نتائج پر تفصیلی مضمون قلمبند کیجیے۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

(i) Solve the initial value problem: $(1 + 2y^2)dy = y \cos x \, dx$ $y(0) = 1$

(ii) Solve: $\frac{dy}{dx} + y = xy^3$

(iii) Solve the initial value problem

$$(2x \cos y + 3x^2 y)dx + (x^3 - x^2 \sin y - y)dy = 0, \quad y(0) = 2$$

(iv) Find the general solution: $(D^2 + 4)y = 4 \sin^2 x$

(v) Solve the general solution by Wronskian method: $\frac{d^2 y}{dx^2} - 4 \frac{dy}{dx} + 4y = \frac{e^{2x}}{1+x}$

(vi) Compute: $\mathcal{L}^{-1} \left\{ \frac{1}{(s-1)(s^2+4)} \right\}$

Solve the following:

(3x10=30)

Q.2. Solve and find the singular solution if any, $p^2(x^2 - a^2) - 2pxy + y^2 - b^2 = 0$

Q.3. Apply the power series method to solve $(1 - x^2)y' = y$

Q.4. Use the laplace transformation method to solve the initial value problem

$$\frac{d^2 y}{dt^2} - 2 \frac{dy}{dt} = 20e^{-t} \cos t \quad y(0) = 0, \quad y'(0) = 0$$



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(5x6=30)

- Find the angle of intersection of the parabolas $y^2 = 4ax$ and $x^2 = 4ay$ at the point other than $(0, 0)$.
- Write an equation of the right cylinder with radius 2 and centre at $(3, 0, 5)$.
- Determine nature of the singular point $(0, 0)$ of $a^2(x^2 - y^2) = x^2y^2$.
- Find the asymptotes of the curve $r = a \tan \theta$.
- Find equation of tangent and normal at $\theta = \frac{\pi}{2}$ to the cycloid $x = a(\theta - \sin \theta)$, $y = a(1 - \cos \theta)$.

Solve the following:

(3x10=30)

Q.2

- Find the centre of curvature of hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.
- Find the length of arc of the parabola $y^2 = 4ax$ cut off by the straight line $3y = 8x$.

Q.3

- Express the equation $3y^2 - 16y - x^2 + 16 = 0$ in polar form and find eccentricity and equation of directrix.
- Find the points at which curve $r = 1 + \cos \theta$ have horizontal and vertical tangents.

Q.4

- Find an equation of the plane which is perpendicular bisector of the line segment joining the points $(3, 4, -1)$ and $(5, 2, 7)$.
- Prove that $x^2 + y^2 + z^2 - 4x + 2y - 6z - 11 = 0$ represent sphere. Find radius and centre of the sphere.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

1. Show that every square matrix A with entries from set of complex numbers can be written as a Hermitian matrix $B = \frac{1}{2}(A + (\bar{A})^t)$ and as a skew Hermitian matrix $D = \frac{1}{2}(A - (\bar{A})^t)$.

2. Show that for non-singular matrices A and B , $(AB)^{-1} = B^{-1}A^{-1}$.

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

4. Find the rank of the matrices $\begin{bmatrix} -3 & 5 & 1 & 2 \\ 7 & 2 & 0 & 4 \\ -8 & 3 & 1 & 6 \end{bmatrix}$.

5. Is $T: M_{22} \rightarrow \mathbb{R}$ defined by $T\left(\begin{bmatrix} a & b \\ c & d \end{bmatrix}\right) = a + d$ a linear transformation.

6. If V is vector space of field F , then show that $(-a)v = a(-v) = -av$. $\forall a \in F$ and $v \in V$.

Q.2. Solve the following:

(3x10=30)

1 Find the inverse of the matrix $\begin{bmatrix} 2 & 1 & -1 \\ 0 & 2 & 1 \\ 5 & 2 & -3 \end{bmatrix}$ if possible.

2 Show that the system is

$$2x_1 - x_2 + 3x_3 = a$$

$$3x_1 + x_2 - 5x_3 = b$$

$$5x_1 - 5x_2 + 21x_3 = c$$

is inconsistent if $c \neq 2a - 3b$.

3. Prove that the set $V = \{f: \mathbb{R} \rightarrow \mathbb{R} \mid f \text{ is a function}\}$ is vector space over field \mathbb{R} under addition defined as $(f + g)(x) = f(x) + g(x) \forall f, g \in V$ and scalar multiplication $(\alpha f)(x) = \alpha f(x), \forall \alpha \in \mathbb{R}$ and $x \in \mathbb{R}$.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(5x6=30)

- (i) Show that the matrix $\begin{pmatrix} 1 & -3 & -4 \\ -1 & 3 & 4 \\ 1 & -3 & -4 \end{pmatrix}$ is nilpotent. What is its nilpotency index?
- (ii) Let A and B are distinct $n \times n$ matrices with real entries. If $AB^2 = BA^2$ and $A^3 = B^3$, then show that $A^2 + B^2$ is not invertible.
- (iii) Without expanding show that $\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & k \end{vmatrix} = \begin{vmatrix} e & b & h \\ d & a & g \\ f & c & k \end{vmatrix}$
- (iv) For what value of k will the vector $(1, -2, k)$ in R^3 be a linear combination of the vectors $(3, 0, -2)$ and $(2, -1, -5)$.
- (v) Show that the vectors $(1 - i, i)$ and $(2, -1 + i)$ in C^2 are linearly dependent over C but linearly independent over R .

Q.2. Solve the following:

(5x6=30)

- (a) Find the inverse of the matrix $\begin{pmatrix} 3 & 2 & 2 \\ 2 & 2 & 0 \\ 2 & 0 & 4 \end{pmatrix}$
- (b) Solve the following system of linear equations by Gauss-Jordan elimination method.

$$5x_1 + 5x_2 - x_3 = 0$$

$$10x_1 + 5x_2 + 2x_3 = 0$$

$$5x_1 + 15x_2 - 9x_3 = 0$$

- (c) Find the eigenvalues of the matrix $\begin{pmatrix} 1 & -3 & 11 \\ 2 & -6 & 16 \\ 1 & -3 & 7 \end{pmatrix}$
- (d) Determine whether or not the given set of vectors is a basis for R^3 $\{(1, 2, -1), (0, 3, 1), (1, -5, 3)\}$.
- (e) Show that the transformation $T: R^2 \rightarrow R^3$ defined by $T(x_1, x_2) = (x_1 + 1, 2x_2, x_1 + x_2)$ is not linear.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(5x6=30)

(i)	Define Ratio Test for infinite series Apply it to the series $\sum_1^\infty \frac{(n!)^2}{(n^2)!}$ for convergence or divergence.
(ii)	Evaluate $\lim_{(x,y) \rightarrow (0,0)} \frac{x^2 - y^2}{x^2 + y^2}$ if $(x, y) \neq (0, 0)$
(iii)	Let $z = \frac{\cos y}{x}$; $x = u^2 - v$; $y = e^v$, then find the value of $\frac{\partial z}{\partial u}$ & $\frac{\partial z}{\partial v}$
(iv)	Evaluate $\int_2^4 \int_y^{8-y} y \, dx \, dy$
(v)	Find the equation of tangent plane to the surface $x^{2/3} + y^{2/3} + z^{2/3} = 9$ at point $(1, 8, -8)$

Solve the following:

(3x10=30)

Q.No.2	Find the extrema of $f(x, y, z) = xy + z$ subject to constraint $x^2 + y^2 + z^2 = 1$
Q.No.3	If $u = \sin^{-1} \left(\frac{x^2 + y^2}{x + y} \right)$, Show that $x \cdot \frac{\partial u}{\partial x} + y \cdot \frac{\partial u}{\partial y} = \tan u$
Q.No.4	Using Spherical Coordinates, Evaluate the volume of sphere $x^2 + y^2 + z^2 = a^2$



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

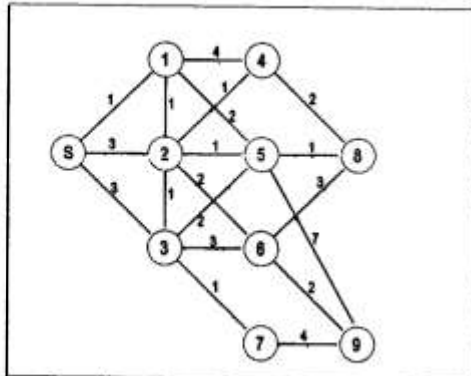
(6x5=30)

- Prove that a simple graph has even number of vertices of odd degree.
- Define adjacency matrix and incidence matrix with examples.
- Define Eulerian graph with example. Also determine for which value of n complete graph K_n is Eulerian?
- Explain edge deletion, vertex deletion and edge contraction.
- State handshaking lemma. Use it to find the size of complete graph.
- Differentiate between spanning subgraph and induced subgraph.

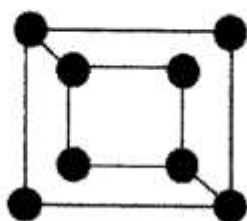
Q.2. Solve the following:

(5x6=30)

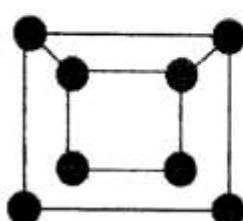
- Find the shortest path from vertex S to every other vertex in the following graph.



- Prove that tree on n vertices has $n-1$ edges.
- If G is a simple graph with at least two vertices then prove that G must contain two or more vertices of the same degree.
- Write a note on Hamiltonian and semi-Hamiltonian graph.
- Determine whether or not the following graphs are isomorphic? If yes then prove it and if not then give the reason.



G1



G2



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

- i) If A = set of alphabets and $B = \{a, h, k, m, y, z\}$, then list the elements of $A^c \cap B^c, A - B^c, B - A^c$. Also illustrate these with Venn diagram.
- ii) Define bijective function. Determine whether or not the function $f(x) = 3x + 5$ is bijective? Justify your answer.
- iii) Solve the quadratic equation $4x^2 + 7x - 1 = 0$.
- iv) If the 3rd term of a GP is 24 and the 6th term is 192, find the 9th term
- v) Use binomial theorem to evaluate $(7.04)^6$
- vi) If $\cos(x) = 5/7$, then find $\sin(x)$ and $\tan(x)$.

Q.2. Solve the following:

(5x6=30)

- i) Find the solution to the given system using Cramer's Rule.

$$\begin{aligned} 2x + y - z &= 4 \\ x - 2y + z &= -2 \\ 3x + y - 2z &= 10. \end{aligned}$$

- ii) Let $A = \begin{bmatrix} 2 & 4 & 3 \\ -9 & 3 & 3 \\ -5 & 4 & 0 \end{bmatrix}$, then evaluate A^2, A^t, A^{-1}

- iii) Use mathematical induction to prove that $1 + 2 + \dots + n = \frac{n(n+1)}{2}$
- iv) Solve the equation $x - 9\sqrt{x} + 14 = 0$
- v) Show that $\cos 2\theta = 1 - 2\sin^2 \theta$.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(5x6=30)

- (i) Solve $\frac{x^2 - 2}{1 - 2x} > 1$.
- (ii) Evaluate $\lim_{x \rightarrow 0} \frac{e^{\frac{1}{x}} - 1}{e^{\frac{1}{x}} + 1}, x < 0$.
- (iii) Differentiate w.r.t x $\lim_{x \rightarrow 2} \frac{1 - \cosh x}{1 + \cosh x} \cdot \frac{dx}{dx}$.
- (iv) Evaluate the integral $\int \frac{dx}{\sqrt{7 - 6x - x^2}}$.
- (v) Discuss the continuity and differentiability of function $f(x) = |x|$ at $x = 0$.

Q.2. Solve the following:

(5x6=30)

- (a) Find the area bounded by the curve $f(x) = x^3 - 2x^2 + 1$ and the x-axis in the 1st quadrant.
- (b) Show that $y = \frac{\ln x}{x}$ has maximum value at $x = e$.
- (c) Differentiate the function $\frac{x^2 + 1}{x^2 - 1}$ w.r.t $\frac{x - 1}{x + 1}$.
- (d) Evaluate the definite integral $\int_{-1}^1 \left(x + \frac{1}{2}\right) \sqrt{x^2 + x + 1} dx$.
- (e) Discuss the continuity of function f at $x = 0$.

$$f(x) = \begin{cases} x \sin \left(\frac{|x|}{x} \right), & \text{if } x \neq 0 \\ 0, & \text{if } x = 0 \end{cases}$$



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

- i) Let $U = \{1,2,3,4,5,6,7,8,9,10\}$, $A = \{2,4,6,8,10\}$, $B = \{1,2,3,4,5\}$. Write $A^c, A \cap B^c, A \cup B$. Use Venn diagrams to verify that $A - B = A \cap B^c, A \cup B = B \cup A$.
- ii) For complex numbers $z = 8 - 9i$, find $z^{-1}, z \times \bar{z}, \frac{z}{\bar{z}}$.
- iii) Find the solution of quadratic equation $5x^2 - 13x + 6 = 0$.
- iv) Write the equation of a line passing through the points (1, 2) and (3, 4).
- v) Let $A = \begin{bmatrix} 2 & 1 & -3 \\ 1 & 1 & 1 \\ -2 & -3 & -5 \end{bmatrix}, B = \begin{bmatrix} 3 & 1 & 3 \\ 2 & 1 & -1 \\ 9 & -7 & -2 \end{bmatrix}$, compute A^2 and $A^t + B^t$.
- vi) A circle has a diameter of 8 cm. Find its radius and calculate the area.

Q.2. Solve the following:

(5x6=30)

- i) Solve the following systems of linear equations by Cramer's rule.
$$\begin{aligned} 2x_1 - x_2 + x_3 &= 5 \\ 4x_1 + 2x_2 + 3x_3 &= 8 \\ 3x_1 - 4x_2 - x_3 &= 3 \end{aligned}$$
- ii) Find the sum of 20th terms of the series whose r^{th} term is $3r+1$.
- iii) Find the four numbers in A.P. whose sum is 32 and the sum of whose squares is 276.
- iv) Find the determinant and inverse of the matrix.
$$\begin{bmatrix} 1 & 2 & -3 \\ 0 & -2 & 0 \\ -2 & -2 & -2 \end{bmatrix}$$
- v) Solve the given system of equations by the addition/elimination method.
$$\begin{aligned} 3x - 2y &= 4 \\ 2x + 5y &= 13 \end{aligned}$$

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED****Q.1. Answer the following short questions. (6x5=30)**

- I. How many distinct permutations can be made from the letters of the word PAKISTAN?
II. A random variable X has probability distribution as follows

X	0	1	2	3
$P(X)$	k	$2k$	$9k$	$3k$

What will be the value of k ?

- III. If 7 cards are dealt from an ordinary deck of 52 playing cards, what is the probability that exactly 2 of them will be face cards?
IV. Calculate median of the scores on an exam: 6, 8, 9, 3, 4, 6, 7, 6, 3?
V. If the standard deviation of a data is 4.5 and if each value of the data is decreased by 5, then, find the new standard deviation?
VI. Two dies are thrown simultaneously. What is the probability that the sum of the numbers obtained is found to be 9?

Q.2. Answer the following questions: (3x10=30)

- I. To avoid detection at customs, a traveler places 6 narcotic tablets in a bottle containing 9 vitamin pills that are similar in appearance. If the customs official selects 3 of the tablets at random for analysis, what is the probability that the traveler will be arrested for illegal possession of narcotics?
II. In class X, 20% of the students are boys and 80% of them are girls. The probability that boys passed in mathematics is 0.5 and the probability that girls passed in mathematics is 0.10. One student is selected at random. What is the probability that the selected student is passed in mathematics?

III. The following table shows the sales and advertisement expenditure of a firm

	Sales	Advertisement expenditure (Rs.Crores)
Mean	40	6
SD	10	1.5

Coefficient of correlation $r = 0.9$. Estimate the likely sales for a proposed advertisement expenditure of Rs. 10 crores.



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Introduction to Persian

Course Code: PER-111

Roll No.

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

سوال 1: مندرجہ ذیل اقتباسات میں سے صرف تین کا اردو ترجمہ کیجیے۔ (15)

- (الف) شنیدم کہ ہم در آن روز بر دشمن ظفر یافتند، ملک سر و چشمش ببوسید، و در کنار گرفت، و هر روز نظر بیش کرد، تا ولیعهد خویش کرد.
- (ب) ملک پرسید کہ موجب خصمی اینان در حق تو چیست؟ گفت: در سایه دولت خداوندی دام ملکہ، همگنان را راضی کردم، مگر حسود را، کہ راضی نمی شود.
- (ج) بفرمود تا غلام بہ دریا انداختند. باری چند غوطہ خورد، مویش گرفتند، و پیش کشتی آوردند. بہ دو دست در سکان کشتی آویخت. چون بر آمد بہ گوشہ ای بنشست، و قرار یافت. ملک را عجب آمد.
- (د) سپاہ و رعیت آن طرف بہ جملگی مطیع فرمان گشتند. ملک نفسی سرد بر آورد، و گفت: این مژدہ مرا نیست، دشمنانم راست، یعنی وارثان مملکت.
- (ه) یکی از وزرای ناصح گفت: ای خداوند! مصلحت آن بینم کہ چنین کسان را وجہ کفاف بہ تفاریق مجری دارند، تا در نفقہ اسراف نکنند.

سوال 2: مندرجہ ذیل اقتباسات میں سے صرف تین کا اردو ترجمہ و تشریح کیجیے۔ (15)

- (الف) دیدہ معنی گشتا ای ز غیان بیخیر
لالہ کمر در کمر
نیمہ آتش بہ بر
می چکدش بر جگر
شبم اشک سحر
- (ب) موز جہان و سفتہ گوش می نگریم و می رویم
تو بہ طلسم چون و چند
عقل تو در گشتاد و بند
مئل غزالہ در کمند
زار و زبون و درد مند
- (ج) تیزترک گام زن منزل ما دور نیست
در تپش آفتاب
غوطہ زنی در سراب
ہم بہ شب ماہتاب
تند روی چون شہاب
- (د) واماندہ شعاعی کہ گرہ خورد و شرر شد
دارای نظر شد
از سوز حیات است کہ کارش ہمہ زر شد
- (ه) جہان را ز یک آب و گل آفریدم
من از خاک پولاد ناب آفریدم
تو ایران و تاتار و زنگ آفریدی
تو شمشیر و تیر و تفنگ آفریدی

سوال 3: سعدی شیرازی کا بطور معلم اخلاق تعارف کر دے۔ (15)

سوال 4: علامہ اقبال کی پیام مشرق پر اظہار رائے کیجیے۔ (15)



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. Define Euthanasia?
- ii. What is the main doctrine of Teleological Argument for the Existence of God?
- iii. Define the main divisions of philosophy.
- iv. Elaborate “significant form” theory of art?
- v. Define Idealism.
- vi. What is the notion of phenomenalism?

Q.2. Answer the following questions: (3x10=30)

- i. What is Philosophy? Discuss in detail the nature and scope of philosophy.
- ii. Critically examine the Teleological and the Ontological argument for the existence of God
- iii. Define Equality. How political philosophy addresses the issue of equal distribution of money among the society?



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to Philosophy (Rev)

Course Code: PHIL-211-A

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- a. Define Naturalism.
- b. What is the main doctrine of Kant's Universal Morality?
- c. Define the main divisions and value of Philosophy.
- d. What is Direct and Representative Democracy?
- e. Define the main points of Idealist theory of Art.
- f. Elaborate the criticism of Mill on freedom of speech.

Q.2. Answer the following questions:

(3x10=30)

1. What is Knowledge? What is the difference between Rationalism and Empiricism?
2. What is Philosophy of Art? Critically analyze significant theory of art.
3. Define Virtue ethics. What are the advantages of Virtue ethics? Elaborate.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

1. Is the electric force that one charge exerts on another charge changed if other charges are brought nearby?
2. Why can isolated atom not have a permanent electric dipole moments?
3. If a metallic object receives positive charge by losing electrons, does its mass remain same? What happens to mass if object receives negative charge?
4. Is there a net force on an electric dipole placed in a uniform electric field?
5. Define briefly the Gauss's law.
6. Can two different equipotential surfaces intersect?
7. How will the capacitance of parallel plate capacitor change if the free space between its plates is replaced by a dielectric medium?
8. State Lenz's law.
9. What is current density?
10. What is the physical significance of Poynting vector?
11. Do pure semi-conductors obey Ohm's law?
12. What are electromagnetic waves?
13. How do you distinguish between ϵ_0 & μ_0 ? How are they related with velocity of electromagnetic waves in free space?
14. What do you understand by doping?
15. Differentiate between self-induction and mutual induction?

Q.2. Answer the following questions.

(3x10=30)

1.
 - a.) Find and discuss an expression of electric field due to an electric dipole?
 - b.) State the two Kirchhoff's rules (7+3)
2.
 - a.) State Biot-Savart law in vector form use this law to find magnetic field due to an infinite straight wire carrying current.
 - b.) Derive equation for growth of electric current in a circuit with resistance and inductance. What is meant by time constant of circuit? (5+5)
3.
 - a.) Derive Maxwell's equations using basic Principles of electromagnetism.
 - b.) Explain displacement current between plates of a parallel plate capacitor is: (5+5)

$$id = \epsilon_0 \frac{d\phi_e}{dt}$$



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(15x2=30)

- (i)- In the median plane of an electric dipole, is the electric field parallel or anti-parallel to the electric dipole moment?
- (ii)- How many electrons will be produced by charge of 1C?
- (iii)- An electron is accelerated eastward at $1.84 \times 10^9 \text{ m/s}^2$ by an electric field. Find magnitude of electric field.
- (iv)- A charge q is inside a closed Gaussian surface; a second charge Q is just outside the surface. Does electric flux through surface depend on both charges?
- (v)- For a given potential difference does a capacitor can store more or less charge with a dielectric than it does without a dielectric?
- (vi)- What happens when a non-polar molecule is placed in an electric field?
- (vii)- In the return stroke of a typical lightning bolt, a current of $2.5 \times 10^4 \text{ C/s}$ flows over $20 \mu\text{s}$. How much charge is transferred in this event?
- (viii)- Is energy of a charged particle conserved in magnetic field? How can direction of magnetic force on charge particle be determined?
- (ix)- Is there any way to set up a magnetic field other than by causing charges to move?
- (x)- An electron moving along x -axis is acted upon by a magnetic field along y -axis. What is direction of force on it?
- (xi)- Why ferromagnetism is found in solids only and not in fluid (liquid and gas)?
- (xii)- Can a charged particle at rest be set in motion by the action of the magnetic field? If not, why not? If so, how?
- (xiii)- Do all current-carrying conductors emit electromagnetic waves? If yes, ok. If not explain.
- (xiv)- Do pure semiconductors obey Ohm's law?
- (xv)- Which is greater, the barrier potential or breakdown voltage?

Q.2. Answer the following questions.

(3x10=30)

- (i)- What is linear charge density? Derive an expression for electric field due to an infinitely long uniformly charged straight wire using Coulomb's law.
- (ii)- Derive equation for growth of electric current in a circuit with resistance and inductance. What is meant by time constant of circuit?
- (iii)- An alternating $emf \mathcal{E}_m \sin \omega t$ is applied to ends of a circuit containing resistance R , self inductance L and capacitor C in series. Calculate impedance of circuit, phase angle and current through circuit at any instant quantitatively.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(15x2=30)

- Define black body and explain why classical theory could not explain the spectral distribution of energy emitted by a black body at a certain temperature?
- What is ultraviolet catastrophe? Explain it briefly.
- Find the shortest wavelength (in Angstrom) present in the Balmer series of hydrogen spectrum.
- Calculate the longest wavelength (in Angstrom) for Brackett series of hydrogen spectrum.
- X-rays of wavelength 10.0 pm are scattered from target. Find the wavelength of x-rays scattered at 45° . What will be the maximum wavelength of scattered x-rays?
- Characteristic x-rays of frequency 4.2×10^{18} Hz are produced when transitions from L shell to K-shell take place in a certain target material. Determine the energy of emitted x-ray beam.
- State Heisenberg uncertainty principle? Write and explain (i) position and momentum (ii) energy and time uncertainty relationships.
- For a particle restricted to move in one dimension (from $x = 0$ to $x = L$), calculate the probability of finding a particle if its wave function $\psi = \sqrt{\frac{2}{L}} \sin\left(\frac{\pi x}{L}\right)$.
- Write operators for (i) position (ii) energy and (iii) momentum in standard notation.
- What is Zeeman effect? Explain it briefly.
- State Pauli Exclusion Principle. Also, write acceptable values of each quantum number.
- Explain the origin of the emission of characteristic X-rays with the help of diagram. From k_α and k_β lines which one is of high intensity?
- Write down time-independent Schrodinger wave equation in one dimension and in three dimension.
- An eigenfunction of an operator $\frac{d^2}{dx^2}$ is $\psi = e^{ax}$. Find the corresponding eigenvalue.
- What is meant by linearity and superposition in quantum mechanics? Explain it briefly.

Q.2. Answer the following questions.

- What is photoelectric effect? Draw a labelled circuit diagram which demonstrates the photoelectric effect. Explain how the intensity and frequency of incident light effect the stopping potential. **(2+2+6)**
- State de-Broglie hypothesis. With the help of diagram, explain in detail how Davisson and Germer experiment confirms the concept of wave-particle duality. **(2+8)**
- For an electron of mass m trapped in one dimensional box of infinite hard walls (at $x = 0$ and at $x = L$), solve time-independent Schrodinger wave equation to find wave function and energy of an electron. **(10)**



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Write down scope of political science.
2. How unitary form of state is different from federation?
3. What is nation, discuss?
4. What role does executive play?
5. Describe three functions of Parliamentary form of Government.
6. What is difference between power and authority?

Q.2. Answer the following questions.

(3x10=30)

1. Discuss in detail the Authoritarian form of Government.
2. Briefly discuss the traditional approach to the study of political science.
3. Define Power, and discuss major elements of state power.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

سوال نمبر 1: مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

- Explain the kinds and importance of the constitution.
- Define Parliamentary System.
- Discuss the Doctrine of Ministerial Responsibility.
- "The king can do no wrong". Discuss the statement
- Discuss the formation of the House of Lords.
- What is meant by the Political Party?

- آئین کی نوعیت اور اہمیت بیان کریں۔
- پارلیمانی نظام کی تعریف کریں۔
- وزارتی ذمہ داری کے نظریے پر بحث کریں۔
- "بادشاہ کوئی غلط کام نہیں کر سکتا"۔ بیان پر بحث کریں۔
- ہاؤس آف لارڈز کی تشکیل پر تبادلہ خیال کریں۔
- سیاسی جماعت سے کیا مراد ہے؟

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر 2: مندرجہ ذیل سوالات کے جوابات تحریر کریں۔

- Elaborate the theory of the Separation of Powers, and critically analyze concept of Separation of Powers with system of Checks and Balances in US Constitution.
- The British Prime Minister is considered the most powerful person in UK. Are there any checks on his powers? Explain
- Make a comparison between the role of political parties in USA and UK.

- اختیارات کی علیحدگی کے نظریہ کی وضاحت کریں، اور امریکی آئین میں چیک اور بیلنس کے نظام کے ساتھ اختیارات کی علیحدگی کے تصور کا تنقیدی تجزیہ کریں۔
- برطانوی وزیر اعظم کو برطانیہ کا سب سے طاقتور شخص سمجھا جاتا ہے۔ کیا اس کے اختیارات پر کوئی چیک ہے؟ وضاحت کریں۔
- USA اور UK میں سیاسی جماعتوں کے کردار کا موازنہ کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- 1. Make a difference between democracy and dictatorship.**
- 2. What is meant by the Government?**
- 3. Write down the meaning of Political Science.**
- 4. Explain the external aspect of sovereignty.**
- 5. Point out the basic elements of nationality.**
- 6. What is Political Socialization?**

Q.2. Answer the following questions. (3x10=30)

- 1. Comment on the importance of public opinion in democratic state.**
- 2. Discuss the effects of electronic media in Pakistan.**
- 3. Write a note on the concept of democracy.**



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- A. Write down the characteristics of an essay.
- B. How can reading be helpful in developing writing style?
- C. What are the different types of progress report?
- D. How can stage fright be overcome?
- E. What is the importance of 'Practice' in presentation skills?
- F. Discuss briefly the Memorization method of presentation.

Q.2. Answer the following questions.

(3x10=30)

- 1. Write a detailed note on the importance of 'Literature review' in a search paper.
- 2. What is the method of delivering effective presentation?
- 3. Write an essay on any one of the following topics:
 - A. My college library
 - B. Economic inequality



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- Explain the use of BIOS and cache memory in a computer system.
- Differentiate between Scanner and Printer.
- What is a computer network, and what are the advantages of using a computer network?
- Compare and differentiate between application software and system software.
- Discuss the working of Internet and TCP/IP.
- What is Artificial Intelligence (AI), virtual reality, and machine learning?

Q.2. Answer the following questions.

(3x10=30)

Question#2:

A computer system consists of processing unit, memory unit and I/O unit. Briefly discuss the basic units of the computer system and their interaction with each other.

Question#3:

What is data and what's the difference between data and information? Discuss the reasons, opportunities and challenges of the huge amount of data being generated these days. Explain the techniques and technologies used for data processing.

Question#4:

- Illustrate page break, section break, subscript, superscript, and strikethrough effects in Microsoft Word with the help of an example each. (6)
- Write the shortcut keys of following functions in MS Office: (4)
 - To select all the text in the document
 - To copy a text
 - To redo an operation
 - To undo an operation
 - To underline the selected text
 - To center-align the selected text
 - To save the document
 - To print a document



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Political Systems (Developed) US & UK

Course Code: PS-202

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions:

(6x5=30)

I. What was the role of the USA in Vietnam war?

II. What do you mean by cold war?

III. Explain the NATO?

IV. Iran Nuclear Deal and USA

V. Explain the Suez canal crisis 1956.

VI. British policy during cold war.

Q.2. Answer the following questions.

(3x10=30)

I. Write down the Non Alignment Movement.

II. Write a comprehensive note on USA's foreign policy towards South Asia in post September 11 era?

III. Analyze the foreign policy of UK in a shifting world order?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. How does philosophy differ from other disciplines?
2. How does the cosmological argument explain the existence of God?
3. What is the relationship between faith and reason in philosophical discourse?
4. What is the distinction between positive and negative freedom?
5. What is one major critique of emotivism?
6. Define phenomenalism and its view on the existence of objects.
7. What is the main challenge posed by the problem of induction?
8. How does dualism explain the relationship between mind and body?
9. What role does observable behavior play in behaviorism?
10. What is the central idea of the Significant Form Theory?

Q.2. Answer the following questions.

(3x10=30)

1. Examine how the theories of realism and idealism address the nature of the external world and human perception.
2. Provide an overview of moral philosophy and discuss how these major theories contribute to our understanding of ethics.
3. Compare and contrast the scientific method, induction, and falsificationism in the philosophy of science.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

1. Explain the difference between gender studies and women's Studies and also explain the five multi-disciplinary nature of gender studies?
2. What is gender discrimination and gender sensitization? Explain it with examples?
3. Discuss Sex Disaggregated data and gender mainstreaming with examples?
4. Elaborate precisely gender equality and gender equity?
5. Explain the process of gender mainstreaming?

Q.2. Answer the following questions.

(2x15=30)

1. What is the origin of Matriarchy and Patriarchy in society? Elaborate how Pakistani cultural influenced by patriarchy and also discuss the gender issues arising due to patriarchal system in Pakistan?
2. Explain the strategies of gender mainstreaming for successful implementation in an organization?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(5x6=30)

- a) Environmentalism
- b) Greening Singapore
- c) Sustainability and Environmental Future
- d) Science State and Environment
- e) Social Construction of Environmental Problems

Q.2. Answer the following questions.

(2x15=30)

- a) What is Environmental Sociology? Write a detailed note on the major theories of Environmental Sociology.
- b) Write a detailed note on Global Climate Politics and Environmental Justice.



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

PAPER: Pakistan Studies

Course Code: PST-111

Time: 3 Hrs. Marks: 60

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.1. Write short note on the following:

(5x6=30)

سوال نمبر 1: درج ذیل سوالات کے مختصر جوابات تحریر کریں۔

I. Two Nation Theory

I۔ دو قومی نظریہ

II. Allama Iqbal

II۔ علامہ اقبال

III. Pirpur Report

III۔ پیر پور رپورٹ

IV. Legal Framework Order

V۔ لیگل فریم ورک آرڈر

V. 8th Constitutional Amendment

V۔ آٹھویں آئینی ترمیم

Q.2. Answer the following questions:

(2x15=30)

سوال نمبر 2: درج ذیل سوالات کے مفصل جوابات تحریر کریں۔

1. Explain the services of Sir Syed Ahmad Khan.

1. سر سید احمد خان کی خدمات بیان کریں۔

2. Analyze Pakistan's relations with Afghanistan.

2. پاکستان کے افغانستان کے ساتھ تعلقات کا تنقیدی جائزہ لیں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short notes on the following.

(6x5=30)

- I. Cultural Relativism – its Benefits and Problems**
- II. Prescriptive and Proscriptive Norms**
- III. Ideal and Real Culture**
- IV. Cooperation and Competition as Social Processes**
- V. Two definitions of Sociology**
- VI. Mores and Folkways**

Q.2. Answer the following questions.

(3x10=30)

- 1. Write a note on Nature and Basis of Social Interaction.**
- 2. Define Social Group. Write a note on types of social groups.**
- 3. Write a detailed note on Socialization as a process.**



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Pakistani Society and Culture

Course Code: SOC-201

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

Q.1. Answer the following short questions.

(6x5=30)

سوال نمبر 1: مندرجہ ذیل سوالات کے مختصر جوابات تحریر کیجئے۔

i. Define culture diversity.

i. ثقافتی تنوع کی وضاحت کریں۔

ii. What is society and culture?

ii. معاشرہ اور ثقافت کیا ہے۔

iii. Define the Pakistani Culture of Sindh Province.

iii. صوبہ سندھ کی پاکستانی ثقافت کی وضاحت۔

iv. Define Education and Economy.

iv. تعلیم اور معیشت کی تعریف کریں۔

v. Define the Major Occupation of Pakistan.

v. پاکستان کے اہم پیشے کون سے ہیں۔

vi. Explain the Urban and Rural Society.

vi. شہری اور دیہی سوسائٹی کی وضاحت کریں۔

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر 2: درج ذیل سوالات کے جوابات تحریر کیجئے۔

i. Write a detailed note on role of education in Pakistani society development.

i. پاکستانی معاشرے میں تعلیم کے کردار پر ایک تفصیلی نوٹ لکھیں۔

ii. Briefly explain the Major Social problems in the Context of Pakistani Culture.

ii. پاکستانی ثقافت کے تناظر میں اہم سماجی مسائل کی مختصر وضاحت کریں۔

iii. Explain the role of Conflict in Social Development.

iii. سماجی ترقی میں تنازعات کے کردار کی وضاحت کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

- I. How French revolution contributed to the development of social theory?
- II. What is a relationship between propositions and laws?
- III. Differentiate between micro, meso and macro theories?
- IV. Differentiate between social static and social dynamic?
- V. Briefly explain in-group as proposed by Sumner?
- VI. What are the ideal characteristics of bureaucracy?

Q.2. Answer the following questions.

(3x10=30)

- I. Explain socialism as proposed by Karl Marx?
- II. Explain positivism by August Comte?
- III. Explain division of labor by Emile Durkheim?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. What are advantages of performance appraisal?
2. What is leadership?
3. What is HRD?
4. What is decision making?
5. What is career planning?
6. Define and explain organizational behavior

Q.2. Answer the following questions.

(3x10=30)

1. What is system approach to organization, Discuss in detail
2. Write a note on organization processes
3. What are general problems in organization of Pakistan



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Introduction to Sociology

Course Code: SOC-211

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(6x5=30)

- i. Status Set
- ii. Role Set
- iii. Master Status
- iv. Ascribed and Achieved Status
- v. Schools as agent of Socialization
- vi. Crime as a social problem.

Q.2. Answer the following questions.

(3x10=30)

- i. Define Socialization. Write a note on importance of Socialization?
- ii. Write a note on Social Conflict perspective?
- iii. Define Bureaucracy. Write a note on characteristics of a Bureaucracy?



UNIVERSITY OF THE PUNJAB
B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Human Growth and Personality Development
Course Code: SOCW-202

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short notes on following:

(6x5=30)

- i. Phases of Human growth and development
- ii. Two basic assumptions about Human Behavior
- iii. Nature vs nurture
- iv. Childhood & personality
- v. Neurotic disorders
- vi. Rationalization

Q.2. Answer the following questions.

(2x15=30)

- i. Discuss in detail Principles of Human growth and development.
- ii. Discuss in detail constitutions of Human personality as perceived by Sigmoid Freud.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

- i. Differentiate between sample survey and census.
- ii. What do you know about the term Accuracy?
- iii. Differentiate between random sampling and simple random sampling.
- iv. What do you know about probability sampling?
- v. What is meant by the term CLUSTER?
- vi. Explain the term statistical Estimation.
- vii. Why statistic is variable and a parameter is constant?
- viii. Define the term Unbiasedness.
- ix. Define the term Alternative Hypothesis.
- x. What is meant by Lower Tailed test.
- xi. What is meant by the term confidence Coefficient?
- xii. What do you know about rejection region?
- xiii. Explain the term Power of the Test.
- xiv. What do you know about type-I error?
- xv. Write down any 2 properties of X^2 -Distribution.

Q.2. Answer the following questions. (5x6=30)

- i. If X_1, X_2, X_3 is a random sample from a normal population with mean μ and variance σ^2 and $T_1 = \frac{X_1 + 2X_2 + 3X_3}{6}$ and $T_2 = \bar{X}_2$, are two estimators for μ . Are these two estimators unbiased?
- ii. A population consisting of 500 men has a height distribution with $\sigma = 2.5$. Find the standard error of mean height for random sample of 30 men selected
 - a) With replacement
 - b) without replacement
- iii. A random sample of 500 members of the labour in a certain region showed that 60 are unemployed. Construct 99% confidence interval for the proportion of unemployed in the region.
- iv. Two random samples taken independently from normal populations with identical variances yields the results as:
 $n_1 = 12, \bar{X}_1 = 10, S_1^2 = 1200, n_2 = 20, \bar{X}_2 = 12, S_2^2 = 1000.$
Test the hypothesis that population means are equal at $\alpha = 0.01$.
- v. A random sample of 25 values has a variance of 112.5, test the hypothesis that the population variance (σ^2) is less than 115 at $\alpha = 0.05$.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. Descriptive Statistics
- ii. Histogram
- iii. Standardized Variable
- iv. Probability sampling
- v. Regression
- vi. Level of Significance

Q.2. answer the following questions. (5x6=30)

1. Find Quartiles of the following frequency distribution.

Classes:	34-40	40-45	45-50	50-55	55-60
Frequency:	13	19	36	28	21

2. Calculate Co-efficient of variation of the following data.

58, 49, 76, 80, 47, 72, 61, 59, 77, 48

3. A random variable X is binomially distributed with mean 3 and variance 2 compute $P(X = 7)$.

4. Calculate Co-efficient of correlation between traffic density (X) and accident rate (Y) for the following data.

X:	30	35	40	45	50	60	70
Y:	4	5	6	8	15	24	32

5. A sample of size 50 from a non-normal population yielded $\bar{X}=71$ and $S^2=208$.
Test $H_0: \mu = 73$ against $H_1: \mu \neq 73$, using a 0.01 significance level.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions:

(6x5=30)

1. Briefly define relationship of psychology with philosophy?
2. Write a note on clinical method of psychology?
3. Define dreams as a supernatural phenomenon?
4. Describe Laws of perceptual organization?
5. How would you define artificial intelligence?
6. Define the concept of learning by observation?

Q.2. Answer the following questions:

(3x10=30)

1. Describe different branches of psychology in detail?
2. Define memory? Also describe types of memory in detail?
3. Write a detail note on central nervous system in detail?



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1: مندرجہ ذیل سوالوں کے مختصر جواب دیں۔

- ۱۔ اصطلاحات سازی کی کم از کم پانچ مشکلات پر نوٹ لکھیے۔
- ۲۔ مکالمہ نویسی کے کم از کم پانچ اصول تحریر کیجیے۔
- ۳۔ تلمیح کی تعریف کریں اور تین مثالوں سے واضح کیجیے۔
- ۴۔ ”پنجاب میں اردو“ کے نظریہ پر مختصر نوٹ لکھیے۔
- ۵۔ تشبیہ سے کیا مراد ہے؟ تین اشعار سے مثالیں دیجیے۔
- ۶۔ استعارہ سے کیا مراد ہے؟ تین اشعار سے مثالیں دیجیے۔

(3x10=30)

سوال نمبر 2: مندرجہ ذیل سوالوں کے تفصیلی جواب لکھیں۔

- ۱۔ ترجمہ نویسی کے اصول و ضوابط کی وضاحت کیجیے۔
- ۲۔ اردو زبان کے آغاز و ارتقا پر نوٹ لکھیے۔
- ۳۔ مکالمہ نویسی پر نوٹ لکھیے۔ خاص طور سے اردو کے کسی نامور ناول نگار سے مکالمہ نویسی کی مثال دیجیے۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Functional Urdu

Course Code: URDU-111 A

Roll No.

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1 مندرجہ ذیل سوالوں کے مختصر جواب دیں۔

- (الف): استعارہ کی تعریف کریں اور دو مثالوں سے وضاحت کریں۔
- (ب): تلمیح کی تعریف کریں اور دو مثالیں تحریر کریں۔
- (ج): ضرب المثل کی تعریف بیان کرتے ہوئے دو مثالیں دیں۔
- (د): متضاد الفاظ سے کیا مراد ہے؟ کوئی سے پانچ الفاظ کے متضاد تحریر کریں۔
- (ه): اردو زبان میں حروف علت کتنے اور کون کون سے ہیں؟
- (و): ”گاہ“ کو بطور لاحقہ استعمال کرتے ہوئے کوئی سے دو الفاظ بنائیں۔

(3x10=30)

سوال نمبر ۲ مندرجہ ذیل سوالوں کے تفصیلی جواب لکھیں۔

- (الف): اردو زبان کے آغاز و ارتقاء پر جامع نوٹ تحریر کریں۔
- (ب): انٹرویو کیا ہے؟ ایک اچھا انٹرویو کن خصوصیات کا حامل ہوتا ہے؟
- (ج): انگریزی سے اردو میں ترجمہ نگاری کی روایت کا مختصر حال بیان کریں۔



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Paper: Adabi Istalahaat

Course Code: URDU-202

Time: 3 Hrs.

Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1۔ مندرجہ ذیل سوالوں کے مختصر جواب دیں:

- | | |
|------|---|
| i. | روح عصر سے کیا مراد ہے؟ |
| ii. | جدیدیت کی تعریف کسی ایک نقاد کے حوالے سے بیان کیجئے۔ |
| iii. | اساطیر کسے کہتے ہیں مثالوں سے واضح کیجئے۔ |
| iv. | کلاسیکیت اور نوکلاسیکیت کے خصائص بیان کیجئے۔ |
| v. | فصاحت کے لغوی و اصطلاحی مفہوم پر روشنی ڈالیے۔ |
| vi. | عمینیت پسندی کا تصور کس نے پیش کیا صراحت سے بیان کیجئے۔ |

(3x10=30)

سوال نمبر 2۔ مندرجہ ذیل سوالوں کے تفصیلی جواب تحریر کریں:

- | | |
|------|---|
| i. | مندرجہ ذیل پر مفصل نوٹ تحریر کیجئے: ابہام، تمثالیات، علامتیت۔ |
| ii. | رومانویت، حقیقت نگاری اور جدیدیت کے بارے صراحت سے لکھیے۔ |
| iii. | داخلیت، خارجیت اور زکسیت پر تفصیلی نوٹ لکھیے۔ |



UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Nasri Isnaaf-Taruf o Tafheem-I

Course Code: URDU-203

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر 1۔ درج ذیل سوالات کے مختصر جوابات دیں۔

- 1- داستان کسے کہتے ہیں؟ اختصار سے وضاحت کریں
- 2- زرد کتا کس بات کی علامت ہے؟
- 3- تعلیم بالغاں کا مرکزی خیال اپنے الفاظ میں بیان کیجیے۔
- 4- پر میشرنگھ کی کردار نگاری پر نوٹ لکھیں۔
- 5- امراؤ جان ادا کو کس بنا پر اغوا کیا گیا؟
- 6- کلیم کی اپنے والد نبوح سے اختلاف کی بنیادی وجہ کیا تھی؟

(3x10=30)

سوال نمبر 2۔ درج ذیل سوالات کے تفصیلی جوابات تحریر کریں۔

- 1- باغ و بہار کے نسوانی کرداروں کا تفصیل سے جائزہ لیجیے۔
- 2- چاندنی بیگم کا فکری و فنی جائزہ لیجیے۔
- 3- غلام عباس کے افسانے فینسی ہیر کنگ سیلون کا تنقیدی تجزیہ پیش کریں۔



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

(6x5=30)

سوال نمبر ۱: مندرجہ ذیل سوالات کے مختصر جوابات تحریر کریں۔

- ۱۔ علم بدیع میں حسن تعلیل کسے کہتے؟ دو مثالیں دیں۔
- ۲۔ رعایت لفظی کے مفہوم اور اہمیت پر روشنی ڈالیں۔
- ۳۔ استعارہ تشبیہ سے کن بنیادوں پر مختلف قرار دیا جاتا ہے؟
- ۴۔ کسی بھی زبان میں لاحقے کی کیا اہمیت ہوتی ہے؟
- ۵۔ علم بیان میں کنائے کی اہمیت مثالوں کی روشنی میں بیان کریں۔
- ۶۔ تجاہل عارفانہ اظہار کا ایک سلیقہ ہے۔ اس سے کیا مراد ہے؟

(3x10=30)

سوال نمبر ۲: درج ذیل سوالات کے تفصیلی جوابات تحریر کیجئے۔

- ۱۔ زبان کے ارتقا میں ترجمے کا عمل کیا اہمیت رکھتا ہے۔ ترجمے کے کیا تقاضے ہیں؟
- ۲۔ لفظ اور اصطلاح میں کیسے تمیز کی جائے گی؟
- ۳۔ ایک معیاری مضمون رقم کرنے کے کیا بنیادی تقاضے ہیں؟



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (6x5=30)

- i. Wax and Sphingolipids
- ii. Starch and Cellulose
- iii. Effect of pH on enzyme activity
- iv. Tertiary and Quaternary structure of protein
- v. Food chains and food webs
- vi. Mutation pressure and selection pressure

Answer the following questions. (3x10=30)

- | |
|--|
| <p>Q.2 Define population. Discuss growth and growth curve in detail.</p> <p>Q.3 What is meant by carbohydrate? Discuss types, structure and function of disaccharides in detail.</p> <p>Q.4 Write about evidences of evolution.</p> |
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UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Fall 2024

Roll No.

Paper: Animal Form & Function-I

Course Code: ZOOL-201 A

Time: 3 Hrs. Marks: 60

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short answers to the following questions: (6x5=30)

1. Write a detailed comparison between sensory, motor and interneuron.
2. Describe the lateral line system and electrical sensing.
3. Briefly describe the non-specific immune response.
4. Describe in detail the hormones and their functions in Annelida and Arthropoda
5. Elaborate the non-muscular movement in invertebrates with examples.
6. Write a note on blood cells.

Q.2. Answer the following questions. (3x10=30)

1. Write a detailed note on hormones of pituitary gland.
2. Write a detailed note on mammalian Heart, also draw labelled diagram.
3. Write a detailed note on skeletal muscle contraction mechanism.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short answers to the following questions: (15x2=30)

1. What is integument and its function?
2. Describe skin of jawless fishes.
3. Discuss limitation of exoskeleton.
4. Differentiate between cartilage and Bone tissue.
5. Describe looping movement.
6. What is Action potential?
7. Differentiate between electrical synapse and chemical synapse.
8. Differentiate between central nervous system and peripheral nervous system.
9. Write types of Autonomic nervous system.
10. What is hemolymph.
11. Write composition of plasma. Hormones and pheromones.
12. Make comparison between hormones and pheromones.
13. Write function of prolactin in Birds.
14. Discuss Echolocation in Bats.
15. Define Baroreceptors.

Q.2. Answer the following questions. (3x10=30)

1. Elaborate the chemoreception in vertebrates.
2. Write a note on pituitary gland.
3. Write a detailed note on mechanism of hormones action.



THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Write short answers to the following questions: (15x2=30)

- I. What is sweat gland?
- II. Describe skin of jawless fishes.
- III. Discuss limitation of exoskeleton.
- IV. Differentiate between cartilage and Bone tissue.
- V. Draw generalized structure of a neuron.
- VI. What is saltatory Conduction.
- VII. Discuss nervous organization in cnidarians.
- VIII. What are meninges.
- IX. What are chemoreceptors.
- X. What are hemocytes.
- XI. What is plasma.
- XII. Define islets of Langerhans.
- XIII. Write function of thymus gland.
- XIV. What are Jacobson's organs.
- XV. Define photoreceptor.

Q.2. Answer the following questions. (3x10=30)

1. Write a detailed note on nerve impulse transmission across the neuron.
2. Write a note on pituitary gland,
3. Write a detailed note on hearing and equilibrium in air.