



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

**(6x5=30)**

1. Discuss how the Survey Method is used in psychological research.
2. Describe the Case Study method in Qualitative research.
3. Write a note on the Factorial design.
4. Briefly discuss a Repeated Measure Design.
5. Differentiate between Within-group design and Between-group design.
6. Briefly discuss a Focus group in Qualitative research.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Discuss how Correlation research design is used in psychological research.
2. Differentiate between a Cross-sectional and Longitudinal research design with examples of psychological research.
3. Explain the Survey method and examine the advantages and disadvantages of using a survey as a research method in psychology.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

1. Briefly explain individual psychology.
2. Shortly describe identity crises proposed by Erikson.
3. Describe Roger's notion of self-concept.
4. What is the Aron Beck contribution to psychology?
5. What are the strengths and weaknesses of the humanistic perspective?
6. Briefly explain dispositional trait theory.

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

1. Explain in detail Freud's theory of personality development.
2. Write a detailed note on some trait theories of personality in psychology.
3. Shed some light on psychoanalytic perspective.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

1. Define action potential. (2)
2. Describe structure of neuron and functions of its types. (2+2)
3. Define endocrine gland system. (2)
4. What is Medulla Oblongata? (2)
5. Briefly explain functions of hormones released by adrenal and pancreatic gland. (2+2)
6. Write down the name and functions of two neurotransmitters. (2+2)
7. What is homeostasis? (2)
8. Describe two eating disorders shortly. (2+2)
9. Describe some neurological disorders. (4)
10. Write roles of neuropsychologist. (2)

**Q.2. Answer the following questions.**

**(3x10=20)**

1. Write in detail subdivision of human brain.
2. What are psychiatric disorders? Provide etiology and treatment for different types of schizophrenia.
3. Write a detail note on endocrine gland system.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Social Psychology (Revised)

Course Code: APSY-367

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. Discuss the four elements of persuasion with an example from each.
2. Differentiate between authentic, ideal, and tactical self-presentation styles with example from each.
3. What are the limitations of culture-based approach of prejudice, discuss with example.
4. Define what non-verbal communication is and what are key components of non-verbal communication that determine or govern our behavior, discuss with example.
5. Discuss social responsibility norm with reference to pro-social behavior with example.
6. What is observer bias in research, explain through an example.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. What are the major causes of prejudice, discuss in the light of Pakistani cultural context.
2. Discuss the principles of persuasion with an example for each.
3. Discuss why obedience to authorities occurs? How can destructive obedience be decreased? Discuss through an example.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

**(6x5=30)**

1. Explain the Bio-psychosocial model of health psychology.
2. Define Health Beliefs, Locus of Control, and Self Efficacy.
3. Briefly explain the Lazarus model of stress.
4. Write a short note on any two psychological interventions in Health Psychology.
5. Explain AIDS, and list some of the risk factors of AIDS.
6. Differentiate between Chronic and Terminal illnesses with examples.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. How does Illness Perception influence an individual's response to illness and their healthcare decisions?
2. How can stressors be identified, Discuss some effective stress management techniques.
3. Define Oncology and explain the risk factors, preventive measures, and psychological interventions for Cancer.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Arabic-VI

Course Code: ARB-302

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۔

السؤال الأول	أجب عن الأسئلة التالية بالإيجاز:	15x2=30
1. من ألف "الصحيح" ؟	2. هل المعلقات قصائد اسلامية ؟	
3. من ألف "كتاب العين" ؟	4. من هو واضع علم العروض ؟	
5. عرف البحر اصطلاحاً ؟	6. من كان لبيد بن ربيعة ؟	
7. من ألف "تاج العروس" ؟	8. هل كان زهير شاعراً جاهلياً أم إسلامياً ؟	
9. ما المراد من "القصيدة" ؟	10. ما هو السبب الخفيف ؟	
11. من ألف "جواهر البلاغة" ؟	12. في أي قرن عاش المتنبي ؟	
13. كم قصفاً للزحاف ؟	14. اكتب وزن البحر الوافر.	
15. من ألف "ديوان الحماسة" أولاً ؟		

(3x10=30)

**السؤال الثاني**

1- اكتب مقالا حول شخصية خليل بن أجمد الفراهيدي وخدماته في فن العروض.

2- اكتب مقالا حول المعلقات السبع .

3- اكتب رسالةً (باللغة العربية) إلى والدك لتخبره عن أحوالك و سيرك في دراسة.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Auditing

Course Code: BBA-306

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 are the limitations of auditing?
- II. What is the role of an auditor in fraud detection?
- III. Explain the concept of risk-based auditing.
- IV. How would an auditor evaluate the effectiveness of internal controls in a company?
- V. Explain the significance of 'going concern' in an audit report.
- VI. What are the 4 types of audit opinions?

**Answer the following questions.**

**(3x10=30)**

**Q.No.2:** Write a detailed note on the errors and fraud in auditing.

**Q.No.3:** Write a detailed note on the Audit of Textile and Hotel.

**Q.No.4:** Write a detailed note on the Types of Audit. Which type of audit is used in the sugar Industry?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Taxation Management (Basic)

Course Code: BBA-307

Roll No. ....

Time: 3 Hrs. Marks: 60

## THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Define following terms with reference to the income tax ordinance 2001.**  
(6x5=30)

- I. Accelerated Depreciation
- II. Capital and revenue expenditure
- III. Provident fund
- IV. Whistle blower
- V. Association of persons
- VI. Non-profit organization

**Answer the following questions.** (3x10=30)

**Q.No.2:** What are the conditions laid down under the Income Tax Ordinance 2001 for depreciation allowance?

**Q.No.3:** What do you mean by agricultural income? Is it taxable in Pakistan? Give 5 examples of income from agriculture.

**Q.No.4:** Determine the taxable income and tax payable by Mr. Sahil Khan for the tax year ending 30<sup>th</sup> June, 2023

Basic salary per month (Rs. 70,000-5000-120,000)	Rs. 90,000
Bonus	300,000
Entertainment allowance	73,000
House rent allowance (50% of Minimum Time Scale)	
Conveyance allowance	95,000
Tax paid by employer	40,000
Zakat deducted	280,000
Re-imbursement of internet bill (used for office)	35,000
Encashment against unavailed leave	32,000

Interest free loan obtained from employer	13,00,000
Medical allowance	125,000
Fixed educational allowance for children	80,000
Telephone bill paid by employee himself (tax paid with telephone bills Rs. 5000)	40,000
Hotel bill paid by the company relating to office duties	85,000
Utilities allowance	55,000
Special allowance to meet official duties (Actual expenditure for official duties Rs. 40,000)	50,000
TV and Refrigerator provided by employer only for the use of employee (company charge depreciation @ 20% in the books of accounts)	180,000
Tax deducted from salary during the period	58,000
Health insurance premium paid by employer to insurance company under the terms of employment	65,000

Sr. No.	Taxable Income	Rate of Tax
1	Where taxable income does not exceed Rs. 600,000	0%
2	Where taxable income exceeds Rs. 600,000 but does not exceed Rs. 12,00,000	2.5% of 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 plus 12.5% of the amount exceeding Rs. 12,00,000
4	Where taxable income exceeds Rs. 24,00,000 but does not exceed Rs. 36,00,000	Rs. 165,000 plus 20% of the amount exceeding Rs. 24,00,000



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Management Information System

Course Code: BBA-308

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) Define Information Resource Management (IRM).
- b) What are the key issues and challenges in implementing an MIS?
- c) What are the characteristics of effective information for decision-making?
- d) Explain the concept of a file in the context of data storage.
- e) Differentiate between LAN (Local Area Network) and WAN (Wide Area Network).
- f) What are the key applications of a DSS in modern organizations?

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

- a) What is the role of ACID properties (Atomicity, Consistency, Isolation, Durability) in transaction processing?
- b) What is a Decision Support System (DSS)? What are the primary goals of a Decision Support System?
- c) What is network topology? Explain three network topologies and also compare them in terms of reliability.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Development Economics

Course Code: BBA-309

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. Describe the various factors of development.
- ii. What are the major problems faced by developing countries?
- iii. Define the balance of trade.
- iv. What environmental problems do the rural and urban poor share?
- v. What are the reasons for high school dropout rates in developing countries?
- vi. In what ways does poverty lead to environmental degradation?

**Answer the following questions.**

**(3x10=30)**

**Q.No.2: What is meant by the hidden momentum of population growth?**

**Q.No.3: What are the main reasons for unemployment?**

**Q.No.4: How would you differentiate between economic development and economic growth?**



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Current Business Affairs

Course Code: BBA-310

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Define the following terms:**

**(15x2=30)**

- I. What is trade liberalization?
- II. Define ASEAN.
- III. What is Nuclear Proliferation?
- IV. What are the main 3 trade barriers between Pakistan and India?
- V. What is role of WTO in international trade?
- VI. Briefly discuss any two factors that influence exchange rate determination.
- VII. Name countries of G-8 alliance.
- VIII. What is FDI and what is its role in developing country's economy?
- IX. Define Environmental Governance.
- X. Which currency is used in EU countries?
- XI. Is the UN a treaty?
- XII. What is the relationship between WTO and GATT?
- XIII. What is bailout package of IMF?
- XIV. Define ECOSOC as an organ of UN.
- XV. What is CPEC?

**Answer the following questions.**

**(3x10=30)**

**Q.No.2:** "World has become a global village", discuss with respect to "Information Technology" (IT) and "Artificial Intelligence" (AI) inventions and post COVID usage in business.

**Q.No.3:** Write a detailed note on functions of International Monetary Fund (IMF).

**Q.No.4:** Discuss the role of "Resolution of Kashmir Issue" with respect to Pakistan-India trade.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Corporate Governance

Course Code: BBA-311

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) Requirements for the appointment of a director
- b) What is Pakistan Stock Exchange?
- c) Qualifications required for the appointment of company secretary
- d) External vs Internal Audit
- e) Requirements for the appointment of a CFO
- f) Write a note on PICG

**Answer the following questions.**

**(3x10=30)**

**Question 2:** Identify and explain common challenges faced by companies in implementing effective corporate governance. What are the potential risks of poor corporate governance for both the company and its stakeholders?

**Question 3:** Write a detailed note on cross shareholding and pyramiding.

**Question 4:** How do corporate governance mechanisms promote transparency in financial reporting and decision-making?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Describe and draw the following labeled diagrams: (15x2=30)**

1. Differentiate between receptical and conceptacles
2. Auxospore and Cell division
3. Vegetative and Sexual reproduction
4. Aplanospore and Zoospore formation
5. Branchlets and Stipulodes
6. Asexual reproduction
7. Tuber formation
8. Protonema
9. Globule in *Chara*
10. Cyanophyta and bacillariophyta
11. Chlorophyta and Rhodophyta
12. Auxospore
13. Oospore formation
14. Archigonium in *Riccia*
15. Sporophyte stage

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

- i. Write down the gametophytic stage of *Anthoceros*
- ii. Briefly describe the economic importance of Hepaticopsida
- iii. Write down the general characters of Phaeophyta.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

**(15x2=30)**

1. What is cellular totipotency?
2. How explants are surface sterilized?
3. What is the phenomenon of “habituation”?
4. What is proliferation?
5. Write down the name of any 2 media used other than Murashige and Skoog in tissue culture.
6. Differentiate between batch and continuous culture in term of cell suspensions?
7. Differentiate between somatic and zygotic embryo?
8. What we meant by caulogenesis?
9. Differentiate between embryoid and meristomoid.
10. Why Phenolic compounds hinder plant growth?
11. Write the name of 2 cytokines occurs naturally.
12. Why leaf material is treated with pectinase during protoplast isolation?
13. What is the difference between micro and macronutrient with respect to the quantity required?
14. Why we add sucrose in tissue culture medium?
15. What is the role of activated charcoal in plant tissue culture medium?

**Answer the following questions.**

**(6x5=30)**

**Question #2-** Describe various factors involve in cell suspension culture formation?

**Question #3-** Give detail procedure of sterilization of explants, medium and culturing environment.

**Question #4-** What is callus culture. Describe various steps involved in callus culturing.

**Question #5-** What are Principal applications of anther culture?

**Question #6-** What is protoplast culture also write down its importance?

**Question #7-** Write down complete procedure for preparation of 1000 ml Morishige and Skoog medium.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- I. What is meristematic tissues classification, initials and derivatives?
- II. Write a note on apical theory shoot apices?
- III. Give role of root cap.
- IV. Differentiate between vessel and tracheid.
- V. What is scalariform and simple perforation plate of vessels.
- VI. What is vascular cambium its origin and structure?
- VII. Define abscission of leaf.
- VIII. Differentiate between haplostele and plectostele
- IX. Differentiate between monocot and dicot root
- X. Differentiate between dorsiventral and isobilateral leaves.
- XI. What are initials and derivative
- XII. What is the bundle sheath
- XIII. Define simple and complex tissues.
- XIV. What is seasonal activity and its role in secondary growth?
- XV. What are storied and non-storied cambium?

**Q.2. Answer the following questions.**

**(3x10=30)**

- A. Write a note on cytohistological theory of root apices?
- B. Differentiate between xylem and phloem elements?
- C. Write a note on secretory tissues?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Palynology (Advance Course)

Course Code: BOT-317

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. Describe various applications of **Neo-Palynology**.
2. What are **Anemophilous Plants** and why do they produce large quantities of Pollen? Discuss rates of production of pollen with suitable examples.
3. Describe **Pollen Wall Stratification** with the help of neat and labeled diagram(s).
4. How **Organic Thermal Maturity** of Rocks is determined by the colour of fossil palynomorphs? Discuss
5. **Preservation of Pollen and Spores** depend upon the quantity of **Sporopollenin** in their outer **exine**. Comment.
6. How Paleopalynology does help in reconstruction of **Past Plant Communities**?

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Discuss the **Occurrence and Significance of Airborne Pollen** with respect to **Allergies** and **Asthma**. Also discuss their control measures.
2. Write a detailed note on **Palynomorphs** as **Sedimentary Particles**.
3. What do you know about **exine ultra structure**? Discuss in detail various systems used for classification of exine ultrastructure.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Synecology & Ecosystems

Course Code: BOT-317A

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. Discuss in detail the population dynamics.
- ii. What are synthetic characteristics of a community?
- iii. Distinguish between density dependent and density independent growth models.
- iv. Discuss in detail the nitrogen cycle.
- v. What are different methods of sampling of plant communities?
- vi. Write a note on seed dormancy.

**Answer the following questions.**

- |              |  |          |
|--------------|--|----------|
| <b>Q. 2.</b> | <b>(a) Discuss the life tables.</b>                                  | <b>5</b> |
|              | <b>(b) Describe in detail the vegetation of Pakistan.</b>            | <b>5</b> |
| <b>Q. 3.</b> | <b>(a) write a note on succession and its types.</b>                 | <b>5</b> |
|              | <b>(b) Describe the structure and function of plant communities.</b> | <b>5</b> |
| <b>Q. 4.</b> | <b>Write a note on following</b>                                     |          |
|              | <b>(a) Carbon cycle.</b>   | <b>4</b> |
|              | <b>(b) Seed dispersal.</b>   | <b>3</b> |
|              | <b>(c) Climax concept.</b>   | <b>3</b> |





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

**(6x5=30)**

- I. Define seed. What evolutionary advantages do seeds provide over spores?
- II. What reproductive structures did the plants belonging to **Caytoniales** possess?  
Discuss.
- III. Define flower. Elaborate various structures and functions of a flower.
- IV. Differentiate between homosporous and heterosporous. Explain with suitable examples.
- V. Differentiate between microsporogenesis and megasporogenesis. Elaborate the process with the help of neat and labeled diagram.
- VI. What is double fertilization? Describe its importance.

**Q.2. Answer the following questions.**

**(3x10=30)**

- I. "**Cycas** is a living fossil", explain.
- II. How do the palynomorphs help in understanding the phylogenetic relationships of extinct plant groups? Elaborate your answer with the help of suitable examples.
- III. Discuss the vegetative and reproductive biology of **Ginkgophytes** along with their evolutionary significance.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Plant Biochemistry (Bioenergetics and Metabolism)

Course Code: BOT-321

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 was the Meselson and Sthal experiment?
2. What is the genetic code, write down its characteristics?
3. What is the difference between 1<sup>st</sup> and 2<sup>nd</sup> genetic code and their importance?
4. Give various conclusions of Chargaff rules and how these are helpful to give 3D structure of DNA?
5. Differentiate between DNA polymerase I, II, III, IV and V.
6. What is the energy Balance of beta-oxidation of fat?

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

1. Write down the complete process of DNA repair in Prokaryotes with diagram?
2. Describe “Newly synthesize polypeptide chains undergo post translational modification”
3. What are Alkaloids, their characteristics, Uses, Write down any 10 major groups of Alkaloids with examples?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions:**

**(6x5=30)**

1. Draw and describe life cycle of rust fungi.
2. What are Ectomycorrhizae? Write a note on their importance in forest ecosystem.
3. What is Ergot of rye? Describe life cycle and impact on cereal crops.
4. What are stomach fungi? Explain method of spore dispersal in these fungi.
5. What is meant by Conidiogenesis in Ascomycota? Explain.
6. What are noteworthy features and importance of Pleosporales?

**Answer the following questions.**

Q. No. 2: What are mushrooms? Draw and describe their life cycle. (10)

Q. No. 3: (a). What are ascocarps? Draw and describe their different types. (05)

(b). What are lichens? Write a note on their economic importance. (05)

Q.No. 4. Draw and describe life cycle of Powdery mildews. (10)



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

السؤال الأول: صَحِّح الجُمْلَ التَّالِيَةَ. (جملوں کو درست کر کے لکھیے)۔ (20)

1. جاء أبا زيد.
2. سمعت أن الطالب فقيراً.
3. أحب أن أكون مثل خالي.
4. أخذت البنت الورق.
5. ما أجمل الضياء!
6. الأب سخى و لكن ابنه بخيلاً.
7. على المسلمين أن يعبدون الله.
8. أنا طالبات مسلمات.
9. مررت بعشرين رجلاً.
10. ان الطالبان مجتهدين.

السؤال الثاني: اقرء هذه العبارة ثم استخرج منها ما يلي. (عبارت پڑھیے اور شائد ہی کریں)۔ (20)

و سيرة الرسول ﷺ من آياته، و أخلاقه و أقواله و أفعاله و شريعته من آياته، و أمته من آياته، و علم أمته و دينهم من آياته، و كرامات صالح أمته من آياته، و ذلك يظهر بتدبر سيرته من حين وُلد إلى أن بُعث، و من حين بُعث إلى أن مات، و تدبر نسبه و بلده و أصله و فصله فإنه كان من أشرف أهل الأرض نسباً من صميم سلالة إبراهيم الذي جعل الله في ذريته النبوة و الكتاب، فلم يأت نبي من بعد إبراهيم إلا من ذريته، و جعل له ابنين إسماعيل و إسحاق، و ذكر في التوراة هذا و هذا، و بشر في التوراة بما يكون من ولد إسماعيل، ولم يكن في ولد إسماعيل من ظهر فيما بشرت به النبوءات غيره، ودعا إبراهيم لذرية إسماعيل بأن يبعث فيهم رسولاً منهم، ثم من قريش صفوة بني إبراهيم، ثم من بني هاشم صفوة قريش و من مكة أم القرى، و بند البيت الذي بناه إبراهيم و دعا الناس إلى حجه و لم يزل محجوجاً من عهد إبراهيم، مذكوراً في كتب الأنبياء بأحسن وصف.

1. فعلا ماضيا أجوف
2. فعلا ماضيا صحيحا
3. مركبا إضافيا
4. اسم المثنى
5. اسم التفضيل
6. اسم المفعول
7. الاسم المتنوع من الصرف
8. فعلا ثلاثيا مزيدا فيه
9. جمعا مكسرا
10. ضميرا متصلا
11. حرف جازما للمضارع
12. فعلا ماضيا ناقصا
13. حرفا جارا
14. حرفا ناصبا للمضارع
15. اسما موصولا
16. فعلا ناقصا
17. اسما تمييزا
18. اسما معرفة
19. اسم البدل
20. اسم الإشارة

السؤال الثالث: أجب عن الأسئلة الآتية. (9+6+5=20)

- (i) اكتب اسم المقصور والمنقوص والممدود مع الأمثلة.
- (ii) اكتب أفعال المقاربة والرجاء والشروع.
- (iii) اكتب العدد و إعراب العدد و بناءه.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Arabic Composition – II

Course Code: BSAR-307

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۔

(5x6=30)

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

(i): مقالات و مضامین کو ملحوظ رکھتے ہوئے عربی میں جواب دیجیے۔

1: ما هو أسلوب القرآن الكريم؟

2: كيف عامل النبي ﷺ أهل مكة يوم فتحها؟

3: مَنْ أصدر الحكم بعزل محمد بن القاسم، ولماذا أصدر هذا الحكم؟

4: ماذا قال جمال الدين الأفغاني للمسلمين حين سأله عن طريق التخلص من الاستعمار البريطاني؟

5: اكتب/اكتبي ثلاثة من عناوين كُتِبَ العلامة محمد إقبال باللغة العربية؟

(ii) ان الفاظ کو اپنی جانب سے عربی جملوں میں استعمال کریں۔

1: يُفَكِّرُ 2: شَعَبٌ 3: دَوَّرَ 4: انْتَشَرَ 5: حَاوَلَ

(2x15=30)

سوال نمبر 2: درج ذیل سوالات کے تفصیل سے جوابات دیں۔

1: اكتب/اكتبي مقالاً حول العنوان "اللغة العربية في العصر الحديث وأهميتها".

2: اكتب/اكتبي حواراً بين الصديقين حول العنوان "مَدِينَتُنَا".



**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۔

- أجب عن الأسئلة الآتية بإيجاز:
1. ما هو "السجع"؟ وضح بالأمثلة.
  2. اذكر أهم النصائح التي وجهتها الأعرابية لابنتها في وصيتها.
  3. بين دروساً مستفادة من خطبة عمر بن الخطاب رضي الله عنه.
  4. اذكر أسماء أشهر الأدباء في العصر الأموي.
  5. ما المراد بـ "العصر العباسي" في الأدب العربي؟ واذكر أسماء أشهر الأدباء فيه.
  6. عرف بـ الكتاب "البيان والتبيين".

(3x10=30)

سوال نمبر 2: درج ذیل سوالات کے تفصیل سے جوابات دیں۔

1. اشرح العبارة التالية وتحدث عن صاحب هذه الخطبة مع المناسبة التي أقيمت فيها:  
(يا معشر بكر! هالك مغدور خير من ناج قور، إن الحذر لا ينجي من القدر، وإن الصبر من أسباب الظفر، المنية لا الدنية، استقبأ الموت خير من استدباره، الطعن في ثغر النحور أكرم منه في الأعجاز والظهور، يا آل بكر، قاتلوا فما للمنايا من بد).
2. اكتب ملخصاً لخطبة "حجة الوداع" مع بيان الأفكار القيمة التي وردت فيها.
3. اشرح العبارة التالية، ووضح الكلمات التي تحتها خط:  
قال الفيلسوف: زعموا أن حمامة كانت تُفرخ في رأس نخلة طويّلة ذاهبة في السماء، فكانت الحمامة تشرع في نقل العش إلى رأس تلك النخلة، فلا يمكن أن تنقل ما تنقل من العش، وتجعله تحت البيض إلا بعد شدة وتعب ومشقة، لطول النخلة وسحقها. فإذا فرغت من النقل باضت ثم حضنت بيضها، فإذا فقس وأدرك فراخها، جاءها ثعلب قد تعاهد ذلك منها، لوقت قد علمه يقدر ما ينهض فراخها، فيقف بأصل النخلة، فيصبح بماء، ويتوعدّها أن يرقى إليها، فتلقّي إليه فراخها.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 202

Paper: Arabic Composition II

Course Code: BSAR-307 / ARB-307

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۔

مندرجہ ذیل سوالات کے مختصر جوابات دیجیے۔ (5x6=30)

Q 1. (i): مقالات و مضامین کو ملحوظ رکھتے ہوئے عربی میں جواب دیجیے۔

- 1: اکتب موجزًا عن أسرة العلامة محمد إقبال؟
- 2: ما هي المراحل الثلاث لفكر محمد علي جناح السياسي؟
- 3: أين ومتى وُلد النبي الكريم صلى الله عليه وسلم؟
- 4: كيف فتح محمد بن القاسم ملتان؟ وماذا تسمى ملتان آنذاك؟
- 5: اذكر/اذكري الأهمية الاقتصادية للغة العربية؟

(ii) ان الفاظ کو اپنی جانب سے عربی جملوں میں استعمال کریں۔

- 1: هاجَرَ 2: ذُهِبَ 3: وَسِمَ 4: يَتَعَلَّمُ 5: كَافَحَ

درج ذیل سوالات کے جامع جواب تحریر کریں۔ (2x15=30)

تفصلاً جوابات لکھیے

Q 2. اکتب/اكتب مقالًا حول العنوان "القرآن الكريم".

Q 3. اکتب/اكتب حوارًا بين الصديقين حول العنوان "جامعُنا"



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(6x5=30)

مندرجہ ذیل سوالات کے مختصر جوابات دیجیے۔

السؤال الأول	أجب عن الأسئلة التالية بالإيجاز
1-	ماذا تعرف عن القرطبي ومنهجه في التفسير؟
2-	عزف بالتفسير لغة واصطلاحاً.
3-	اذكر أنواع التفسير بالإيجاز.
4-	ما الفرق بين القرآن والحديث القدسي؟
5-	ماذا تعرف عن الإمام ابن كثير، اكتب موجزاً؟
6-	هل سورة العصر مكية أم مدنية؟

(3x10=30)

درج ذیل سوالات کے جامع جواب تحریر کریں۔

السؤال الثاني	اقرأ العبارة وأجب عن الأسئلة التي تليها
قال مقاتل: أقسم سبحانه بصلاة العصر لفضلها، لأنها الصلوة الوسطى عند الجمهور لقوله عليه الصلوة والسلام: "شغلونا عن الصلوة الوسطى صلاة العصر". ولما في مصحف حفصة "والصلاة الوسطى صلاة العصر"، وفي الحديث "من فاتته صلاة العصر فكأنما وتر أهله وماله"... خصت بالفضل لأن التكليف في أدائها أشق لتهافت الناس في تجاراتهم ومكاسبهم آخر النهار واشتغالهم بمعاشهم.	
1-	لماذا أقسم الله عز وجل بصلاة العصر؟
2-	اذكر أدلة على أنها الصلوة الوسطى؟
3-	لماذا أقسم سبحانه وتعالى بصلاة العصر؟ أو ما فضل صلاة العصر من بين الصلوات الخمس؟
4-	كم آية لسورة العصر؟
5-	اذكر الأقوال التي ذكرها الإمام الآلوسي في تفسير قوله تعالى "والعصر"



اقرأ هذه العبارة وأجب عن الأسئلة التالية

ولما قرّر سبحانه أنه الخالق نبّه على أنه الرازق بقوله تعالى ﴿وأنزلنا من السماء ماءً فأنبتنا فيها من كل زوج كريم﴾ أي: من كل زوج من النبات كريم، أي: حسن المنظر. وقال الشعبي: والناس أيضاً من نبات الأرض، فمن دخل الجنة فهو كريم، ومن دخل النار فهو لنيم. وقوله تعالى: ﴿هذا خلق الله﴾ أي هذا الذي ذكره الله تعالى من خلق السموات والأرض وما بينهما صادر عن فعل الله وخلقته وتقديره، وحده لا شريك له في ذلك.

- 1- اذكر الآية التي تثبت بأن الله عزوجل هو الرازق؟
- 2- فسر قوله ﴿من كل زوج كريم﴾ في ضوء تفسير ابن كثير.
- 3- هل الناس أيضاً من نبات الأرض؟
- 4- بم فسر الإمام ابن كثير قوله تعالى ﴿هذا خلق الله﴾؟
- 5- هل كان لقمان نبياً أم عبداً صالحاً من غير النبوة؟

اقرأ العبارة التالية وأجب عن الأسئلة التي تليها.

﴿إيلف قريش﴾ وعن ابن عباس قال: قال رسول الله صلى الله عليه وسلم "فضل الله قريشاً بسبع خصال لم يعطها أحداً قبلهم ولا يعطها أحداً بعدهم فضل الله قريشاً أني منهم و أن النبوة فيهم وأن الحجامة فيهم وأن السقاية فيهم ونصرهم على الفيل وعبدوا الله عشر سنين لم يعبدوه غيرهم وأنزل الله فيهم سورة من القرآن لم يذكر فيها أحداً غيرهم لنلاف قريش رواء الحاكم والطبراني والبخاري في التاريخ. قال الكلبي كان أول من حل السمراء من الشام ورحل إليها الإبل هشام بن عبد مناف.

- 1- فسر قوله تعالى ﴿إيلف قريش﴾ في ضوء تفسير المظهري؟
- 2- بين فضائل القريش التي وردت في الحديث النبوي.
- 3- هل كان سيدنا محمد صلى الله عليه وسلم من قريش؟
- 4- لماذا ذكر الله سبحانه وتعالى بصفة ربوبية البيت في الآية ﴿رب هذا البيت﴾؟
- أجب في ضوء ما قاله صاحب تفسير المظهري.
- 5- من كان الأول الذي حل السمراء من الشام ورحل إليها الإبل؟



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(15x2=30)

مندرجہ ذیل سوالات کے مختصر جوابات دیجیے۔

- السؤال الأول: أجب عن الأسئلة التالية بإيجاز
1. مِمَّ فَضِّلَ النَّبِيُّ ﷺ عَلَى سَائِرِ الْأَنْبِيَاءِ؟ اذكر أمرين فقط.
  2. ما خير القرون؟
  3. ما أفضل من رأى النبي ﷺ أو رأى صحابيًا؟
  4. ماذا نقول عندما نرى الذين يسبون أصحاب النبي ﷺ؟
  5. من آمن الناس على النبي ﷺ في صحبته وماله؟
  6. من محدث هذه الأمة؟
  7. ما المراد بجيش العسرة؟
  8. من سيد ولد آدم يوم القيامة؟
  9. في ثوب من كان ينزل الوحي على النبي ﷺ؟
  10. من أفضل نساء العالمين؟
  11. من وهبت / جعلت يومها من النبي ﷺ لعائشة؟
  12. من آخر أزواج النبي ﷺ موتاً؟
  13. من أمين هذه الأمة؟
  14. اذكر أسماء أبناء النبي ﷺ.
  15. ما ميزان الفضل عند الله؟

(2x15=30)

درج ذیل سوالات کے جامع جواب تحریر کریں۔

- السؤال الثاني: أجب عن الأسئلة التالية للحديث بإيجاز
- عَنْ عَبْدِ اللَّهِ بْنِ عَمْرٍو أَنَّ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ: «أَرْبَعٌ مَنْ كُنَّ فِيهِ كَانَ مُنَافِقًا خَالِصًا وَمَنْ كَانَتْ فِيهِ خِصْلَةٌ مِنْهُنَّ كَانَتْ فِيهِ خِصْلَةٌ مِنَ الْبَغْيِ إِذَا يُدْعَى إِذَا أُوْتِيَ خَانَ وَإِذَا حَدَّثَ كَذَبَ وَإِذَا عَاهَدَ غَدَرَ وَإِذَا خَاصَمَ فَجَرَ» (مُتَّفَقٌ عَلَيْهِ)
- الأسئلة: 1. عرف راوي هذا الحديث؟ 2. اشرح المفردات التالية: خان، غدر، خاسم، فجر
3. ما صفات المؤمن؟ 4. ما علامات النفاق؟ 5. اذكر فائدتين من هذا الحديث؟

- السؤال الثالث: أجب عن الأسئلة التالية للحديث بإيجاز
- عَنْ أَبِي هُرَيْرَةَ قَالَ: قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ " الْإِيمَانُ بَضْعٌ وَسِتُّونَ شُعْبَةً فَأَفْضَلُهَا: قَوْلُ لَا إِلَهَ إِلَّا اللَّهُ وَأَدْنَاهَا: إِمَاطَةُ الْأَذَى عَنِ الطَّرِيقِ وَالْحَيَاءُ شُعْبَةٌ مِنَ الْإِيمَانِ " (مُتَّفَقٌ عَلَيْهِ)
- الأسئلة:

1. من أبوهريرة؟ 2. بين معاني الكلمات التالية: بضع، شعبة، إماطة، الأذى، الحياء. 3. هل العدد الوارد في الحديث للتكثير أو للتحديد؟ 4. لماذا أفرّد الحياء بالذكر من شعب الإيمان؟ 5. اذكر أمرين مما يستفاد من هذا الحديث؟



### 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 تحریر کریں۔

1. What are the key elements of a good headline? Provide examples to support your answer.

1. ایک اچھی اخباری سرخی کے اہم عناصر کیا ہیں؟ اپنے جواب کی تائید کے لیے مثالیں فراہم کریں۔

2. How a sub-editors role is equally important compared to a news reporter in making a good quality news? Please explain.

2. ایک سب ایڈیٹر کا کردار ایک اچھے معیار کی خبر بنانے میں ایک نیوز رپورٹر جتنا ہی اہم ہے؟ وضاحت کریں؟

3. What are dummy layouts? How do they assist in the process of page design?

3. ڈمی لے آؤٹ کیا ہیں؟ وہ پیج ڈیزائننگ کے عمل میں کس طرح مدد کرتے ہیں؟

4. What is the scope of sub-editing in newspaper journalism?

4. اخباری صحافت میں سب ایڈیٹنگ کا دائرہ کار کیا ہے؟

5. Sub-editing marks, also known as proofreading symbols, are used by sub-editors to indicate corrections or changes in a manuscript. Explain a few of them.

5. سب ایڈیٹنگ نشانات یا پروف ریڈنگ علامتیں، مخطوطے میں اصلاح یا تبدیلیوں کی نشاندہی کرنے کے لئے سب-ایڈیٹر استعمال کرتے ہیں۔ ان میں سے کچھ کی وضاحت کریں

6. Briefly discuss the role of computers in modern newspaper editing.

6. جدید اخبار کی تدوین میں کمپیوٹر کے کردار پر مختصراً گفتگو کریں۔

Q.2. Answer the following questions.

(3x10=30)

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

i. In newspaper copy-making, how important is a sub-editor? Discuss in detail his/her role and responsibilities.

1. اخبار کی کاپی سازی میں سب ایڈیٹر کتنا اہم ہے؟ اس کے کردار اور ذمہ داریوں پر تفصیل سے بات کریں۔

ii. What are different kinds of newspaper headlines? How artificial intelligence (AI) can help to craft catchy headlines.

ii اخبارات کی سرخیوں کی مختلف اقسام کیا ہیں؟ مصنوعی ذہانت کس طرح دلچسپ سرخیوں کو تیار کرنے میں مدد کر سکتی ہے؟

iii. Explain make-up in newspaper page making. Describe different techniques and kinds of make-up.

iii اخبار کا صفحہ بنانے میں میک اپ کی وضاحت کریں۔ میک اپ کی مختلف تکنیکوں اور اقسام پر تفصیلی نوٹ لکھیں۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

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

Course Code: BSCS-307

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 تحریر کریں۔

i. Does Column reflect columnist opinion? Discuss.

(الف) کیا کالم کسی بھی کالم نویس کی ذاتی سوچ کا عکاس ہوتا ہے؟

ii. Define difference between Editorial & Editorial Notes.

(ب) ادارہ اور شذرات میں فرق بیان کریں۔

iii. What are the major types of Features?

(ج) فیچر کی اہم اقسام بیان کریں۔

iv. What kind of suggestion do you give to new comers in feature writings for newspaper?

(د) آپ کسی بھی اخبار کے لیے فیچر نگاری کرنیوالے نئے فیچر نگار کو کیا تجاویز دیں گے؟

v. Explain in detail how a columnist plays his/her role to shape the opinion of society?

(ه) معاشرے کی سوچ تبدیل کرنے میں کالم نویس کس طرح اپنا کردار ادا کرتا ہے؟ بیان کریں۔

vi. How to write a profile feature article?

(و) پروفائل فیچر آرٹیکل کیسے لکھا جاتا ہے؟

Q.2 Answer the following questions.

(3x10=30)

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

i. What characteristics a columnist needs to write humor Columnists?

(الف) مزاحیہ کالم لکھنے کے لیے کالم نویس کو کونسی خصوصیات درکار ہیں؟

ii. Unlike the reporter, the editorialist is not restricted to events. Explain it.

(ب) رپورٹر کے برعکس ادارہ نویس واقعات کا پابند نہیں ہوتا دلائل دیں۔

iii. Write a short note on various types of columns.

(ج) کالم کی مختلف اقسام پر نوٹ لکھیں۔



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

1. Differentiate between basic and applied research. Elaborate with the help of examples.
2. Define correlational research. Discuss with the help of examples.
3. Why is it essential to establish clear definitions and frameworks for concepts and constructs when conducting research?
4. What is the difference between a research question and a hypothesis, and how do they guide the direction of a study?
5. What is the relationship of research with theories? Discuss with the help of arguments.
6. What distinguishes a null hypothesis from an alternative hypothesis, and why are both important in research?

**Q.2 Answer the following questions.**

**(2x15=30)**

1. Discuss in detail all the steps involved in scientific research? Why it is important to follow a proper procedure while conducting any research?
2. What are the main types of sampling techniques used in research, including probability and non-probability methods, and how do factors such as the research design, population size, study objectives, and resource constraints influence the selection of a sampling technique?





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(5x6=30)**

1. What are the different levels of effects in media influence? Provide examples
2. Briefly explain the Diffusion of Innovations model.
3. What is the role of persuasion in media communication?
4. Differentiate between priming and agenda setting in media studies.
5. Give an example of media framing and explain its impact.

**Q.2 Answer the following questions.**

**(3x10=30)**

1. Critically examine the Cultivation Effects Hypothesis. How do long-term exposure to media, especially television, shape perceptions of reality? Discuss the implications of cultivation theory in relation to violence, gender roles, and social stereotypes.
2. Evaluate the influence of media on opinion formation, especially in the context of the Spiral of Silence theory. How do media representations impact individuals' willingness to express opinions in public? Analyze the implications for democratic participation and media influence.
3. Analyze the Knowledge Gap Hypothesis. Discuss its implications for social inequality and the digital divide. How do mass media contribute to widening or narrowing the knowledge gap?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Introduction to Advertising & Public Relations

Course Code: BSCS-310

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 تحریر کریں۔

- Differentiate between Advertising and Public Relations.  
(الف) اشتہارات اور تعلقات عامہ کے درمیان فرق کریں۔
- What do you know about email marketing?  
(ب) آپ ای میل مارکیٹنگ کے بارے میں کیا جانتے ہیں؟
- Explain any three advantages of print advertising.  
(ج) پرنٹ ایڈورٹائزنگ کے کسی بھی تین فوائد کی وضاحت کریں۔
- Describe the importance of using press releases.  
(د) پریس ریلیز کے استعمال کی اہمیت کو بیان کریں۔
- Explain how Public Relations Shape Public Opinion?  
(ه) وضاحت کریں کہ تعلقات عامہ عوامی رائے کو کس طرح تشکیل دیتے ہیں؟
- Briefly describe few important duties of a Public Relation Officer.  
(و) پبلک ریلیشن آفیسر کے چند اہم فرائض کو مختصر آبیان کریں۔

Q.2 Answer the following questions.

(3x10=30)

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

- What is the organizational structure of an advertising agency? Describe in the context of Pakistan.  
(الف) اشتہاری ایجنسی کی تنظیمی ڈھانچہ کیا ہے؟ پاکستان کے تناظر میں بیان کریں۔
- Comparatively take into account Propaganda, Advertising and Publicity with the help of examples.  
(ب) تقابلی طور پر مثالوں کی مدد سے پروپیگنڈا، اشتہارات اور تشہیر کو مد نظر رکھیں۔
- At the heart of a PR process, lies the art of building trust and credibility - Substantiate.  
(ج) PR پراسیس، اعتماد اور اعتبار پیدا کرنے کا فن ہے۔ ثابت کریں۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Urdu Poem: Thematic and Artistic Study

Course Code: BSU-306

Time: 3 Hrs. Marks: 60

Roll No. ....

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(6x5=30)

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

- 1- میراجی کی نظم "دور کنارہ" کا مرکزی خیال لکھیے۔
- 2- مثنوی کی تعریف لکھیے اور اردو کی دو مثنویوں کے نام بتائیے۔
- 3- پابند نظم کسے کہتے ہیں۔ شامل نصاب نظم کا حوالہ دیجئے۔
- 4- فیض کی نظم "یاد" کو اپنے الفاظ میں بیان کریں۔
- 5- مرزا محمود سرحدی کی "نظم" ہسپتال میں کسی معاشرتی رویے پر طنز کیا گیا ہے۔
- 6- ن۔ م راشد کی نظم "اندھا کباڑی" کا خلاصہ بیان کریں۔

(3x10=30)

سوال نمبر 1. درج ذیل سوالات پر تفصیلی نوٹ لکھیں۔

- 1- شامل نصاب متن کو مد نظر رکھتے ہوئے میر حسن کی مثنوی "سحر البیان" کا تجزیہ کریں۔
- 2- نظیر اکبر آبادی کی نظم "برسات کی بہاریں" پر تفصیلی نوٹ لکھیے۔
- 3- فیض احمد فیض کی نظم "نثار میں تیری گلیوں کے" کا تنقیدی جائزہ لیجئے۔





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Linguistics

Course Code: BSU-307

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: درج ذیل سوالات کے مختصر جوابات تحریر کریں۔

- i. لسانیات سے کیا مراد ہے کسی ایک تعریف کے حوالے سے وضاحت کیجیے
- ii. مصوتوں (vowels) اور مصمتوں (consonants) کی وضاحت کیجئے۔
- iii. پابند اور آزاد مارفیم کی وضاحت کیجئے۔
- iv. ترکیب (Phrase) اور جملے (Sentence) میں کیا فرق ہے؟
- v. تعلقیات (Affixes) کی کتنی اقسام ہوتی ہیں؟ مثالوں سے واضح کیجئے۔
- vi. مجاز مرسل کیا ہے، مثالوں سے واضح کیجئے۔

(3x10=30)

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

- i. صوتیات سے کیا مراد ہے تفصیلی نوٹ لکھیے۔
- ii. ڈاکٹر شوکت سبزواری کے نظریات کا جائزہ لیجئے۔
- iii. مستشرقین نے اردو قواعد و لغات مرتب کرنے میں اہم کردار ادا کیا تاہم یہ تردید کیجئے۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Principles of Research and Editing

Course Code: BSU-308

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(6x5=30)

سوال نمبر 1. درج ذیل سوالات کے مختصر جواب لکھیں۔

۱. تحقیق کی تعریف لکھیں؟
۲. مفروضہ کیا ہوتا ہے؟
۳. بنیادی ماخذ کسے کہتے ہیں؟
۴. تحقیق میں خاکہ کیا ہوتا ہے اختصار سے لکھیں؟
۵. قیاسی صحیح سے کیا مراد ہے؟
۶. کتابیات کی اہمیت بیان کریں؟

(2x15=30)

سوال نمبر 2. درج ذیل سوالات کے تفصیلی جواب لکھیں۔

۱. حافظ محمود شیرانی کی تحقیقی خدمات پر نوٹ لکھیں؟
۲. تحقیق کے مراحل بیان کریں؟



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(6x5=30)

سوال نمبر 1. اردو کے درج ذیل مراکز پر مختصر تعارفی نوٹ لکھیں۔

جاپان، مصر، جرمنی، چین، ایران، برطانیہ

(3x10=30)

درج ذیل سوالات کے تفصیلی جواب لکھیں۔

- سوال نمبر 2 اردو شعروادب کے فروغ و ارتقا میں لاہور کے اہم ادبی مراکز پر تفصیلی نوٹ لکھیے۔
- سوال نمبر 3- ہندوستان میں اردو ادب کے فروغ کے لیے کون سے اہم مراکز اور ادارے سرگرم عمل ہیں تفصیلی نوٹ لکھیے۔
- سوال نمبر 4- ترکی میں اردو ادب کی تدریس و تحقیق کے ضمن میں کیا کوششیں کی گئیں اور حالیہ صورت حال کیا ہے تفصیلی نوٹ لکھیے۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Punjabi Language and Literature

Course Code: BSU-310

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

(6x5=30)

سوال نمبر 1. مختصر سوالاں دے جواب لکھو۔

- 1۔ پنجابی غزل وچ علی محمد ملوک دا کیہ ادبی مقام اے بیان کرو۔
- 2۔ نسرین انجم بھٹی دی نظم ”نیلی دی وار“ تے تنقیدی نوٹ لکھو۔
- 3۔ لوک گیت کھلی تے گدھادی تعریف نالے مثالیں بیان کرو۔
- 4۔ اکھان دامطلب تے ورتوں دسو: آئی مائی جنداں، ٹکاملاں وچ کے
- 5۔ ارشد میردی انشائیہ نگاری دیاں خوبیاں کیہ کیہ نیں؟
- 6۔ فرزند علی نے گلاب تے فجری دے کردارنوں کوں بیانیا اے؟

(3x10=30)

درج ذیل سوالاں دے جامع جواب لکھو۔

- سوال نمبر 2۔ اخلاق عاطف ہوراں دی سیرت نگاری تے چائن پاؤ۔
- سوال نمبر 3۔ خواجہ غلام فرید یاں نجم حسین سید دی حیاتی اُتے فن دیاں خوبیاں نوں بیان کرو۔
- سوال نمبر 4۔ تھلے لکھے گئے شعری ٹکڑے دی بھرویں تشریح کرو شاعر داناں وی لکھو۔

(ا) اللہ پڑھیوں حافظ ہو یوں نہ گیا حجابوں پر دہاؤ  
پڑھ پڑھ عالم فاضل ہو یوں بھی طالب ہو یوں زرداؤ  
سے ہزار کتاباں پڑھیاں پر ظالم نفس نہ مرداؤ  
باجھ فقیراں کسے نہ مار یا باہو ایہو چور اندر دہاؤ

(یاں)

(ب) ویلے دے پردھاناں توں وی جے انصاف نہ ملیا بیبا!  
پھر توں سچ نوں سینے لا کے جھوٹھ دے کولوں ہر جاویں گا  
اُچیاں دُور پہاڑاں اُتے ویکھیں جانہ ڈیرا لئیں  
توں ہاواں دے خطے اندر ٹھردا ٹھردا ٹھردا جاویں گا



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

1. What is Difference between Transmission Delay and Propagation Delay?
2. Why do we need Protocols in Network Communication?
3. Compute Internet Checksum on Data 10110011  $k=2, m=4$
4. How do we check whether a packet is sent from source to a destination without any change in packet?
5. Mention IP address classes excluding their Broadcast addresses. Why is the Subnet Mask used in IP addresses? If we don't use this portion then What would be issues?
6. Using a 4 bit sequence number, what is the maximum size of the send and receive windows for each of the following protocol:
  - a. Go-Back-N ARQ
  - b. Selective Repeat ARQ.

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

1. We have the following data: 1010001100 calculate redundant bits/Parity bits using hamming code for error detection and correction.
2. In Flow Control, the sender wants to transmit 20 data packets to the receiver. Out of these 20 data packets, every 3rd data packet is lost. Timeout occurs after every 4th Packet is sent. How many packets will the sender have to send in total using (i) Stop and Wait (ii) Selective Repeat (iii) Go Back N  
Show Complete Working.
3. Consider the given address 170.88.128.0/22. We need 32 subnets in such a way that each subnet may host up to 32 hosts.
  - i) How many bits will be required for subnet ID?
  - ii) How many usable subnets will be there?
  - iii) What will be the subnet mask?
  - iv) What will be the address of the 5th host of the 2nd subnet?
  - v) What will be the broadcast address?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- I How does the Maxwell distribution curve change with an increase in temperature?
- II What is the most probable energy, and how does it relate to the average energy of molecules?
- III Give two statements of the 2<sup>nd</sup> law of thermodynamics.
- IV Why are ionic reactions generally faster in solution compared to covalent reactions?
- V What do you understand by the cage effect?
- VI Briefly, explain the effect of molar mass on the vertical distribution of gas.
- VII What factors influence the rate constant (k) of bimolecular reactions in solution?
- VIII Why do bimolecular reactions in solution often deviate from ideal behavior?
- IX Describe the term "Clausius in-equality".
- X How can you determine the pre-exponential factor from the Arrhenius equation?
- XI Write about "Partition Function" and its importance.
- XII What types of materials are typically used in adiabatic demagnetization, and why are they suitable?
- XIII What are the key assumptions or conditions under which Maxwell's relations hold true?
- XIV What are ionic reactions, and how do they typically occur in an aqueous solution?
- XV What is the effect of temperature on the rate constant?

**Answer the following questions.**

- |     |     |  |      |
|-----|-----|--|------|
| Q.2 | (a) | Give five postulates of transition state theory.   | (5)  |
|     | (b) | Derive Eyring equation based on postulates of transition state theory.                         | (5)  |
| Q.3 |     | What is Third Law of Thermodynamics and how it can be proved experimentally?                   | (10) |
| Q.4 | (a) | Write the Barometric Formula and explain the significance of its each term.                    | (5)  |
|     | (b) | How is the Barometric Formula used in calculating atmospheric pressure at different altitudes? | (5)  |



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- i. Why is 4s orbital filled earlier than 3d orbital in Potassium?
- ii. What is a bridge bond?
- iii. Write two drawbacks of VSEPR theory.
- iv. Draw the structure of an  $AB_3E_2$  type molecule.
- v. Draw the MO diagram for  $O_2$  molecule.
- vi. Differentiate between diamagnetism and paramagnetism.
- vii. Define stereochemistry with an example.
- viii. Write the names of the elements present in actinide series.
- ix. Discuss whether we can call actinides as rare earths or not?
- x. Give electronic configurations of Thorium and Lawrencium.
- xi. What is a 3 center – 4 electron bond? Give example.
- xii. Briefly describe the stability constant.
- xiii. Name various methods for the preparation of co-ordination compounds.
- xiv. Give electronic configurations of Lanthanum and Lutetium.
- xv. Give four common properties of Lanthanides.

**Q.2 Explain following with suitable examples.**

**(3x10=30)**

- (i) Explain the various steps involved in the extraction of Uranium, in detail.
- (ii) Describe the role of metal complexes in analytical chemistry and industry.
- (iii) Define polarization of ions and explain Fajan's rules.



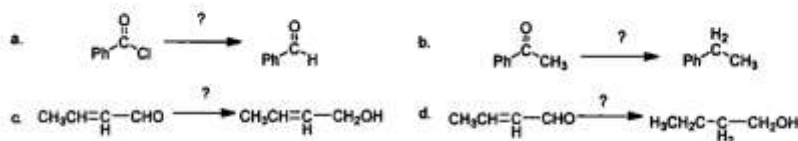


### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

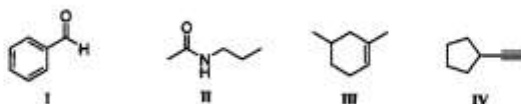
Q.1. Answer the following short questions.

(6x5=30)

i. Which reagents are required for following transformations?



ii. For each of the compound shown below, give the most important IR absorption peak (approximate).



iii. Compare the reductions using  $\text{LiAlH}_4$  and  $\text{NaBH}_4$ .

iv. Discuss the factors affecting the stability of free radical.

v. How can you use infra-red spectroscopy to distinguish between following pairs of isomers?



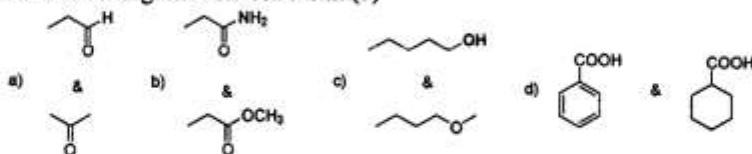
vi. State Beer-Lambert's Law. How absorbance and transmittance are related?

Answer the following questions.

Q. No. 2.

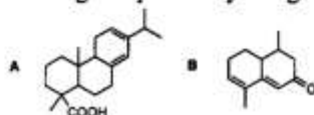
i) What are free radicals? Discuss their structure? How they are generated? (5)

ii) For each of following pair of compounds shown below, give absorption band in IR spectrum that could be used to distinguish between them. (5)

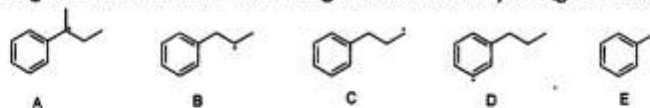


Q. No. 3.

i). Calculate the expected  $\lambda_{\text{max}}$  of following compounds by using Woodward-Fisher rules? (5)

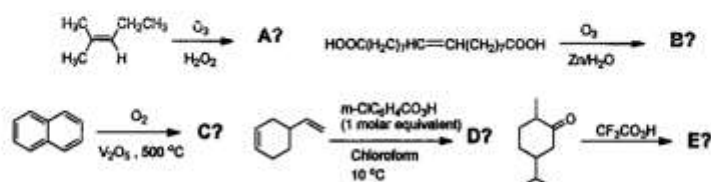


ii). Rank the following free radicals with decreasing order of stability and give reason. (5)



Q. No. 4.

i). What would be the products of following reactions (5)



ii). Discuss the mechanism of addition of HBr to propylene. How the course of reaction is changed if peroxide is present? (5)





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- i. What is basic principle of electrophoresis?
- ii. How is ion exchange capacity defined and calculated?
- iii. What is cross-linkage of resin? How is it beneficial for separation of ions?
- iv. What is the basic difference between moving boundary and capillary zone electrophoresis?
- v. What is difference between distribution coefficient and distribution ratio in solvent extraction?
- vi. How is extraction efficiency defined?
- vii. How is SPE different from SPME?
- viii. What is electrophoretic mobility? Give the formula to calculate it.
- ix. What is zeta potential? How does it help in the separation of ions by capillary electrophoresis?
- x. What is chemical interference in atomic spectroscopy? Explain with suitable example?
- xi. How is atomic spectrum different from molecular spectrum?
- xii. What is atomization? How can it be achieved using non-flame sources?
- xiii. Why is there a need for Hollow cathode lamp in AAS and not in AES?
- xiv. Why low temperature is used for alkali and alkaline earth metals?
- xv. What are the characteristics of air acetylene flame?

**Q.2 Answer the following questions.**

**(6x5=30)**

- a) Give a brief account of the separation of metal ion using anion exchangers.
- b) Explain the solvent extraction by flow injection analysis.
- c) How neutral substances can be separated using capillary electrophoresis?
- d) What is the basic principle of FES? Explain different events occurring in the flame?
- e) Explain different types of factors affecting Ion Exchange Chromatography?
- f) Explain construction and working of heated graphite furnace with the help of diagram?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- i. Write down some important uses of halogen derivatives?
- ii. What is a SURFACTANT?
- iii. Write any two applications of Oxalic acid?
- iv. What are applications of SAFETY GLASS?
- v. Briefly describe REGENERATIVE PRINCIPLE of heat economy?
- vi. Define glass?
- vii. What is the role of cullet in glass production?
- viii. Enlist any two uses of Phthalic anhydride.
- ix. What is mould blowing in shaping a glass product?
- x. Why glass is passed through annealing process?
- xi. What are soaps?
- xii. What are the common ingredients for color development in glass?
- xiii. Enlist any two sulphonating agents?
- xiv. Briefly describe zwitter ion detergent.
- xv. What are raw materials for production of Styrene?

**Q.2 Answer the following questions.**

**(5x6=30)**

- i. How DETERGENTS are classified. Briefly describe each class?
- ii. How PHTHALIC ANHYDRIDE is prepared from naphthalene on large scale?
- iii. What are POT FURNACES? Which type of glass is produced in these furnaces?
- iv. How MIRRORS are produced from glass?
- v. What is Hydrogenation? How significant is this process?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- I. Define acid number and how it determines the quality of an oil.
- II. Summarize some important functions of cholesterol in the body.
- III. Why do fats have thermal insulation properties?
- IV. How rancidity occurs in fats?
- V. Why glycine is not optically active?
- VI. Elaborate peptide bond formation by giving the equation.
- VII. Name any four techniques that may be employed to separate proteins.
- VIII. What is an isoelectric point?
- IX. Write a short note on the isoenzyme.
- X. Discuss the effect of pH change on enzyme activity.
- XI. Define the Michaelis-Menton constant ( $k_m$ ).
- XII. Differentiate competitive and non-competitive inhibition in enzymes.
- XIII. Justify that the respiratory quotient of carbohydrates is 1.
- XIV. Define fiber (in nutrition) and give its dietary sources.
- XV. Briefly discuss RDA(recommended dietary allowance).

**Answer the following questions.**

- Q.2. (a) Give in detail the biological importance of lipids. (5)**  
**(b) Discuss any five factors affecting BMR (basal metabolic rate). (5)**
- Q.3. (a) How amino acids are classified on the basis of their polarity? (5)**  
**(b) Discuss the  $\alpha$ -helix structure of proteins in detail. (5)**
- Q.4. (a) Give a description of six major classes of enzymes in sequence. (6)**  
**(b) Explain the salient features of an active site of enzymes. (4)**





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Financial Management (Commerce)

Course Code: COMM-306

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) Importance of good corporate governance
- b) Primary vs secondary market
- c) Zero base budgeting
- d) Nominal vs effective interest rate
- e) Time value of money
- f) Yield to maturity

Answer the following questions.

(3x10=30)

Q.2 Forecast sales and purchases from November to January 20XX of Bells Company are given below:

<u>Months</u>	<u>Sales</u>	<u>Purchases</u>
November	\$85000	\$59000
December	90000	63000
January	88000	60000

The company typically collects 25 percent of its sales in the month of sales, 50 percent in the subsequent month, and 20 percent in second month after the sale. The remaining percentage is considered to be bad debts. Actual sales for the month of September and October 20XX are \$70000 and \$74000 respectively. Other cash collections are; \$17000 in the month of November, \$16000 in the month of December and \$15000 in the month of January. Forty percent payment of purchases is made in the month of purchase and remaining 60 percent payment is made in the following month after purchases. Accounts payable for purchases of October are \$30000. Marketing expenses will be \$13000 per month. General and admin expenses will amount to \$21000 per month, lease payment under long term lease contract will be \$15600 per month, depreciation expenses are \$10000 each month, and miscellaneous expenses will be \$6000 each month. Tax payment will be made in January \$12000. Payment of interest and loan repayment will due in November \$20000. An equipment will be purchased in the month of December at a cost of \$25000. The company will plan to pay \$10000 in cash dividend and \$50000 as stock dividends to its shareholders in the month of January. Cash on hand at November 1<sup>st</sup> is \$13000 and a minimum cash balance of \$10000 should be maintained throughout the cash budget period.

**Prepare a monthly cash budget of Bells Company from November to January 20XX**

- Q.3 When you were born, your dear old grandmother promised to deposit \$2000 in a savings account for you on each and every one of your birthdays, starting with your first birthday. The savings account bears a 15 percent compound annual interest rate. You have just turned 20 and want all the cash to meet the expenses of your education. However, it turns out that, the dear old grandmother made no deposit on your third, ninth, eleventh and fourteenth birthdays. How much is in the account now, on your twentieth birthday?
- Q.4 Lahore Corporations paid dividend of \$5.50 per share in last year, and this dividend is expected to grow at 12 percent annual rate for the next two years, and then at a 10 percent annual rate for the next four years, after which it is expected to grow at an annual 9 percent rate to infinity. By using dividend discounted model, what is the maximum price of this stock that an investor is ready to pay for it, if required rate of return of the investor is 16 percent?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Banking Law and Practice

Course Code: COMM-307

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. State Bank of Pakistan Act 1956
2. Reserve Fund
3. Functions of Bank
4. Revocation of Banker's Authority
5. Role of Bank in financial markets
6. Types of cheques

**Q.2. Answer the following questions.**

**(3x10=30)**

**Q. 1**

Explain the principles and forms of lending offered by Pakistani banks with examples.

**Q. No. 2**

Differentiate between Islamic and conventional banking. Moreover, list out products of Islamic banks (both deposit side & financing side products) offered to its customers.

**Q. 3**

List out the eligibility criteria and procedures to open and operate the bank account of the following customers:

- a. Joint Stock Company Account
- b. Account of an Illiterate Person



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Islamic Principles of Business & Finance

Course Code: COMM-308

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. Briefly explain the structure of Murabaha
2. Elaborate briefly the criticism raised on Islamic Banking
3. Discuss Diminishing Musharka as an Islamic Mode of Finance
4. Write down any four Business Ethics and Norms.
5. Explain modern use of Ijara
6. Explain the features with examples of Bai Salam and Bai Istisna'a (Forward Sale)

**Q.2. Answer the following questions.**

**(2x15=30)**

1. Discuss the different types of sukuk with their application in capital markets
2. Explain and discuss the types of Riba. Also elaborate the philosophy to ban the Riba in Islamic Finance.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Write short note on the followings.**

**(6x5=30)**

- (i). Hypothetical proposition.
- (ii) Major premise.
- (iii) Middle term.
- (iv). Contraries.
- (v). Hasty generalization.
- (vi). Ostensive definition.

**Answer the following questions.**

**(3x10=30)**

**Q.2. Verify the validity or invalidity of the following by Venn diagram**

- (i) EIO-1      (ii). AOO-3      (iii). EAO-4      (iv). IAI -3      (v). AEE-2

**Q.3 Explain inductive and deductive arguments with examples.**

**Q.4. Explain six syllogism rules with examples.**



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Organizational Behavior

Course Code: COMM-310

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 job satisfaction?
- II. Define values and its types.
- III. Define transformational leadership.
- IV. Define charismatic leadership style.
- V. What is organizational commitment?
- VI. Define perceived organizational support.

**Q.2. Answer the following questions.**

**(3x10=30)**

- I. Define the term motivation and Abraham Maslow's hierarchy of need theory.
- II. Define the term leadership and also write down any two theories of leadership.
- III. What is stress, potential sources of stress and also state various outcomes or consequences of stress.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Write short note on the followings.**

**(6x5=30)**

1. Write differences between cross sectional and Successive Independent Research Design. Give example to support your answer.
2. What are key characteristics of Repeated Measure Design. Give relevant example.
3. What are important differences between true experiment and Quasi Experimental Research Design.
4. What are major disadvantages of all single subject designs.
5. Write a note on the sources of invalidity in the nonequivalent Control Group Design.
6. Write a short note on ethnographical research including its main purpose and types.

**Q.2. Answer the following questions.**

**(3x10=30)**

- Q.1. Write a note on different survey methods used in psychological research. Support your answer with examples.
- Q.2. Write a detailed note on Random Group Design (Experimental Design). What are its major characteristics with example and method used for randomization?
- Q.3. Write a note on multiple baseline designs. Give its characteristics, advantages and methodological issues.



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

- Assumptions of ANOVA.
- Regression Analysis.
- Procedure of testing intercept parameter ( $\alpha$ ) in simple regression
- Procedure of Kruskal Wallis test.
- Non-parametric tests and its disadvantages.
- Discuss contingency table and Chi-square statistic.

**Answer the following Questions. (2x15=30)**

**Q.2.** Three varieties of potatoes are planted each on four plots of ground of the same size and type and each variety is treated with four different fertilizers. The yields are follows

Variety	Fertilizer			
	1	2	3	4
1	19	22	26	26
2	25	19	23	25
3	17	18	22	24

Perform Two way analysis of variance and draw conclusions.

**Q.3.** Twelve dogs were fed on diet A and 15 on diet B. The gains in weights for the individuals dogs wise as follows:

A: 24, 29, 27, 33, 23, 24, 12, 31, 23, 29, 30, 34,

B: 43, 33, 21, 07, 46, 30, 39, 29, 31, 34, 17, 20, 34, 28, 21

Test the equality of population means assuming gains in weights in normally distribution with unequal population variances.

**Q.4.** The amounts of chemical compound (y) which dissolved in 100 grams of water at various temperature (x) were recorded as follows:

X	0	15	30	45	60	75
Y	7	12	23	30	42	44

Compute two regression Co-efficients and then correlation coefficient.

**Q.5.** Compute Chi-square and test whether the two attributes are independent.

Attributes	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>
B <sub>1</sub>	135	175	90
B <sub>2</sub>	215	325	60

**Q.6.** An experimenter wants to determine the effectiveness of a certain reducing diet. 12 persons were put on diet. Their weights before and after they tried the diet are as:

Before: 202 154 183 180 228 164 130 165 175 245 237 163

After: 195 150 178 199 220 157 135 180 198 206 227 155

Use the sign test to test the hypothesis that the diet is not effective against that it is effective



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Write short note on the followings.**

**(6x5=30)**

Q1) Briefly state the forms of Obsessions?

Q2) How Freud described Conversion Disorder?

Q3) Differentiate between Bipolar I and Bipolar II?

Q4) Briefly state the symptoms of Post Traumatic Stress Disorder?

Q5) How theorist explained Schizophrenogenic mother?

Q6) Differentiate between Dissociative Identity Disorder and Gender Dysphoria?

**Q.2. Answer the following questions.**

**(3x10=30)**

Q1) How theorists explain the causes of depression?

Q2) What are the positive and negative symptoms of Schizophrenia?

Q3) Describe each Cluster of Personality disorder?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Health Psychology

Course Code: CPSY-325

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Write short note on the followings.**

**(6x5=30)**

1. What is the modern concept of Health and Illness?
2. Explain Type A and Type B personality with reference to Health Psychology
3. Explain the concept of Quality of Life
4. What is the scope of Health Psychology
5. Draw the Bio Psycho Social Model of Health Psychology
6. Draw any model of Stress with reference to Health Psychology

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Explain with example the Health Belief Model
2. How will you conduct Assessment and Management of a patient with Diabetes?
3. What is the Trans theoretical Model of Behavior Change?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

1. What is stimulus control? How is it relevant in behavior therapy?
2. Differentiate between drug use, misuse, abuse, and dependence.
3. Write a brief note on motivational interviewing in the context of addiction treatment.
4. What are the basic skills a therapist must possess to implement CBT effectively?
5. Briefly explain the concept of behavioral activation in CBT.
6. What are the principles of CBT?

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Explain the concepts of extinction, modeling, chaining, and prompting with suitable examples.
2. Explain assessment and diagnosis of drug addiction.
3. Explain Behavioral Activation with the help of example.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: System and Network Administration

Course Code: DI-323A

Roll No. ....

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 an IP address? Differentiate between private and public IP addresses.
- 2) Explain the concept of Subnetting. How would you calculate the number of hosts in a subnet?
- 3) What is a router? Explain how a router works in a network.
- 4) What is DHCP? Explain how it helps in automating the IP address allocation process.
- 5) Describe DNS (Domain Name System). How does it work to resolve domain names into IP addresses?

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Discuss the key differences between Linux and Windows server administration. Which one would you choose for managing a corporate network and why?
2. What is IPsec? Explain how it secures IP communications in a network.  
Discuss the concept of Network Monitoring and its importance in network administration.
3. Provide examples of tools used for this purpose.





### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

1. Suppose you have trained a model that performs exceptionally well on the training data but poorly on the validation set. What techniques would you use to address overfitting and improve generalization?
2. Explain the difference between supervised and unsupervised learning with the help of an example.
3. You are designing an AI system to solve a sliding puzzle (like the 8-puzzle). The goal is to move the tiles to reach a specified end configuration. Which search strategy would you choose to solve this problem, and why? How would you handle the potential issue of excessive branching in the search tree?
4. What are the limitations of fuzzy logic, and how can they be addressed in complex systems?
5. Suppose you are working on a self-driving car system that must track multiple pedestrians and vehicles simultaneously. How would you design a multi-object tracking algorithm to ensure real-time performance and accuracy?
6. How game theory is related to artificial intelligence? Explain with the help of an example.

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

1. Consider the given dataset with 10 different examples, apply Naïve Bayes classification algorithm to predict whether a Car = {Red, SUV, Domestic} is stolen or not.

Example No.	Color	Type	Origin	Stolen?
1	Red	Sports	Domestic	Yes
2	Red	Sports	Domestic	No
3	Red	Sports	Domestic	Yes
4	Yellow	Sports	Domestic	No
5	Yellow	Sports	Imported	Yes
6	Yellow	SUV	Imported	No
7	Yellow	SUV	Imported	Yes
8	Yellow	SUV	Domestic	No
9	Red	SUV	Imported	No
10	Red	Sports	Imported	Yes

2. Run A\* Search algorithm to calculate the optimal path from a start node (A) to a goal node (G). Each node has an associated heuristic value (h), and the edges between nodes have costs (g).

$A \rightarrow B : g(A, B) = 2$	$A : h(A) = 10$
$A \rightarrow C : g(A, C) = 4$	$B : h(B) = 8$
$B \rightarrow D : g(B, D) = 5$	$C : h(C) = 5$
$B \rightarrow E : g(B, E) = 10$	$D : h(D) = 7$
$C \rightarrow E : g(C, E) = 3$	$E : h(E) = 3$
$D \rightarrow G : g(D, G) = 5$	$F : h(F) = 6$
$E \rightarrow G : g(E, G) = 4$	$G : h(G) = 0$

3. A budget airline company operates 3 planes and employs 5 cabin crews. Only one crew can operate on any plane on a single day, and each crew cannot work for more than two days in a row. The company uses all planes every day. A Genetic Algorithm is used to work out the best combination of crews on any particular day.
  - a. Suggest what chromosome could represent an individual in this algorithm?
  - b. Suggest what could be the alphabet of this algorithm? What is its size?
  - c. Suggest a fitness function for this problem.
  - d. How many solutions are in this problem? Is it necessary to use Genetic Algorithms for solving it? What if the company operated more planes and employed more crews?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Monetary Economics

Course Code: ECON-324

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. Define M1, M2, and M3 in the context of the money supply.
- b. Define the Balance of Payments (BOP). Discuss its various components.
- c. Discuss the Keynesian liquidity preference theory.
- d. Define money. Discuss its various functions.
- e. Explain the concept of stagflation with an example.
- f. Discuss the problems of the barter system.

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

- I. What is the exchange rate? Discuss the determination of exchange rates under fixed and flexible exchange rate regimes.
- II. What is monetary stabilization policy, and how does the central bank of Pakistan (SBP) use it to control inflation? Using the aggregate demand and supply model, explain how changes in monetary policy affect output, employment, and prices in Pakistan.
- III. What are the sources of persistent inflation in Pakistan? Analyze the policies implemented by the State Bank of Pakistan (SBP) to combat inflation.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Advanced Macroeconomics

Course Code: ECON-302 A

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. Quantity Theory of Money	رقم کی مقدار کا نظریہ
ii. The Pigou Effect	پیگو اثر
iii. Liquidity Preference Theory	لیکوئیڈٹی ترجیحی نظریہ
iv. Rules versus discretion	قواعد بمقابلہ صوابدید
v. The Keynesian cross	کنیزین کراس
vi. Classical dichotomy	کلاسیکی اختلاف

Answer the following questions.

(3x10=30)

درج ذیل سوالات کے جوابات دیں۔

Q.2. Explain the Solow growth model for determination of national income.

قومی آمدنی کے تعین کے لیے سولو گروتھ ماڈل کی وضاحت کریں۔

Q.3. Drive aggregate demand curve using IS-LM model.

IS-LM ماڈل کا استعمال کرتے ہوئے مجموعی ڈیمانڈ کرو اخذ کریں۔

Q.4. Analysis of short run and long run Phillips Curve.

شارٹ رن اور لانگ رن فلپس کریو کا تجزیہ



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Monetary Economics

Course Code: ECON-308 N

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Give short answers of the following:**

**(6x5=30)**

- I. Rational expectations theory ?
- II. Monetization of public debt ?
- III. Role of financial intermediaries ?
- IV. Money multiplier ?
- V. Role of financial reforms in Pakistan?
- VI. Function of a central bank ?

**Q.2. Answer the following questions.**

**(3x10=30)**

1. What are the three major functions of money. Discuss the role of money holding in the capitalist economy?
2. What is Keynesian liquidity preference framework?
3. Discuss the role of interest rate pegging to stabilize the economy by central bank.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Development Policy

Course Code: ECON-313

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 Discuss functions of religious institutions.
- ii Explain impact of WTO on developing countries.
- iii Sources of technology transfer.
- vi Developing countries demand trade instead of aid. Discuss
- v Differentiate between revealed comparative advantage and competitiveness.
- vi. Describe domestic resource mobilization.

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

- 1. Explain difference stages of debt cycle.
- 2. Explain the role of GATT and its Failure.
- 3. Explain the economic characteristics of various poverty groups.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Advanced Macroeconomics

Course Code: ECON-323

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. Expectation augmented Phillips curve
2. Structural and transitory unemployment
3. Lucas Critique
4. Determinants of exchange rate
5. Seigniorage effect
6. Imperfect information model of aggregate supply curve

**Q.2. Answer the following questions.**

**(3x10=30)**

- i) Discuss the effectiveness of fiscal, monetary and commercial policies under fixed and floating exchange rate system.
- ii) Explain the role of population growth and technological progress in Solow Growth model.
- iii) Explain types and causes of inflation.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- i. What are the consequences of heteroscedasticity for OLS estimators?
- ii. Elaborate the properties of Generalized Least-Squares model (GLS)?
- iii. Define the concepts of stationary vs. non-stationary series?
- iv. Explain the concept of “Dependent Variable Measured with Error”?
- v. Elaborate the causes of endogeneity?
- vi. Discuss the Method of two stage least squares (2SLS)?

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

- (i) Explain the concepts of Co-integration and Error correction Mechanism (ECM) in detail?
- (ii) Define autocorrelation, also explain the causes and consequences of autocorrelation?
- (iii) Examine the identification state by using order and rank condition?

$$Q_t^d = \alpha_1 + \alpha_2 P_t + \alpha_3 Y_t + \varepsilon_{1t} \dots\dots\dots(i)$$

$$Q_t^s = \beta_1 + \beta_2 P_t + \beta_3 W_t + \varepsilon_{2t} \dots\dots\dots(ii)$$

$$Q_t^d = Q_t^s \dots\dots\dots(iii)$$



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- i. What is labor economics? Which type of questions do labor economists analyze?
- ii. Explain the concepts of labor force and labor force participation rate.
- iii. What happens to hours of work when non-labor income increases?
- iv. What is reservation wage?
- v. How firms decide how much labor to hire?
- vi. Define labor market discrimination and briefly discuss its types.

**Answer the following questions.**

**(3x10=30)**

- Q. 2 Describe the labor market trends in wages and employment implied by the Cobweb Model.
- Q. 3 What is deadweight loss? How does the payroll tax generate deadweight loss in the economy? Explain using suitable graph.
- Q. 4 Discuss how the wage-schooling locus is determined in the labor market and why is it upward sloping and concave?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Comparative Economic System

Course Code: ECON-327

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 the differences between privatization and liberalization?
- ii. What is a mixed economy?
- iii. What role does government play in a capitalist economy?
- iv. What is the main goal of socialism?
- v. What is the foundation of the Islamic economic system?
- vi. What role does taxation play in a welfare state?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. What are the key components of economic planning, and how do they contribute to achieving economic goals?
- ii. How does Islamic economics address issues of equity and social justice, and what mechanisms does it employ to promote welfare within an economic system?
- iii. How does the market system contribute to environmental problems, and what are the key mechanisms through which market failures affect the environment?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Managerial Economics

Course Code: ECON-328

Time: 3 Hrs. Marks: 60

## THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Answer the following short questions.**

**(10x3=30)**

1. What is meant by incremental change in revenues?
2. Elaborate the relationship between Total revenue and Price elasticity of demand.
3. Why cross price elasticity is positive for Substitutes?
4. A company sells 100 units of a product at a price of \$10 per unit. If the price is increased by 10%, what will be the new demand if the price elasticity of demand is -0.5?
5. If the price of a good increases from \$10 to \$12 and the quantity demanded decreases from 100 units to 80 units, calculate the price elasticity of demand.
6. Describe the concept of returns to scale.
7. Explain how price is determined in perfect competition.
8. Explain the concept of barriers to entry in monopoly.
9. What is capital budgeting?
10. Describe the assumptions of monopolistic competition.

**Answer the following questions.**

- Q. No. 2** Why is the firm demand curve horizontal in perfectly competitive markets? Does this mean that the perfectly competitive industry demand curve is also horizontal? **(06+04)**
- Q. No. 3** A firm has a production function  $Q = 2L + 3K$ , where Q is output, L is labor, and K is capital. If the wage rate is \$10 per unit of labor and the rental rate of capital is \$5 per unit, what is the least-cost combination of inputs to produce 100 units of output? **(10)**
- Q. No. 4** In what manners Monopolistic competition is different from Perfect competition and Monopoly? **(10)**





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Agricultural Economics

Course Code: ECON-330

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 food safety?
- ii. Define Commercial Farming.
- iii. Assumptions of cobweb theorem.
- iv. What is agriculture technology?
- v. Define quasi rent.
- vi. Describe Water logging and salinity.
- vii. Define disguised unemployment.
- viii. Main agri-export of Pakistan.
- ix. What is dual Economy?
- x. What is farm productivity?
- xi. Define marketable surplus.
- xii. Explain agricultural Adequacy.
- xiii. Present status of Green Revolution in Pakistan.
- xiv. Ecological disequilibrium explain.
- xv. Explain agricultural project planning.

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. Explain Arthur Lewis modal of unlimited supply of labor.
- ii. Explain classical modal regarding papulation.
- iii. A) Discuss the impact of agriculture on the environment.  
B) Impact of environment on agriculture in the wake of recent floods of Pakistan.



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**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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**Q.1. Give short answers to the following concepts. (6x5=30)**

- i. What is employee engagement? Give two benefits for organizations.
- ii. Explain two types of management styles used in HRD.
- iii. How do training programs help employees grow in their careers?
- iv. What role does HRD play in managing workplace changes?
- v. What are two key advantages of diversity training in companies?
- vi. Describe how ethical policies affect HR development.

**Q.2. Write detailed answers to the following questions. (3x10=30)**

- i. Why is leadership training important for employees?
- ii. Explain a simple conflict resolution technique used in HRD.
- iii. How does effective talent management improve employee satisfaction?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Money, Banking & Financial Institutions

Course Code: ECON-332

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 is the role of financial institutions in financial markets.
- ii. Discuss the implications of debt equity ratio.
- iii. Compare and contrast the expected returns on domestic and foreign assets.
- iv. What do you understand by interest rate risks. Explain with example.
- v. Differentiate between sterilized and unsterilized interventions using relevant examples.
- vi. Briefly discuss quantity theory of money with its assumptions.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Discuss role and functions of SMEDA in the growth of short and medium level organizations of Pakistan.
2. Discuss different dividend growth models of common stocks.
3. Discuss in detail the implications of financial regulations on economic growth.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Population Economics

Course Code: ECON-334

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 the Demographic Transition Theory?
- ii. Explain the effects of population growth on natural resources and ecosystems.
- iii. How does population density affect environmental sustainability?
- iv. Explain the impact of immigration on native employment and wages.
- v. Define “Life Expectancy” and discuss its importance in evaluating population health.
- vi. What is urbanization, and how is it measured?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. How does migration flows influence labor markets in both sending and receiving countries?
- ii. Identify and discuss the key challenges faced by developing countries in implementing effective population policies.
- iii. Discuss the Demographic Transition Theory, outlining its stages and their implications for economic development.



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**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- I. Define the natural resources?
- II. What is economic significance of bio-diversity?
- III. What is revealed preference analysis in environmental valuation?
- IV. Explain the negative externalities?
- V. Explain what is Coase theorem?
- VI. What are environmental policy instruments ?

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

1. What is trans-boundary environmental issues considering global pollution?
2. Draw and discuss the environmental Kuznet's curve in the context of fossil fuels.
3. Explain the economic valuation of the environment and what methodologies you will suggest for this?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- i. How is the Squared Poverty Gap calculated?
- ii. Explain the social and economic effects of income inequality?
- iii. How is the Watts index of poverty calculated?
- iv. Define Gini Coefficient of income inequality?
- v. Define the concept of Pro-poor growth?
- vi. What is the Sen Capability approach?

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

- (i) Define Poverty? Elaborate the different measures of poverty?
- (ii) Elaborate how The Atkinson Index and Generalized Entropy (GE) measures provide information about income inequality of a country?
- (iii) Define the causes of income inequality in Pakistan? Also elaborate the policies to eliminate the income inequality in Pakistan?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Islamic Banking and Finance

Course Code: ECON-435

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. Define **Riba** and explain why it is prohibited in Islam.
- ii. Differentiate between **Shirkat-ul-Milk** and **Shirkat-ul-Aqd**.
- iii. What is **Wakalah**, and how is it applied in Islamic banking operations?
- iv. Outline the key features of an **Istisna** contract.
- v. How does Islamic banking promote **risk-sharing** compared to conventional banking?
- vi. How does Islamic banking contribute to **financial inclusion** in Muslim and non-Muslim countries?

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

- i. Describe the **Islamic law of contracts** and its relevance to modern Islamic financial instruments.
- ii. Compare and contrast **Musharakah** and **Diminishing Musharakah** as financing modes.
- iii. In Pakistan, Islamic banks use **KIBOR** i.e. an interest-based benchmark to determine profit sharing ratios. In this context, how these banks can be said to be Islamic when they base conventional benchmark?



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**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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**Q.1. Give short answers to the following concepts. (6x5=30)**

- 1-What is strategic action of a firm?
- 2-What is Edgeworth box and Pareto optimally?
- 3- Briefly describe the Envelope Theorem?
- 4- What is an Efficient Allocation?
- 5- Differentiate between social justice and social optimum?
- 6- Briefly describe Walrasian Equilibrium?

**Q.2. Write detailed answers to the following questions. (3x10=30)**

- 1- Explain Kakutani fixed point theorem in detail?
- 2- Explain the first and second fundamental theorem of welfare in real word?
- 3- Is competitive markets Pareto efficient, explain in detail?





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: History-III

Course Code: EDE-161

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. Aligarh Movement.
- ii. Partition of Bengal 1905.
- iii. Separate Electorate.
- iv. Simon Report
- v. Jinnah's Fourteen Points

**Q.2. Answer the following questions.**

**(2x15=30)**

- i. Write a detailed note on the Allahabad Address.
- ii. Write a detailed note on Nehru Report.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Political Science-III

Course Code: EDE-165

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

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

i. Define the role of King in British Political System.

i. برطانیہ کے سیاسی نظام میں بادشاہ کے کردار کی وضاحت کریں۔

ii. Write a note on British Cabinet.

ii. برطانوی کابینہ پر نوٹ لکھیں۔

iii. Define Federal System of U.S.A.

iii. امریکہ کے وفاقی نظام کی وضاحت کریں۔

iv. Write down the Law making Process in U.S.A.

iv. امریکہ میں قانون سازی کا طریقہ کار لکھیں۔

v. Write down Two features of Switzerland Constitution.

v. سوئٹزرلینڈ کے آئین کی دو خصوصیات لکھیں۔

vi. The Federal Legislature of Switzerland.

vi. سوئٹزرلینڈ کی وفاقی مقننہ

**Q.2. Answer the following questions.**

**(3x10=30)**

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

i. Write down the Process of British House of Common.

i. برطانوی دارالعلوم کے اختیارات لکھیں۔

ii. Separation of Power in U.S.A.

ii. امریکہ میں علیحدگی اختیارات

iii. Write down the History of Swiss Constitution.

iii. سوئس آئین کی تاریخ لکھیں۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Sociology III

Course Code: EDE-169

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 social action by Max Weber.
2. Define the concept of suicide.
3. How can overpopulation affect national resources?
4. Give two reasons why sociological theories are important today.
5. What is meant by a scientific theory?
6. Discuss the concept of Alasbiyyah.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Explain in detail the Law of Three Stages given by Auguste Comte. How does it help in understanding social evolution?
2. Describe Émile Durkheim's theory of suicide and its types with examples.
3. Critically analyze the causes of environmental degradation in Pakistan. How can governmental spolicies and public awareness campaigns contribute to environmental protection?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Urdu-III

Course Code: EDE-173

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: مختصر جوابات تحریر کریں۔

1. فصاحت سے کیا مراد ہے؟
2. آفاقیت پر نوٹ لکھئے۔
3. استعارہ کی تعریف کیجئے اور دو شعری مثالیں بھی لکھئے۔
4. مسعود حسن رضوی کی بیان کردہ شعری خوبیوں میں سے کسی ایک پر نوٹ لکھئے۔
5. کلاسیکیت اور علاقیت کی تعریفیں لکھئے۔
6. زندگی ہے یا کوئی طوفان ہے ہم تو اس جینے کے ہاتھوں مر چلے اس شعر میں ارکان تشبیہ کی نشاندہی کریں۔

(3X10=30)

سوال نمبر 2: مندرجہ ذیل سوالات کے تفصیلی جواب تحریر کیجئے۔

1. لف و نشر پر تفصیلی نوٹ لکھئے اور مثالیں بھی دیجئے۔
2. میر و سودا کے دور پر تفصیلی نوٹ لکھئے اور مثالیں بھی دیجئے۔
3. "ادب اور زندگی" پر مضمون لکھئے۔



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

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

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

- Write a note on the authenticity of the Hadith in the light of the Holy Quran.  
(الف) قرآن پاک کی روشنی میں حجیت حدیث پر نوٹ لکھیں۔
- What are the three things that bring salvation and three things the bring destruction mentioned in the Hadith.  
(ب) حدیث میں بیان شدہ تین نجات دینے والی اور تین ہلاک کرنے والی باتیں کون سی ہیں؟
- Which kind of sale is prohibited in the Hadiths?  
(ج) احادیث میں کس قسم کی بیوع سے منع کیا گیا ہے؟
- Write the literal and terminological meaning of jurisprudence.  
(د) فقہ کا لغوی اور اصطلاحی مفہوم تحریر کریں۔
- Write an explanation of the sunan Muaqqadah Rakaats in the five day prayers.  
(ه) نماز پنجگانہ میں سنت موکدہ رکعتوں کی وضاحت تحریر کریں۔
- Write the ruling on recitation in the obligatory and sunan rakaats.  
(و) فرض اور سنت رکعتوں میں قرأت کا حکم تحریر کریں۔

**Q.2. Write down the detailed answers of the following questions. (3x10=30)**

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

- Explain the problem stated in the following Passage.  
(الف) درج ذیل عبارت میں بیان شدہ مسئلہ کی وضاحت کریں:  
وَمَنْ كَانَ خَارِجَ الْمَصْرِ يَتَنَفَّلُ عَلَى دَابَّتِهِ إِلَى أَيِّ جِهَةٍ تَوَجَّهَتْ يَوْمَ إِيمَاءٍ
- Throw light on the method of the Holy Prophet (PBUH) in inviting people to Islam.  
(ب) دعوت دین میں نبی کریم ﷺ کے طریقہ کار پر روشنی ڈالیں۔
- Translate and explain the following hadith.  
(ج) درج ذیل حدیث کا ترجمہ و تشریح کریں۔  
عَنْ سَهْلِ بْنِ سَعْدٍ قَالَ: قَالَ رَسُولُ اللَّهِ ﷺ مَنْ يَضْمَنُ لِي مَا بَيْنَ لَحْيَيْهِ وَمَا بَيْنَ رِجْلَيْهِ أَضْمَنُ لَهُ الْجَنَّةَ



**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 جواب تحریر کریں۔

1. لماذا سماها الرسول ﷺ "ذات النطاقين"؟
2. ماذا تعرف عن الحرية؟
3. من هما ابنا هارون الرشيد؟
4. ماذا أخذت أسماء معها في الليلة الثالثة؟
5. ما المعنى الذي تدل عليه قصة الحرية والمساواة والإخاء في الاسلام؟
6. لماذا عمل الجاحظ وهو صغير؟
7. أين نزل الاثنان وهما في طريقهما إلى يثرب؟
8. هل الأبيض أحسن من الأسود؟
9. ماذا قالت أم الجاحظ بعد عودته من السوق؟
10. هل يقبل الإسلام استعمار الشعوب؟

(3x10=30)

درج ذیل سوالات کے تفصیلاً جوابات تحریر کریں۔

سوال نمبر 2: درج ذیل خطبے کا اردو میں ترجمہ کیجیے۔

إنکم فی دار قلعة ، وفی بقیة أعمار ، فبادروا آجالکم بخیر ما تقدرون علیہ ، فلقد أتیتم ، صبحتم أو مسیتم ، ألا وإن الدنیا طویت علی الغرور ، فلا تغرنکم الحیاة الدنیا ، ولا یغرنکم بالله الغرور . اعتبروا بمن مضی ، ثم جدوا ولا تغفلوا ، فإنه لا یغفل عنکم .

سوال نمبر 3: "حديقة جميلة" از سید مصطفی لطفی منقول کی درج ذیل عبارت کا اردو میں ترجمہ کیجیے۔

وأعجب ما یروق الناظر فی تلك الجنة الزاهرة منظر المیاء المدفقة التي تدور حول الأشجار كأنها عقود و قلائد ، وتتلوی فی سیرها وتدفقها کما تتلوی الحیات المذعورة الهائمة علی وجهها ، ثم تتلاقى أطرافها فی دار الحديقة فتكون برکا صغيرة مستديرة ، يحف بها العشب الأخضر کما تحف الأهداب بالعیون .

سوال نمبر 4: درج ذیل اشعار کا اردو میں ترجمہ کیجیے۔

ولزرت قبرك والحبيب یزار  
وذوو التمانم من بنیک صغار  
لیل یكسر علیهم ونهار  
الصالحون والطیون علیك والأبرار

لو لا الحیاء لها جني استعبار  
ولهت قلبي إذ علتني كبرة  
لا یلبث القرناء أن یتفرقوا  
صلي الملائكة الذين تخيروا



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- i. What are the objectives of Teaching Mathematics in elementary schools
- ii. What is the role of mathematics in everyday life?
- iii. Enlist the characteristics of good Lesson Plan.
- iv. Explain interactive method of teaching
- v. Enlist the principles of using A.V aids in classroom?
- vi. Give the merits and demerits of Subjective type tests.

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. Describe the Types of objectives with example.
- ii. What are the objectives of assessment in teaching
- iii. Prepare a Lesson plan for class 5<sup>th</sup> to teach the topic "Division"





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Methods of Teaching Social Studies in Elementary School

Course Code: EDE-375

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 the objectives of Teaching Social Studies in elementary schools
- ii. What is the importance of Lesson Plan?
- iii. Differentiate between General and Specific objectives
- iv. Write a note on teaching aids in Education
- v. Describe Story telling method of teaching.
- vi. Give the merits and demerits of Subjective type tests.

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. What are the objectives of using teaching aids in classroom?
- ii. Give the General/professional Characteristics of good teacher.
- iii. What are the objectives of assessment in teaching? Describe the types of assessment used in teaching



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Methods of Teaching Islamiyat in Elementary School

Course Code: EDE-376

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 تحریر کریں۔

- i. When was "Islamiyat" made compulsory as a subject at the degree level? i. ڈگری سطح پر "اسلامیات" کو بطور مضمون کب لازم قرار دیا گیا؟
- ii. Explain the difference between "DEEN" and "MAZHAB"? ii. دین اور مذہب میں فرق بیان کیجیے؟
- iii. What is meant by visual aids in teaching? iii. بصری معاونات تدریس سے کیا مراد ہے؟
- iv. Write some shortcomings of "LECTURE METHOD" of teaching? iv. تقریری طریقہ تدریس کی چند خامیاں لکھیے؟
- v. Write some advantages of demonstration method of teaching? v. مظاہراتی طریقہ تدریس کی چند خوبیاں لکھیے؟
- vi. Write the Arabic text of "TA-AWAZ" (تعوذ), TASMIYA (تسمیہ) and KALMA TAYYABA (کلمہ طیبہ) along with translation? vi. تعوذ، تسمیہ اور کلمہ طیبہ کی عربی عبارات مع ترجمہ لکھیے؟

Answer the following questions.

(3x10=30)

درج ذیل سوالات کے تفصیلی جوابات تحریر کریں۔

سوال نمبر 2: نبی کریم صلی اللہ علیہ وآلہ وسلم کے انداز تعلیم و تدریس کی خصوصیات تحریر کیجیے؟

Q2. Write down the characteristics of the teaching style of the Holy Prophet (ﷺ)?

سوال نمبر 3: چارٹس تیار کرتے ہوئے اختیار کی جانے والی احتیاطی تدابیر لکھیے؟

Q3. Write the precautions to be taken while preparing charts?

سوال نمبر 4: پاکستان میں تدریس اسلامیات کی ضرورت و اہمیت لکھیے؟

Q4. Write the need and importance of teaching ISLAMIAT in Pakistan?



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**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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**Q.1. Give short answers to the following concepts. (6x5=30)**

- 1. Explain the function of R.java in Android applications. How is it generated and used?**
- 2. What are event handlers in Android? Illustrate with an example how to handle a button click.**
- 3. Differentiate between explicit and implicit intents. Provide use-case examples for both.**
- 4. What are Android widgets? Describe any two commonly used widgets with usage.**
- 5. Explain the steps to create and use a SQLite database in an Android app.**
- 6. What is the Android Native Development Kit (NDK)? Why and when should it be used?**

**Q.2. Write detailed answers to the following questions. (3x10=30)**

- 1. Create an Android app that retrieves a list of posts from a web API in JSON format and displays them using a RecyclerView. Provide code and explain the flow.**
- 2. Design a mobile app with two activities. First activity takes user input; second activity displays it. Explain Intent usage and Activity transitions with code.**
- 3. Develop an app using Android's Notification Manager to display notifications at specific time intervals. Include dynamic notification content and action handling.**



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Criticism and Theory-II

Course Code: ENG-307

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(3x5=15)**

- a) Can the critic function as an artist**
- b) What is intellectual beauty according to Plotinus?**
- c) What does Ngugi argue in the essay you have read in your course?**

**Q.2. Answer the following questions.**

**(3x15=45)**

- a) Write a detailed note on main arguments in Terry Eagleton.**
- b) What is myth? And how does it serve the purpose of understanding human life according to Roland Barthes?**
- c) What do dreams reveal about our subjectivities according to Freud?**



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following questions.**

**(3x5=15)**

1. What information is brought by Creon in Oedipus Rex?
2. Discuss the use of disguise In Twelfth Night by Shakespeare. Give one example.
3. Draw similarities between Krogstad and Nora in Ibsen's play, A Doll's House?

**Q.2. Answer the following questions.**

**(3x15=45)**

1. Discuss Macbeth's visions and hallucinations. What role do they play in the development of his character?
2. The tragedy in Marlow's plays is always the tragedy of an individual. How far is it applicable to Doctor Faustus?
3. Comment on the theme of deception in Shakespeare's Twelfth Night?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: 19<sup>th</sup> Century Poetry

Course Code: ENG-309

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions. (3x5=15)**

- i. "Infant Sorrow" Points out the world being dangerous for the infant-how?
- ii. Write down a note on William Wordsworth as the key note poet of Romanticism.
- iii. What is the main theme of 'Dejection; an ode' by S.T Coleridge?

**Q.2. Answer the following questions. (3x15=45)**

- i. How does 'The Divine Image' justify the traditional Christian virtue of mercy, pity, peace and Love?
- ii. Earth personified as a woman cannot be instructed by the bard because she is in chains-explain with reference to William Blake's poem, 'Earth's Answer'.
- iii. Explain 'A thing of beauty is a joy forever' with reference to 'ode on a Grecian urn'?





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Fantasy

Course Code: ENG-310

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(3x5=15)**

1. How does Tolkien create tension in "Riddles in the Dark"?
2. Comment on the significance of Professor Quirrel's character in *Harry Potter and the Sorcerer's Stone*.
3. How is the role of imagination explored in "The Door in the Wall"?

**Q.2. Answer the following questions.**

**(3x15=45)**

1. Isaac Asimov is hinting at a post human future in "Robbie". Discuss.
2. Stephen King's "Word Processor of the Gods" is a story about the consequential reality of human choices. Elaborate.
3. Explore some of the common concerns between science fiction and fantasy?





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: World Literatures in Translation

Course Code: ENG-311

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

Q.1. Answer the following short questions.

(3x5=15)

- 1) Define absurdism in the content of *The Outsider*.
- 2) Describe one theme from Sachal Sarmast's poetry
- 3) Why is Don Quixote considered heroic?

Q.2. Answer the following questions.

(3x15=45)

- 1) Discuss sufism with reference to Sachal Sarmast's poetry.
- 2) Discuss Camus' philosophy of the Absurd.
- 3) How is alienation portrayed as a significant theme in *The Metamorphosis*?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.No.1. Answer the following short questions: (3x5=15)**

- (i) Provide an example of a statement or reply where the **MAXIM OF RELEVANCE** is intentionally flouted. What might be the speaker's purpose?
- (ii) Provide an example of **A NEGATIVE POLITENESS STRATEGY** used in a formal context. Why is it effective in maintaining politeness?
- (iii) What is Brown and Levinson's concept of **FACE IN POLITENESS** theory? Briefly differentiate between positive and negative politeness strategies.

**Answer the following questions. (3x15=45)**

- Q.No.2.** Consider a scenario where a speaker says, "**I APOLOGIZE FOR BEING LATE.**" Evaluate the felicity conditions required for this apology to be valid. What happens if any of the conditions are not met?
- Q.No.3.** Define **CONVERSATIONAL IMPLICATURE**. How does it differ from literal meaning? Illustrate with examples of how implicatures can be derived from everyday conversations.
- Q.No.4.** Discuss the role of context in interpreting **CONVERSATIONAL IMPLICATURES**. Provide examples where context dramatically changes the implicature.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Foundation of Linguistic Thought

Course Code: ENG-318

Roll No. ....

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(5x3=15)**

1. What is the difference between these two concepts: Competence and Performance?
2. Write a brief note on Psycholinguistics.
3. Define inflectional and derivational morphemes.
4. Write a brief note on the ways variation in language occurs.
5. What are the basic components of Sapir-Whorf hypothesis?

**Q.2. Answer the following questions.**

**(3x15=45)**

1. Draw a comparison between two different language approaches proposed by Noam Chomsky and Ferdinand de Saussure in detail.
2. Discuss the strength and weaknesses of language planning in Pakistani education system.
3. Discuss the characteristics and importance of linguistic politeness in speech community.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Anthropological Linguistics

Course Code: ENG-319

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.No.1. Answer the following short questions.**

**(3x5=15)**

- (i) Define **ANTHROPOLOGICAL LINGUISTICS** with suitable examples.
- (ii) Write a note on the **TYPES OF LINGUISTIC ANTHROPOLOGY**.
- (iii) Differentiate between **GENERAL LINGUISTICS AND LINGUISTIC ANTHROPOLOGY**.

**Answer the following questions.**

**(3x15=45)**

- Q.No.2. Discuss the concept of linguistic relativity.** Provide examples from different cultures to support your explanation.
- Q.No.3. What is the importance of METAPHOR and EMBODIED EXPERIENCE** in Linguistic Anthropology. Furnish examples?
- Q.No.4. Write a detailed note on KINSHIP TERMS** and their importance in Anthropological Linguistics with appropriate examples.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Translation Studies

Course Code: ENG-320

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Briefly explain the following.**

**(3x5=15)**

- i. Universe of Discourse.
- ii. Linguistic theory of Translation.
- iii. Transposition in Translation.

**Q.2. Answer the following questions.**

**(3x15=45)**

- i. Discuss in detail the key components of comparative Morphology and Semantics.
- ii. Write a note on Translation Techniques and strategies.
- iii. Comment on Translatability, Expressibility and Effability.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=15)**

Q 1. Briefly discuss the stylistic devices used in a scripted speech.

Q 2. By providing at least three examples to substantiate your answer, explain the difference between a simile and a metaphor.

Q 3. Define metonymy. How does this figure of speech help in giving a profound understanding of the message conveyed in a literary text?

Q 4. Foregrounding is a significant feature of Stylistics. Provide a brief discussion.

Q 5. What is parallelism. Discuss how this stylistic technique can enhance the meaning of a text.

Q6. Analyse the stylistic significance of paradox. Give examples.

**Q.2. Answer the following questions.**

**(2x15=30)**

1. Analyse in detail the stylistic features of formal and informal language.

2. Give a stylistic analysis of the speech given by President Bush after September 11 terrorist attack on Twin Towers in 2001.

'Good evening. Today, our fellow citizens, our way of life, our very freedom came under attack in a series of deliberate and deadly terrorist acts. The victims were in airplanes, or in their offices; secretaries, businessmen and women, military and federal workers; moms and dads, friends and neighbors. Thousands of lives were suddenly ended by evil, despicable acts of terror.

The pictures of airplanes flying into buildings, fires burning, huge structures collapsing, have filled us with disbelief, terrible sadness, and a quiet, unyielding anger. These acts of mass murder were intended to frighten our nation into chaos and retreat. But they have failed; our country is strong.

A great people has been moved to defend a great nation. Terrorist attacks can shake the foundations of our biggest buildings, but they cannot touch the foundation of America. These acts shattered steel, but they cannot dent the steel of American resolve.

America was targeted for attack because we're the brightest beacon for freedom and opportunity in the world. And no one will keep that light from shining.

Today, our nation saw evil, the very worst of human nature. And we responded with the best of America -- with the daring of our rescue workers, with the caring for strangers and neighbors who came to give blood and help in any way they could....

America and our friends and allies join with all those who want peace and security in the world, and we stand together to win the war against terrorism. Tonight, I ask for your prayers for all those who grieve, for the children whose worlds have been shattered, for all whose sense of safety and security has been threatened. And I pray they will be comforted by a power greater than any of us, spoken through the ages in Psalm 23: "Even though I walk through the valley of the shadow of death, I fear no evil, for You are with me."

This is a day when all Americans from every walk of life unite in our resolve for justice and peace. America has stood down enemies before, and we will do so this time. None of us will ever forget this day. Yet, we go forward to defend freedom and all that is good and just in our world.

Thank you. Good night, and God bless America.

*Psalm (meaning): a sacred song or hymn, in particular any of those contained in the biblical Book of Psalms and used in Christian and Jewish worship.*



**USE SEPARATE ANSWER BOOK FOR EACH PART**

**BIBLE FOR CHRISTIAN STUDENTS**

**SECTION—I (20 marks)**

**Q1 Write short answers of the following questions: (not exceed to 25):**

- 1 What will the virgin bear, according to Isaiah 7:14? مندرچہ ذیلی سوالات کے مختصر جواب تحریر کریں (الفاظ ۲۵ سے زیادہ نہیں)
- 2 What is exegesis? یسعیاہ 7:14 کے مطابق کنواری کس کو جنم دے گی؟
- 3 What does hermeneutics focus on? تفسیر کیا ہے؟
- 4 What is the meaning of "σάρξ" (sark) in Romans 7:18? علم تفسیر کس پر زور دیتا ہے؟
- 5 What is the armor of God? (Ephesians 6:11) رومیوں 7:18 میں "σάρξ" (جسم) کا کیا مطلب ہے؟
- 6 What do the wicked speak against the psalmist with? (Ps 109) خدا کا ہتھیار کیا ہے؟ (افسیوں 6:11)
- 7 What are sins compared to in Isaiah 1:18? شریر زبور نویس کے خلاف کس چیز سے بات کرتے ہیں؟ (زبور 109)
- 8 What will the wolf live with, according to Isaiah 11:6? یسعیاہ 1:18 میں گناہوں کو کس سے تشبیہ دی گئی؟
- 9 How many chariots of God are there? (Ps 68) یسعیاہ 11:6 کے مطابق بھیڑیا کس کے ساتھ رہے گا؟
- 10 Who will inherit the land? (Ps 69) خدا کی رتھیں کتنی ہیں؟ (زبور 68)

**SECTION—II (10+10=20 Marks)**

Attempt any two questions from the following: at least 300 words each.

کوئی سے دو سوالات کے جواب تحریر کریں: کم از کم 300 الفاظ پر مشتمل جواب تحریر کریں

- Q2 How does the phrase "ἀπαλλαγῆναι ἀπὸ τῆς ἀμαρτίας" in Romans 6:22 relate to the believer's freedom in Christ? 30 رومیوں 6:22 میں جملہ ἀπαλλαγῆναι ἀπὸ τῆς ἀμαρτίας
- Q3 What does Ephesians 6:1-4 teach about Christian parenting? ἀμαρτίας سے کس میں مومن / ایماندار کی آزادی سے کیا تعلق رکھتا ہے؟
- Q4 What does Isaiah 11:6-9 teach about the peaceful reign of the Messiah, and how does this prophecy differ from the state of the world today? افسیوں 6:1-4 سکھائی والدین کے بارے میں کیا سکھاتا ہے؟
- Q5 What is New Testament exegesis, and why is it important in biblical studies? یسعیاہ 11:6-9 مسیح کی امن پسند حکمرانی کے بارے میں کیا سکھاتی ہے، اور یہ

**SECTION—III (10+10=20 Marks)**

Attempt any two questions from the following: Q9 is compulsory.

کوئی سے دو سوالات کے جواب تحریر کریں: سوال نمبر 9 لازمی ہے۔

- Q6 What are Greek participles, and how are they used? یونانی فعل وصفی کیا ہیں، اور وہ کیسے استعمال ہوتے ہیں؟
- Q7 Write the principal parts of the given words: ἡχθην, τέθνηκα, ἔβαλον, εὐρηκα, ἦλθον دیے گئے الفاظ کے بنیادی حصے لکھیں۔
- Q8 Translate the following sentences into Koine Greek:  
We shall be called sons of living God. 2) Our father! You name be kept holy. 3) Repent, and be baptized in Jesus' name. دیے گئے جملوں کا کوئے یونانی میں ترجمہ کریں:
- Q9 Exegetically explain the following verse: (any one) 1- ہم زندہ خدا کے بیٹے کہلائیں گے۔ 2- اے ہمارے باپ! ہمارا نام پاک مانا جائے۔ 3- توبہ کرو اور یسوع کے نام میں بپتسمہ پاؤ۔

1. Nunī dē χωρὶς νόμου δικαιοσύνη θεοῦ πεφανέρωται μαρτυρουμένη ὑπὸ τοῦ νόμου καὶ τῶν προφητῶν, δικαιοσύνη δὲ θεοῦ διὰ πίστεως Ἰησοῦ Χριστοῦ εἰς πάντας τοὺς πιστεύοντας (Rom 3:21-22)
2. Ἀλλήλους δὲ χρηστότητι γίνεσθε, εἰς ἀλλήλους συγχωρητικοί, καθὼς ὁ Θεὸς ἐν Χριστῷ ἐχαρίσατο ὑμῖν. (Ep 4:32)



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

**SECTION – I (10 x 2 = 20 MARKS)**

**Q.1. Write short answers of the following questions.**

سوال نمبر 1: مندرجہ ذیل سوالات کے مختصر جواب لکھیں۔

1. ہندو دھرم میں برہما، وشنو اور مہیش جی کو کس نام سے جانا جاتا ہے؟
2. ہندو دھرم میں پالنے والے کا نام بتائیں؟
3. ہندو دھرم میں پیدا کرنے کا نام بتائیں
4. ہندو دھرم میں نجات (موت) دینے والے کا نام بتائیں
5. گائتری منتر تحریر کریں
6. اوم کی تعریف کریں
7. دریودھن کون تھے؟
8. شگنی کون تھے؟
9. کورو کتنے تھے؟
10. ماہابھارت کس میدان میں ہوئی

**SECTION – II (2 x 10 = 20 MARKS)**

**Note: Attempt any TWO questions from the following.**

نوٹ: مندرجہ ذیل سوالات کے مختصر جواب لکھیں۔

- Q2. شگنی نے پانڈؤں کے خلاف کیا چال چلی؟
- Q3. کرن کا ماہابھارت میں کیا کردار ہے؟
- Q4. ارجن جنگ میں کیوں پریشان تھے؟
- Q5. پانڈؤ کتنے تھے؟ اور ان کے نام بتائیں

**SECTION – III (2 x 10 = 20 MARKS)**

**Note: Attempt any TWO questions while Question No. 9 is compulsory.**

نوٹ: مندرجہ ذیل سوالات کے مختصر جواب لکھیں۔ جبکہ سوال نمبر 9 لازمی ہے۔

- Q.6 گاندھاری کو کیا وردان ملا تھا؟
- Q.7 بھگوت گیتا کے کتنے ابواب ہیں؟ اور ان کے نام لکھیں
- Q.8 سچے نے ماہابھارت میں کیا کردار ادا کیا تھا؟
- Q.9 مندرجہ ذیل ہندی الفاظ کا اردو میں ترجمہ کریں  
نیائے جل چن بھراتا دایو



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Oceanography

Course Code: GEOG-307

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. Write the importance of the study of Oceanography.
- II. Discuss the causes of the Ocean Tides.
- III. Explain the difference between Convergent Active Margins and Transform Active Margins with examples.
- IV. Define Ocean Waves and also draw and label the Crest, Trough, Wave Length and wave Height.
- V. Write the causes of the Ocean Currents.
- VI. What is Gyre explain with two examples.
- VII. Discuss the Ocean Exploration in the Ages of Discoveries in Europe.
- VIII. Describe the Continental Shelf.
- IX. Define the Ocean Lithogenous Sediments and also write the sources of these sediments.
- X. What is Bathymetry also write its short history.
- XI. Differentiate between continental shelf and oceanic plain?
- XII. Enlist the characteristic features of ocean basin?
- XIII. Classify ocean sediments on the basis of location?
- XIV. Explain law of the sea?
- XV. Write down the origin of the sea water?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. Write the pattern of the Currents of Indian Ocean in detail and explain your answer with the help of sketches/diagrams.
- ii. Write the role of ocean in different atmospheric phenomena.
- iii. Classify the Ocean Floor and discuss the Mid-Oceanic Ridges and associated features in detail.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Research Methods

Course Code: GEOG-308

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. Differentiate between qualitative and quantitative research.
2. Discuss the applications of research methods in geography
3. What are the characteristics of research problem?
4. Explain the scope of research.
5. What are the key elements of a research report?
6. What is the purpose and scope of Literature Review in research?

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Describe the types of sampling.
2. What is hypothesis testing? Discuss the steps involved in hypothesis testing and explain the difference between null and alternative hypotheses.
3. What are the different methods of data collection? Compare and contrast interviews and questionnaires in terms of their strengths, limitations, and applications.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Population Geography

Course Code: GEOG-309

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. Define population geography and briefly describe the scope of population geography.
- ii. Define the Registration process in population and Explain vital registration.
- iii. Discuss briefly population density and its various types.
- iv. Discuss briefly the Indo-Iranian language family.
- v. Differentiate birth rate and mortality rate?
- vi. Define “**dialect**”. Also, give examples from the Punjabi language family.

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

- i. Define Religion and Discuss the role of religion as a pull factor in migration.
- ii. Discuss in detail the different stages of demographic transition and their impact on population growth.
- iii. Write in detail the environmental causes behind the population concentration of the world.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Fundamentals of GIS

Course Code: GEOG-310

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 are the primary sources of spatial data?
- 2) Briefly explain the hierarchical data structure in GIS.
- 3) What is spatial data modeling and why is it essential in GIS?
- 4) Describe the methods of data input in GIS.
- 5) What is rubber sheeting and when is it used in GIS?
- 6) Explain the significance of integrating databases in GIS.

**Q.2. Answer the following questions.**

**(3x10=30)**

- 1) Describe the techniques of spatial analysis and their applications in GIS.
- 2) Discuss the process of creating and integrating a database in GIS.
- 3) Explain the concept of compacting vector and raster data models and their advantages in GIS.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Economic Geography

Course Code: GEOG-311

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. Discuss the commercial and environmental importance of forests.
- II. Briefly explain the problems of Urbanization.
- III. Describe the advantages/importance of International Trade.
- IV. Define Demographic Transition and discuss its four stages.
- V. Highlight several advantages of the Road Transport System.
- VI. Identify Renewable or Alternative Power resources of the world.

**Q.2. Answer the following questions.**

**(3x10=30)**

- i) Explain in detail the worldwide production and distribution of the Iron and Steel Industry.
- ii) Write a detailed note on Human Economic Activities in the world.
- iii) Give a detailed account of Rice cultivation in the world regarding its helping factors, method of cultivation, distribution and trade.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Urban Geography

Course Code: GEOG-312

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.	What is Rank Size Rule?
ii.	Define Development Planning.
iii.	Differentiate between Suburb and Hinterland.
iv.	What is meant by NV-RNF population?
v.	Name four towns suggested by Howard J. Nelson in his functional classification.
vi.	Describe the Acceleration stage of Urbanization presented by Kingsley Davis.
vii.	Enlist the various theories about the internal structure of cities.
viii.	What is Urban Economic Base?
ix.	Differentiate between Site and Situation.
x.	What is Urban Hinterland
xi.	Define Rural Urban Fringe.
xii.	How UNO defines an urban settlement?
xiii.	Enlist the major problems faced by Metropolitan cities of the world.
xiv.	What is the difference between Horizontal and Vertical expansion of cities?
xv.	What were the main features of ancient Greek and Roman Cities?

Q.2. Answer the following questions.

1.	Write a comprehensive note on Central Place Theory.	10
2.	How would you define Urban Expansion? Discuss FOUR forms and THREE impacts of Urban Expansion.	10
3.	Discuss the process of Urbanization in Pakistan. What factors have played their role in this process? Discuss.	6+4





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- i. Define Questionnaire? Explain various types of questions in a questionnaire?
- ii. Define Ethnography. Explain the characteristics of ethnography?
- iii. What do you understand by the term triangulation?
- iv. Explain the process of conducting content analysis?
- v. What you know about symbolic interactionism?
- vi. What is "Saturation" in Qualitative research?

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

- I. What is meant by sampling? Critically examine the different types of sampling techniques in qualitative inquiry?
- II. Why is research ethics important in qualitative research? Write down ethical guidelines in Qualitative research?
- III. Write detailed description of Qualitative and Quantitative research methods?
- IV. What do you know about field study? Describe the process and the problems a researcher can face while conducting field study?
- V. Write detailed note on any one of the following:
  - Human as instruments
  - Archival Research



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Gender and Media

Course Code: GS-308

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. Explain the theoretical feminist perspective of media.
2. Explain historical development of mass media.
3. What are the laws and authorizes related to the electronic media.
4. Explain the portrayal of gender in dramas and movies
5. What are the employment patterns in media organizations.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Explain the national and international perspective of media in gender development.
2. Describe the whole historical development of mass media
3. Explain the content and effect theories of mass media,



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Gender, Peace & Security

Course Code: GS-309

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 does the term 'weapons of mass destruction' mean? Describe their consequences.
- ii. Describe the key elements of the traditional approach to security.
- iii. What are the major security threats and challenges?
- iv. Discuss three international laws on gender, peace, and security in detail.
- v. How does arms trade differ from regular trade? Discuss the differences.

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

- i. What is the International Women, Peace, and Security agenda? Discuss relevant UN resolutions.
- ii. Discuss global peace and security challenges with a focus on gender perspectives.
- iii. What are the Geneva Conventions? Discuss them alongside formal and informal peace processes.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Gender, Art & Literature

Course Code: GS-310

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 know about women's contribution in the genre of autobiography? You may discuss in reference to one autobiographic written by a woman writer.
- ii. Do you think Pakistani women authors write feminist literature? Give 2 examples.
- iii. Write a short note on the Art of pottery and women.
- iv. What do you think are the main reasons of persistent of stereotypical women roles in films and dramas?
- v. What do you think are the perceptions about women who belong to the field of performing arts in Pakistan?
- vi. Name important Pakistani women novelists and state their major contribution to the field of literature.

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. What is the contribution of women in the field of poetry? Write in detail about the works and contribution of any two important women poets.
- ii. How do you define Art and differentiate it from Craft? What is the contribution of women in contemporary art in Pakistan?
- iii. What do you know about women writers of regional literature? Write in detail about their contribution and cultural reflection they represent in their works.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Organizational Behaviour & HRM

Course Code: GS-311

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. Difference between classical and neoclassical theories
- ii. Explain conflict management and decision-making process.
- iii. What is human resource development (HRD)?
- iv. Explain training and development programs in organization.
- v. Write the communication contribution in career planning.
- vi. What operational challenges are frequently faced by organizations?

**Answer the following questions.**

**(3x10=30)**

- Q 2. How does understanding motivation, power, and authority improve organizational decision-making processes?
- Q 3. What is the primary purpose of performance appraisal, and how can organizations address them to ensure fair and effective evaluations?
- Q 4. How does organizational size influence its structure and human resource management strategies?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Family Sociology

Course Code: GS-312

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- Marriage

1- میرج

2- Poverty

2. غربت

3- Changing gender roles

3. صنفی کردار کو تبدیل کرنا

4- Monogamy

4. یک زوجگی

5- Single Parent

5. سنگل والدین

6- Socialization

6. سماجی کاری

Q.2 Answer the following questions.

(3x10=30)

درج ذیل سوالات کے جواب دیں۔

1- Briefly discuss the structural functionalism perspective of family.

1. خاندان کے ساختی فعلیت کے تناظر پر مختصراً گفتگو کریں۔

2- Write down the impact of economic changes on family patterns.

2. خاندانی طرز پر معاشی تبدیلیوں کے اثرات لکھیں۔

3- Write a comprehensive note on factors affecting gender role socialization.

3. صنفی کردار سماجی کاری کو متاثر کرنے والے عوامل پر ایک جامع نوٹ لکھیں۔





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Later Mughals and British India (1707-1857) Course Code: HIS-304

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. *Muntakhib-ul-Lubab*
- ii. Causes of the Battle of Plassey
- iii. Karen Leonard's 'Great Firm' theory of the Decline of the Mughal Empire
- iv. Bahadur Shah-I
- v. The Doctrine of Lapse
- vi. Jihad Movement

**Answer the following questions.**

**(2x15=30)**

**Q.2. Critically evaluate the role of Shah Wali's Movement in the reformation of Indian Muslim society during the Eighteenth century.**

**Q.3. Write a detailed essay on the causes of the 1857 War of independence.**





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: History of Europe (1453-1789)

Course Code: HIS-305

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. Leonardo da Vinci
- ii. The Peace of Augsburg, 1555
- iii. Role of Denmark in the Thirty Years War
- iv. John Calvin
- v. Causes of the conflict between James I and the English Parliament
- vi. Peter the Great of Russia

**Answer the following questions.**

**(2x15=30)**

- Q.2. What is meant by Enlightenment? Discuss in detail how the Enlightenment political thinkers helped laid the foundation of a new political system in Europe.**
- Q.3. Write a detailed essay on the expansion of Prussian under Frederick the Great.**



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Muslim Rule in Spain

Course Code: HIS-306

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 جواب تحریر کریں۔

- |      |  |      |  |
|------|--|------|--|
| i.   | Who played a role in the conquest of Undlas.                   | i.   | اندلس کی فتح میں کس نے اہم کردار ادا کیا۔                      |
| ii.  | Describe the problems of Muhammad-I.                           | ii.  | محمد اول کی مشکلات بیان کریں۔                                  |
| iii. | Who was Tariq Bin Ziyad.                                       | iii. | طارق بن زیاد کون تھا؟  |
| iv.  | Write the names of Muslim historians in Spain?                 | iv.  | سپین میں مسلمان مؤرخین کے نام لکھیں؟                           |
| v.   | Who was Al-Mohadis.  | v.   | المحدث کون تھا۔  |
| vi.  | What kind of policies introduced by Abd-ur-Rehman II in Spain. | vi.  | سپین میں عبدالرحمن دوم نے کس طرح کی پالیسیوں کو متعارف کروایا۔ |

Q.2. Answer the following questions.

(2x15=30)

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

- |     |   |     |  |
|-----|---|-----|--|
| i.  | What were the causes of decline of Ummayyads in Undlas.             | i.  | اندلس میں بنو امیہ کے زوال کے کیا اسباب تھے۔                 |
| ii. | Write a note on the architectural contribution of Muslims in Spain. | ii. | سپین میں مسلمانوں کی تعمیراتی شراکت پر ایک تفصیلی نوٹ لکھیں۔ |



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: History of the Punjab (1707-1947)

Course Code: HIS-307

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 short note on the followings.

(5x6=30)

سوال نمبر 1: درج ذیل پر مختصر نوٹ تحریر کریں۔

i.	Rowalt Act	i.	رولٹ ایکٹ
ii.	Jallianwala Bagh Tragedy	ii.	جلینوالہ باغ سانحہ
iii.	Sikandar Jinnah Pact	iii.	سکندر جناح معاہدہ
iv.	Khizar Hayat	iv.	خضر حیات
v.	Masjid Shaheed Ganj	v.	مسجد شہید گنج

Q.2. Answer the following questions.

(2x15=30)

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

- Discuss in detail the rise and fall of Ranjit Singh.  
i. رنجیت سنگھ کے عروج و زوال پر تفصیل سے بحث کریں۔
- Why did the British enact the Land Alienation Act of 1900? How far was it successful?  
ii. انگریزوں نے قانون منتقلی اراضی 1900 کیوں بنایا؟ یہ کہاں تک کامیاب رہا؟



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: International Relations (1919-1989)

Course Code: HIS-308

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 جواب تحریر کریں۔

i. Explain the importance of International Relations as Subject?

i۔ بین الاقوامی تعلقات کی اہمیت بطور مضمون واضح کریں۔

ii. How Soviet Union was disintegrated into pieces?

ii۔ سویت یونین کیسے ٹکڑے ٹکڑے ہوئی؟

iii. Discuss the Cold War and its Impacts?

iii۔ سرد جنگ اور اس کے اثرات بیان کریں۔

iv. For What Purpose Arab League was made?

iv۔ عرب لیگ کن مقاصد کے حصول کے لیے بنائی گئی؟

v. What is the Importance of Central Asian States in International Politics?

v۔ بین الاقوامی سیاست میں وسطی ایشیائی ممالک کی کیا اہمیت ہے؟

vi. What kind of role United Nations played in Disarmament?

vi۔ تخفیف اسلحہ میں اقوام متحدہ نے کیا کردار ادا کیا؟

Answer the following questions.

(2x15=30)

درج ذیل سوالات کے تفصیلاً جوابات تحریر کریں۔

Q 2. Highlight the importance points of Iran Iraq War?

سوال نمبر 2: ایران عراق جنگ کے اہم نکات پر روشنی ڈالیں۔

Q 3. Write in Critical Essay on the Role of Non-Aligned Movement in International Relations.

سوال نمبر 3: بین الاقوامی تعلقات میں غیر جانبدار تحریک کے کردار پر ایک تنقیدی نوٹ لکھیں۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Specialization in One Group of Track & Field (Elect.4)

Course Code: HPE-311

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 the national governing body of athletics?
- ii. What is the height of cage for hammer throw?
- iii. What is the weight of discus for female?
- iv. What is the length of runway for javelin throw?
- v. What is the basic objective of pole vault?
- vi. If athletes are more than eight, how many attempts will get for triple jump?
- vii. What is the diameter of discus throw?
- viii. What is the length of pole for pole vault?
- ix. What part of the javelin must land first?
- x. Write the name of putting shot technique?
- xi. What is the shape of stop board for shot put?
- xii. What is the shape of a discus?
- xiii. Shot put made of which material?
- xiv. What is the measurement of high jump matt?
- xv. What is the meaning of yellow flag signal in jumps?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. Write five major fouls for High Jump in athletics? & what is the new name of world governing body of athletics?
- ii. Draw the complete shot-put throwing & landing sector with measurements?
- iii. Explain the gliding technique in shot put? & write the specification & purpose of stop board?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Research Methodology in Physical Education (Major 3)

Course Code: HPE-312

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. Define Limitation and Delimitations of Research Study?
- ii. Define Deductive and Inductive Research?
- iii. Explain Significance of the Problem?
- iv. What is SMART Criteria with Reference to writing objectives of the Problem?
- v. Define Research Problem?
- vi. Explain, Population, Sample Size and Sample Unit?

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

- i. Comprehensively explain Questionnaire as a Tool for Data Collection in Research?
- ii. Explain Types of Hypothesis along with Type-I and Type-II Error?
- iii. Select a Topic of Your Own Choice and Develop a Mini Proposal on It?





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Planning Sports Facilities (Foundation 9)

Course Code: HPE-313

Time: 3 Hrs. Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Give short and comprehensive answers of the following terms: (6x5=30)**

- i. Exercise physiology lab
- ii. Velodrome
- iii. SWOT Analysis
- iv. Strategic Plans
- v. Facilities at Club level
- vi. Baseball Park

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. What do you mean by Specific Laboratories? Explain any two in detail.
- ii. Define general considerations to plan a Sports Complex.
- iii. Elaborate the Short term plans and Long term plans with examples.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Test Measurement & Evaluation in Physical Education & Sports (Major 4)

Course Code: HPE-314

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- Define Evaluation? With examples.**

**II-. What is Objectivity?**

**III- Write the name of Static and dynamic Balance Tests?**

**IV- What is the Subjective Measurement?**

**V- What are the responsibilities of administration During the Test of administration.**

**VI- What is the difference between Criterion- Reference and Norm Reference Measurements.**

**Answer the following questions. (3x10=30)**

**Q:2 Define validity any types of the validity and which factors affect the validity of the test.**

**Q.3 Which steps are necessary during the constructions of a good Physical Test?**

**Q.4: Write the administration and scoring criteria of Harvard Step test.**



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Sports Psychology (Major 5)

Course Code: HPE-315

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)**

- i. Define Psychology?
- ii. Highlight the Branches of Psychology
- iii. Define Stress and Anxiety?
- iv. Define Self-confidence and Self-esteem?
- v. Explain the Types of Personality?
- vi. Define Self-talk?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. Define Psychology? Also discuss the Role of Psychology in Sports.
- ii. Differentiate Arousal? Also write down the causes and signs & Symptoms of Anxiety.
- iii. What is Imagery? Explain the Basics Types of Imagery in detail?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Environmental Sciences (General 6)

Course Code: HPE-316

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. Sustainable development and Environment
- II. Land and Landscape
- III. Mesosphere
- IV. Natural resources in ecosystem
- V. Atmosphere
- VI. Global food conditions

**Q.2. Answer the following questions.**

**(3x10=30)**

- I. Briefly explain different types of pollution and pollutants?
- II. Explain Agricultural, animal husbandry and fishery with reference to Environmental Sciences?
- III. Elaborate your answer with examples for Ethics and environmental issues regarding sports?



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

Q.1. Translate the following verses into Urdu or English Language. (5x6=30)

سوال نمبر 1: مندرجہ ذیل آیات مبارکہ کا اردو/انگریزی میں ترجمہ کریں۔

1. إِنَّ الَّذِينَ لَا يُؤْمِنُونَ بِالْآخِرَةِ زَيَّنَّا لَهُمْ أَعْمَاهُمْ فَهُمْ يَعْمَهُونَ ۝ أُولَٰئِكَ الَّذِينَ هُمْ سُوءُ الْعَذَابِ وَهُمْ فِي الْآخِرَةِ هُمْ الْآخِسُونَ ۝ وَإِنَّكَ لَتَلْقَى الْقُرْآنَ مِنْ لَدُنْ حَكِيمٍ عَلِيمٍ ۝
2. وَمَا أَسْأَلُكُمْ عَلَيْهِ مِنْ أَجْرٍ إِنْ أَجْرِيَ إِلَّا عَلَى رَبِّ الْعَالَمِينَ ۝ أَوْفُوا الْكَيْلَ وَلَا تَكُونُوا مِنَ الْمُخْسِرِينَ ۝ وَزِنُوا بِالْقِسْطَاسِ الْمُسْتَقِيمِ ۝ وَلَا تَبْخَسُوا النَّاسَ أَشْيَاءَهُمْ وَلَا تَعْنُوا فِي الْأَرْضِ مُفْسِدِينَ ۝
3. وَخَشِيَ لِإِسْلَامَآنَ جُنُودَهُ مِنَ الْجِنَّ وَالْإِنْسِ وَالطَّيْرِ فَهُمْ يُوزَعُونَ ۝ حَتَّىٰ إِذَا أَتَوْا عَلَىٰ وَادِي النَّمْلِ قَالَتْ نَمْلَةٌ يَا أَيُّهَا النَّمْلُ ادْخُلُوا مَسَاكِنَكُمْ لَا يَحْطِمَنَّكُمْ سُلَيْمَانُ وَجُنُودُهُ وَهُمْ لَا يَشْعُرُونَ ۝
4. أَمَّنْ جَعَلَ الْأَرْضَ قَرَارًا وَجَعَلَ خِلَالَهَا أَنْهَارًا وَجَعَلَ لَهَا رَوَاسِي وَجَعَلَ بَيْنَ الْبَحْرَيْنِ حَاجِزًا أَلَيْسَ مَعَ اللَّهِ بِأَنْ أَكْثَرُهُمْ لَا يَعْلَمُونَ ۝ أَمَّنْ يُجِيبُ الْمُضْطَرَّ إِذَا دَعَاهُ وَيَكْشِفُ السُّوءَ وَيَجْعَلُكُمْ خُلَفَاءَ الْأَرْضِ أَلَيْسَ مَعَ اللَّهِ قَلِيلًا مَّا تَذَكَّرُونَ ۝
5. أَلَمْ يَغْلِبِ الرُّومَ فِي أَدْنَى الْأَرْضِ وَهُمْ مِنْ بَعْدِ غَلَبِهِمْ سَيَغْلِبُونَ ۝ فِي بَيْتِ اللَّهِ الْأَمْرُ مِنْ قَبْلُ وَ مِنْ بَعْدُ وَ يُؤْمِدُ يُفْرَخُ الْمُؤْمِنُونَ ۝

Q.2. Write the meaning of the following Qur'anic words. (10x1=10)

سوال نمبر 2: مندرجہ ذیل الفاظ کا اردو/انگریزی میں ترجمہ کریں۔

الفاظ	معانی	الفاظ	معانی
زُج		مَجْنُونٌ	
يَكْذِبُونَ		بُشْرَى	
الْعَزِيزُ		مُوقِنِينَ	
آبَائِكُمْ		تُغْبَانِ	
سُبْحَنَ		سَاحِرٌ	

Q.3. Write the plural with the given words.

(20x0.5=10)

سوال نمبر 3: مندرجہ ذیل الفاظ کی مدد سے واحد کی جمع لکھیں۔

أُولَئِكَ، نَسَاءً، أَصْنَامٌ، شُفَعَاءٌ، عِبَادٌ، قَلِيلُونَ، غَالِبِينَ، أَنْفَالٌ، رِجَالٌ، قَانِتُونَ، كَافِرُونَ، سَاجِرُونَ، غَالَمِينَ، أَيْدِي، مُغْرَضِينَ، غَائِبِينَ، مُنْقَلِبُونَ، وَارِثُونَ، أَعْيُنٌ، صَادِقُونَ

واحد	جمع	واحد	جمع	واحد	جمع	واحد	جمع
صنم		شفيع		غائب		قليل	
كافر		امراة		قانت		ثقل	
ساجر		غالب		منقلب		عين	
اول		مغرض		وارث		رجل	
عالم		يد		عبد		صادق	

Q.4. Match the verses with lines to the translation.

(5x2=10)

سوال نمبر 4: آیات کو ان کے ترجمے سے لکیر کے ذریعے ملائیں۔

آیات	ترجمہ
1. قَالَ وَمَا عَلَيَّ بِمَا كَانُوا يَعْمَلُونَ	وہ سلیمان کی طرف سے آیا ہے، اور وہ اللہ کے نام سے شروع کیا گیا ہے جو رحمن در حیم ہے۔
2. وَ إِنَّ كَثِيرًا مِّنَ النَّاسِ بِلِقَائِ رَبِّهِمْ لَكٰفِرُونَ	اور تم بڑی مہارت دکھاتے ہوئے پہاڑوں میں سے گھر تراشتے ہو
3. وَتَتَخَلَّدُونَ مَصْنَعِ لَعَلَّكُمْ تُخْلَدُونَ	اور بہت سے لوگ ہیں کہ اپنے پروردگار سے جا ملنے کے منکر ہیں۔
4. وَتَنْجُوْنَ مِنَ الْجِنِّالِ بَيُّوتًا فَارِهِينَ	انہوں نے کہا: مجھے ان کے کاموں کا علم نہیں
5. إِنَّهُ مِنْ سُلَيْمٰنَ وَ إِنَّهُ بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ	اور بڑی بڑی عمارتیں بناتے ہو، شاید کہ تم ہمیشہ رہو گے



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Tafsir-IV

Course Code: ISE-304

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 تحریر کریں۔

- i. اصحاب الفروض سے کیا مراد ہے؟
- ii. عصبات میں کون سے افراد شامل ہوتے ہیں؟
- iii. بیٹے اور بیٹی کی وراثت میں فرق واضح کرتے ہوئے اس کی حکمت بیان کریں۔
- iv. قرآن مجید میں شراب کی حرمت کے لیے کیا انداز اور الفاظ استعمال کیے گئے ہیں؟
- v. کلالہ کی وراثت کے احکام بیان کریں۔
- vi. حد اور تعزیر میں فرق مثال سے واضح کریں۔

(3X10=30)

سوال نمبر 2: درج ذیل سوالات کے جواب تحریر کیجیے۔

- i. اسلام میں احکام وراثت کی اہمیت پر جامع نوٹ لکھیں۔
- ii. پاکستان میں حدود آرڈیننس کے نفاذ کا تنقیدہ جائزہ لیں۔
- iii. درج ذیل آیت کا ترجمہ اور تشریح کریں۔

وَمَنْ يَقْتُلْ مُؤْمِنًا مُتَعَمِّدًا فَجَزَاؤُهُ جَهَنَّمُ خَالِدًا فِيهَا وَغَضِبَ اللَّهُ عَلَيْهِ وَلَعَنَهُ وَأَعَدَّ لَهُ عَذَابًا عَظِيمًا





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: History & Principles of Hadith

Course Code: ISE-305

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 تحریر کریں۔

- I. خبر متواتر کی تعریف اور اس کی شرائط تحریر کریں۔  
1. Definition and Conditions of Khabar Mutawātir.
- II. سند کی انتہا کے اعتبار سے حدیث کی اقسام لکھیں۔  
2. Types of Hadith Based on the End of the Chain of Transmission (Sanad).
- III. صحیح بخاری کے علاوہ امام بخاریؒ کی چند دیگر کتابوں کے نام لکھیں۔  
3. Names of Some Other Books by Imam Bukhari Besides Sahih al-Bukhari .
- IV. مؤطا امام مالک اور امام مالک کے علمی مقام بارے علماء کی کیا رائے ہے؟  
4. What Do Scholars Say About the Muwaṭṭa of Imam Mālik and His Scholarly Status?
- V. فتنہ انکار حدیث سے کیا مراد ہے؟  
5. What Is Meant by the 'Fitnah (Tribulation) of Denial of Hadith (Inkā-r-e-Ḥadīth
- VI. ڈاکٹر محمد حمید اللہ کی چند تصنیفات کا ذکر کریں۔  
6. Mention Some of the Writings of Dr. Muhammad Hamidullah.

Q.2. Answer the following questions.

(3x10=30)

سوال نمبر 2: درج ذیل سوالات کے جواب تحریر کیجیے۔

- I. حجیت حدیث پر نوٹ لکھیں۔  
1. Write a Note on the Authority (Ḥujjiyyah) of Hadith.
- II. سنن نسائی اور ابن ماجہ کا موازنہ پیش کریں۔  
2. Comparison between Sunan al-Nasā'ī and Sunan Ibn Mājah.
- III. وضع حدیث کے بنیادی اسباب پر روشنی ڈالیں۔  
3. Explain the Main Causes of Fabrication of Hadith.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Dawa o Irshad

Course Code: ISE-306

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 تحریر کریں۔

- سوال نمبر ۱: قرآن کی روشنی میں داعی الی اللہ کی دو صفات پر روشنی ڈالیں۔
- سوال نمبر ۲: تبلیغی جماعت کے چھ بنیادی اصول تحریر کریں؟
- سوال نمبر ۳: مدعوین کی اقسام تحریر کریں؟
- سوال نمبر ۴: کوئی سے دو تابعین کی دعوتی خدمات تحریر لکھیں؟
- سوال نمبر ۵: دعوت کے جدید ذرائع میں سے کسی ایک کی وضاحت کریں؟
- سوال نمبر ۶: دعوت دین کے موضوع پر کوئی سی تین کتابوں کے نام مع مصنفین لکھیں۔

(3x10=30)

سوال نمبر 2: درج ذیل سوالات کے جواب تحریر کیجیے۔

- سوال نمبر ۱: حضرت نوح علیہ السلام کی دعوتی زندگی کی تفصیلات قرآن کی روشنی میں تحریر کریں۔
- سوال نمبر ۲: حضرت ابو بکرؓ کی دعوتی خدمات پر تفصیل سے روشنی ڈالیں۔
- سوال نمبر ۳: تحریک الاخوان المسلمون کی خدمات پر تفصیلی نوٹ قلم بند کریں۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Islamic Jurisprudence & its History

Course Code: ISE-307

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۔

(6x5=30)

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

1. مطلق اور مقید کی مثالوں کے ساتھ تعریفات کریں۔؟
2. حکم تکلیفی اور وضعی میں فرق بیان کرتے ہوئے ایک ایک مثال دیں۔؟
3. مانع اور شرط میں فرق واضح کریں۔؟
4. مانع سبب کون کون سے ہیں۔؟
5. قیاس کی شرائط بیان کریں۔؟
6. شرائع من قبلنا سے کیا مراد ہے۔ دو مثالیں دیں۔؟

(3X10=30)

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

1. اصول فقہ کی تدوین پر مفصل نوٹ تحریر کریں۔؟
2. استحسان اور مصالح مرسلہ پر جامع نوٹ لکھیں۔؟
3. اہلیت اور اس کے عوارض پر جامع نوٹ لکھیں۔؟



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I. Find the initial point of the vector that is equivalent to  $\mathbf{u} = (1, 1, 3)$  and whose terminal point is  $B(-1, -1, 2)$ ?
- II. The planes  $x + 2y - 2z = 3$  and  $2x + 4y - 4z = 7$  are parallel, since their normals.  $(1, 2, -2)$  and  $(2, 4, -4)$  are parallel vectors. Find the distance between these planes?
- III. Find the image of  $x = (1, 1)$  under a rotation of  $\pi/6$  radians ( $= 30^\circ$ ) about the origin?
- IV. Determine whether the three vectors  $\mathbf{v}_1 = (2, -2, 0)$ ,  $\mathbf{v}_2 = (6, 1, 4)$ ,  $\mathbf{v}_3 = (2, 0, -4)$  lie in a plane in  $R^3$ ?
- V. Determine whether  $f_1 = x$  and  $f_2 = \sin x$  are linearly independent or dependent vectors in  $C^\infty(-\infty, +\infty)$ ?
- VI. Verify that  $\text{rank}(A) = \text{rank}(A^T)$ .  $A = \begin{bmatrix} 1 & 2 & 4 & 0 \\ -3 & 1 & 5 & 2 \\ -2 & 3 & 9 & 2 \end{bmatrix}$ .

**Answer the following questions.**

**(3x10=30)**

**Q.2.** Determine the values of ' $a$ ' for which the system has no solutions, exactly one solution, or infinitely many solutions?  $x + 2y - 3z = 4$ ,  $3x - y + 5z = 2$ ,  $4x + y + (a^2 - 14)z = a + 2$ .

**Q.3.** Find the rank and nullity of the matrix  $A$  by reducing it to row echelon form.

$$A = \begin{bmatrix} 1 & -2 & 2 & 3 & -1 \\ -3 & 6 & -1 & 1 & -7 \\ 2 & -4 & 5 & 8 & -4 \end{bmatrix}$$

**Q.4.** Show that the operator  $T : R^2 \rightarrow R^2$  defined by the equations  $w_1 = 2x_1 + x_2$ ,  $w_2 = 3x_1 + 4x_2$  is one-to-one, and find  $T^{-1}(w_1, w_2)$ ?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Introduction to Psychology (HM)

Course Code: IT-313

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. Differentiate between Classical and Operant Conditioning?
- II. Describe the importance of Clinical and Development Method?
- III. What is the difference between Conscious, Subconscious and Unconscious Mind??
- IV. Write down the difference between Sympathetic and Parasympathetic Nervous System?
- V. What is Forgetting? Discuss different causes of Forgetting.
- VI. Briefly explain Gestalt School of Thought?

**Q.2. Answer the following questions.**

**(2x15=30)**

- I. Define Personality and its structure. What are the developmental stages of personality according to Sigmund Freud? Explain in detail.
- II. Give an overview of different Debates in Psychology.

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

1. Show that  $x^2$  is integrable on any interval  $[0, k]$ .
2. Show that the sum of two functions of bounded variation is of bounded variation.
3. Test the sequence  $\{f_n\}$  for uniform convergence, where

$$f_n(x) = \frac{nx}{1 + n^2x^2}, \forall x \in \mathbb{R}$$

4. Examine the convergence of

$$\int_0^1 \frac{dx}{\sqrt{1-x}}$$

5. If  $f_1$  and  $f_2$  are two bounded and integrable functions on  $[a, b]$ , then their product  $f_1f_2$  is also bounded and integrable on  $[a, b]$ .
6. For the values of  $m$  and  $n$  for which the following integral converges?

$$\int_0^1 \exp(-mx)x^n dx$$

**Q.2. Solve the following.****(3x10=30)**

1. Show that the variation function of a function  $f$  of bounded variation is continuous if and only if  $f$  is a continuous function.
2. A bounded function  $f$  is integrable on  $[a, b]$  iff for every  $\varepsilon > 0$ , there exists a partition  $P$  of  $[a, b]$  such that

$$U(P, f) - L(P, f) < \varepsilon.$$

3. Check that whether  $\int_0^1 x^{m-1}(1-x)^{n-1} dx$  exists if and only if  $m, n$  are both positive.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Rings and Vector Spaces

Course Code: MATH-308

Time: 3 Hrs. Marks: 60

Roll No. ....

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

Q.1. Solve the following

(6x5=30)

(i)	Find the eigenvalues and eigenvectors of the matrix $A = \begin{bmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{bmatrix}$ .
(ii)	Let $R$ be a ring. Prove that the homomorphism $\phi: R \rightarrow R$ is an isomorphism iff $\text{Ker}\phi = \{0\}$ .
(iii)	Prove that the non-zero eigenvectors of a matrix $A$ corresponding to distinct eigenvalues are linearly independent.
(iv)	Prove that a square matrix $A$ is orthogonal iff the rows of $A$ form an orthonormal set.
(v)	Prove that in a commutative ring $R$ with multiplicative identity, every maximal ideal is a prime ideal.
(vi)	Eigenvectors of a symmetric matrix corresponding to distinct eigenvalues are orthogonal.

Q.2. Solve the following.

(3x10=30)

i.	Let $R$ be a commutative ring with identity. The ideal $P$ is prime ideal $\Leftrightarrow$ the quotient ring $R/P$ is an integral domain.
ii.	Let $X$ and $Y$ be vector spaces over the field $F$ with dimensions $m$ and $n$ respectively, then $\text{Hom}(X, Y)$ is of dimension $mn$ over $F$ .
iii.	Prove that every integral domain can be embedded in a field.



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Solve the following**

**(6x5=30)**

- a) Define isolated singularity. Give an example.
- b) If  $F(z)$  be any elliptic function of order 3 then prove that  $F'(Z) + K$  is also an elliptic function of order 3.
- c) Prove that number of poles and zeroes of an elliptic function inside a cell is same.
- d) Using Cauchy's Residue theorem, prove that  $\int_C \frac{(1+Z^5)\sinh Z}{Z^6} dZ = \frac{\pi i}{60}$  where  $C$  is the unit circle  $|Z| = 1$  taken in the positive sense.
- e) Discuss and classify the singular points of the function  $F(Z) = \frac{3Z+3}{(1-Z)^3 \sin^2 Z}$ .
- f) Which is the differential equation satisfied by Weierstrass Elliptic function. What is the order of this equation.

**Solve the following.**

**(3x10=30)**

Q2) State and prove Cauchy-Residue Theorem. Give at least one application.

Q3) Evaluate the integral  $\int_0^\infty \frac{dx}{(x^2+a^2)^2}$  for  $a > 0$ .

Q5) Prove any Addition formula for Weierstrass Elliptic function.





### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following

(6x5=30)

1. Obtain the velocity and acceleration of an object as observed in a rotating reference frame that shares the same origin with an inertial frame. Discuss the differences in object motion between inertial and rotating (non-inertial) frames of reference.
2. State and prove the parallel axis theorem for the moments and products of inertia of a continuous mass distribution. Illustrate the theorem with an example.
3. Consider a system of  $N$  particles and express the components of the angular momentum  $L$  in terms of the angular velocities  $\omega_x, \omega_y, \omega_z$  and the components of the moment of inertia tensor.
4. A particle with a mass of 10 grams is in motion along a space curve described by the parametric equations:  $x(t) = t^3 + 2t$ ,  $y(t) = -3e^{-2t}$ , and  $z(t) = 2 \sin(5t)$ . These equations represent the variation of the particle's distance covered in centimeters over time  $t$  in seconds, within a force field. Determine the particle's linear momentum, the applied force, and the jerk at time  $t = 0$ .
5. Calculate the moment of inertia of a disc with radius  $a$  and mass  $m$  about an axis passing through its center and perpendicular to its plane.
6. Calculate the angular momentum of a rigid body comprising four particles with masses 2, 3, 5, and 4, situated at positions  $(1, -1, 2)$ ,  $(2, -1, 1)$ ,  $(2, 3, 2)$ , and  $(-2, 1, 0)$  respectively, when the body rotates around the origin with an angular velocity of  $\omega = 2\mathbf{i} - 5\mathbf{j} + 3\mathbf{k}$ .

Q.2. Solve the following.

(3x10=30)

1. Derive Euler's equations of motion for a rigid body and use them to show that both the kinetic energy and the magnitude of the angular momentum remain constant when the body is free from external forces.
2. Let the moments and products of inertia of a rigid body  $\mathcal{R}$  with respect to an  $xyz$  coordinate system, with the origin at  $O$ , be given by  $I_{xx}, I_{yy}, I_{zz}, I_{xy}, I_{xz},$  and  $I_{yz}$ . Prove that the moment of inertia of  $\mathcal{R}$  about an axis making angles  $\alpha, \beta, \gamma$  with the  $x, y$  and  $z$ -axes, respectively, is given by  $I = I_{xx} \cos^2 \alpha + I_{yy} \cos^2 \beta + I_{zz} \cos^2 \gamma + 2I_{xy} \cos \alpha \cos \beta + 2I_{xz} \cos \alpha \cos \gamma + 2I_{yz} \cos \beta \cos \gamma$ .
3. Derive the formula for the moment of inertia of a truncated cone (frustum) about its axis of symmetry, given its mass  $m$ , height  $h$ , bottom radius  $a$ , and top radius  $b$ . Use this formula to calculate the moment of inertia for a frustum with  $h = 10$  cm,  $a = 5$  cm,  $b = 3$  cm, and  $m = 2$  kg.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Solve the following questions:**

**(5x6=30)**

- (i) Prove that any two norms on a finite dimensional linear space are equivalent.
- (ii) Define complete space. Show that the space  $R^n$  is complete metric space.
- (iii) Show that in metric space  $(X, d)$  every convergent sequence is Cauchy. Give an example of a Cauchy sequence in  $[0, 1]$  that does not converge in  $[0, 1]$ .
- (iv) Let  $V$  be a real inner product space. Show that  $4 \langle x, y \rangle = \|x+y\|^2 - \|x-y\|^2$ , for all  $x, y \in V$ .
- (v) Prove that the closure of a convex subset of normed space is a convex set.

**Q.2. Solve the following questions.**

**(5x6=30)**

- (a) Let  $N$  be a normed linear space in which every absolutely convergent series converges. Show that  $N$  is Banach.
- (b) Let  $T : N \rightarrow M$  be a surjective linear operator. Show that
  - (i)  $T^{-1}$  exists  $\Leftrightarrow Tx = 0$  implies  $x = 0$ .
  - (ii) If  $T$  is bijective and  $\dim N = n$  then dimension of  $M$  is also  $n$ .
- (c) Let  $X$  be a complete metric space and  $Y$  a subspace of  $X$ . Show that  $Y$  is complete if and only if it is closed.
- (d) If  $M$  is a Banach space then show that  $B(N, M)$  is a Banach space under the norm defined by
$$\|T\| = \sup_{\|x\|=1} \|Tx\|, x \in N, T \in B(N, M)$$
- (e) Let  $H$  be a Hilbert space and  $y \in H$ . Show that the function  $f_y : H \rightarrow F$  ( $F$  is  $R$  or  $C$ ) defined by  $f_y(x) = \langle x, y \rangle$ ,  $x \in H$  is a linear functional. Also show that  $\|f_y\| = \|y\|$ .



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Solve the following**

**(5x6=30)**

1. Derive the Variation of Parameters formula to solve linear second order nonhomogeneous Differential equations.
2. Solve the initial value problem  $4\frac{d^2y}{dx^2} - y = xe^{\frac{x}{2}}; y(0) = 1, y'(0) = 0$ .
3. Define Bessel functions of the second kind. Use appropriate recurrence relations to express  $J_4(x)$  in terms of  $J_0(x)$  and  $J_1(x)$ .
4. Find the first four terms of a power series in  $x$  for  $f(x) = \frac{1}{e^x + e^{-x}}$ .
5. Prove that  $\frac{d}{dx}[x^{-n}J_n(x)] = -x^{-n}J_{n+1}(x)$  for all  $n$ .

**Q.2. Solve the following.**

**(3x10=30)**

1. Drive Rodrigues' Formula for Legendre polynomials.
2. Determine the eigenvalues and eigenfunctions of the following Sturm-Liouville system

$$\frac{d^2y}{dx^2} + (1 + \lambda)y = 0, \quad y(0) = 0, \quad y(\pi) = 0$$

3. Prove the three-term recurrence relation

$$P_{k+1}(x) = \frac{(2k+1)x}{k+1}P_k(x) - \frac{k}{k+1}P_{k-1}(x), \quad k = 2, 3, 4, \dots$$



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

1. Explain the concept of a Hilbert space in quantum mechanics.
2. What is the significance of the commutator in matrix mechanics?
3. State the postulates of matrix mechanics.
4. Describe the concept of an orthonormal basis in Hilbert space.
5. What are the basic differences between matrix mechanics and wave mechanics?
6. Explain the physical interpretation of the wavefunction in terms of probability.
7. What is the uncertainty principle? Discuss its significance in quantum mechanics.
8. Define and give an example of identical particles in quantum mechanics.
9. What is the difference between bosons and fermions in terms of their wavefunctions?
10. Define the WKB approximation and discuss its applicability.
11. What is the variational method in quantum mechanics?
12. State the basic idea behind the scattering theory in quantum mechanics.
13. Define the concept of cross-section in scattering theory.
14. What is the Born approximation in scattering theory?
15. Discuss the importance of the Schrödinger equation in quantum mechanics.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Discuss the quantum mechanical treatment of identical particles. Explain the symmetrization postulate and the distinction between bosons and fermions in this context. How do these properties affect the wavefunction of multi-particle systems?
2. (a) Derive the first-order energy correction in time-independent non-degenerate perturbation theory.  
(b) Discuss the WKB approximation and its use in solving the Schrödinger equation for potential problems. How does this approximation help in understanding quantum tunneling?
3. (a) Describe the variational method and explain how it is used to estimate the ground state energy of quantum systems.  
(b) Discuss the basics of scattering theory, including the concept of partial waves and cross-sections.





### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Write short answer of the following questions: (15x2=30)**

1. What is a Hilbert space, and why is it important in Quantum Mechanics?
2. Define Hermitian operators. How do they relate to the measurement in quantum mechanics?
3. What is the difference between unitary operators and Hermitian operators?
4. Explain the representation of quantum states in a discrete basis.
5. Describe the position representation and momentum representation in quantum mechanics.
6. State and explain the postulates of Quantum Mechanics.
7. What is the generalized uncertainty principle? Explain its significance.
8. Discuss the importance of Dirac notation in quantum mechanics.
9. What is the physical meaning of a Hermitian operator in quantum mechanics?
10. Derive the solution to the Schrödinger equation for a free particle in one dimension.
11. Explain the concept of a potential step and its solution in quantum mechanics.
12. What are Hermite polynomials, and how are they related to the solution of the Simple Harmonic Oscillator?
13. Describe the angular momentum operator in quantum mechanics. What are its key properties?
14. What is the energy eigenvalue of a simple harmonic oscillator? Also write the Hamiltonian of the simple harmonic oscillator
15. State and explain the significance of the Laguerre polynomials in the solution of the Hydrogen atom.

**Q.2. Solve the following. (3x10=30)**

1. Derive the solution of the Schrödinger wave equation for a free particle in one dimension. Discuss the significance of the wave function, its boundary conditions, and the normalizability of the wave function. How do the energy eigenvalues arise, and what do they represent physically?
2. Derive the quantum mechanical treatment of angular momentum. Explain how the angular momentum operators  $L^2$  and  $L_z$  work in spherical coordinates. Discuss their eigenvalues and eigenfunctions in the context of spherical harmonics and explain the implications for the quantum state of a particle.
3. Solve the Schrödinger equation for the Hydrogen atom. Derive the energy eigenvalues and eigenfunctions of the system. Discuss the quantum numbers that arise from the solution, and explain how they relate to the physical properties of the atom, including the use of Laguerre polynomials in the radial wave function.



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(15x2=30)

- (a) State the postulate of the Free electron Fermi Gas?
- (b) Do electrons have zero kinetic energy at 0 K? If not, why?
- (c) How can one predict the type of material from the band structure and number of electrons filling the structure?
- (d) Plot the distribution density  $\rho$  in the lattice for  $|\psi_+|^2$  and  $|\psi_-|^2$ , and for a pure travelling wave.
- (e) What are the failures of free electron model?
- (f) What is the difference between mass and effective mass?
- (g) Differentiate between direct and indirect band gap materials?
- (h) Plot and describe the optical absorption curves for the direct and indirect band gap materials.
- (i) State the postulates for the existence of energy band gaps in solids.
- (j) Distinguish between intrinsic and extrinsic semiconductors.
- (k) Describe briefly the intrinsic mobility.
- (l) What is meant by cyclotron frequency? Give its mathematical expression.
- (m) Define Bloch function. What does it represent physically?
- (n) What is physical meaning of Fermi temperature?
- (o) Write the Expression of the Fermi Dirac Distribution Function and calculate its classical limit.

Answer the following questions.

- |          |  |     |
|----------|--|-----|
| Q. 2(a): | Explain motion of a charged particle in a magnetic field. Define <b>cyclotron frequency</b> and give its mathematical formula.   | (5) |
| (b)      | State The <b>Hall Effect</b> . Derive its mathematical expression. On what factors does Hall coefficient depend?   | (5) |
| Q. 3(a): | State <b>Bloch theorem</b> and show that probability of finding the electrons is the same everywhere. Also calculate the total number of allowed k-values in the first Brillouin's zone. | (5) |
| (b):     | Describe briefly the <b>band structure of alkali metals and the noble metals</b> .   | (5) |
| Q. 4(a): | Derive an expression for the <b>Hall coefficient for an intrinsic semiconductor</b> in terms of mobility of electrons and holes and the density of carrier.                              | (5) |
| (b):     | Derive <b>equation of motion of holes in a crystal</b> and explain how holes move in k-space.  | (5) |



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Solve the following:

(6x5=30)

1. What is Einstein's summation convention? Show that  $\varepsilon_{ijk} \varepsilon_{ijk} = 2\delta_{ii}$ .
2. Apply tensor to prove that  $\text{div}(\vec{A} \times \vec{B}) = \vec{B} \cdot \text{Curl } \vec{A} - \vec{A} \cdot \text{Curl } \vec{B}$ .
3. State and prove Cayley's theorem.
4. Prove that every subgroup of a cyclic group is cyclic.
5. Prove that  $e^Z = 1$  if and only if  $Z = 2K\pi i$  for  $K = 0, \pm 1, \pm 2, \dots$ .
6. Expand  $f(Z) = \frac{1}{(Z+1)(Z+3)}$  in a Laurent's series valid for the region  $1 < |Z| < 3$ .

Q.2. Solve the following.

(5x6=30)

1. The orthogonal transformation from  $X$  to  $X'$  frame is
 
$$X'_1 = -\frac{3}{7}X_1 - \frac{6}{7}X_2 - \frac{2}{7}X_3, \quad X'_2 = -\frac{2}{7}X_1 + \frac{3}{7}X_2 - \frac{6}{7}X_3,$$

$$X'_3 = \frac{6}{7}X_1 - \frac{2}{7}X_2 - \frac{3}{7}X_3.$$

Find the equation of inverse transformation. If  $A_{ij}$  is a 2<sup>nd</sup> order tensor in  $X'$  frame and all are  $A_{ij}$  zero except  $A'_{13} = 1$ , then find  $A_{12}$ .

2. Check whether the following matrix are the components of a tensor of rank 2 or not.

$$A_{pq} = \begin{pmatrix} x_2^2 & -x_1x_2 \\ -x_1x_2 & -x_2^2 \end{pmatrix}$$

3. Prove that the group of rotation of a cube is isomorphic to  $S_4$ .

4. Evaluate  $\int_0^{\infty} \frac{x^2}{x^6+1} dx$ .

5. Find the contour integral  $\int \bar{Z} dZ$  for
  - (a)  $\gamma$  is the triangle ABC oriented counterclockwise, where  $A = 0$ ,  $B = 1+i$  and  $C = -2$ ;
  - (b)  $\gamma$  is the circle  $|z-i| = 2$  oriented counterclockwise.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Write short answers of the following Questions in MATLAB. (6x5=30)**

Write short answers of the following Questions in MATLAB.

- Generate a random matrix **W** of size 5x4. Find its determinant, number of rows and columns, and sum of rows.
- Write example to show the function of the following.  
(a) `mean()` (b) `plot()` (c) `max()` (d) `conv()` and (e) `length()`
- Write syntax with example for the following in MATLAB:  
(a) `while()` loop (b) `bar()` and (c) `mod()`
- Write a function to calculate the volume and surface area of a sphere by taking the radius as user input.
- Create a vector **VK** with values from -450 to 450 with an increment of 5. Find the median and standard deviation of **VK**.
- Write one example to show the use of: `linspace()` and `diag()`

**Answer the following questions. (3x10=30)**

- Write code to solve for  $x_1, x_2, x_3$  using the equations by two methods.

$$4x_1 - x_2 + x_3 = 7, -x_1 + 3x_2 - 2x_3 = -5, 2x_1 - x_2 + 3x_3 = 8.$$

Plot values of (x,y) using equation  $y=mx+c$  such that  $m = 4$  and read  $x$  from the user.  $x = [-15 \ 15]$ .

- For  $x = [0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6]$ ;  $y = [5 \ 10 \ 15 \ 10 \ 5 \ 0 \ -5]$ ;  
Find the minimum and maximum values of  $y$  with their indices. Plot  $x$  vs  $y$  with appropriate labels and titles.  
Write a program for the conversion of temperature from  $F^\circ$  to  $C^\circ$

If  $x = [0 \ 2\pi]$  and  $y = \sin(x)$ . Write code to plot  $x$  vs  $y$  also find transpose of  $y$ .

- The height  $h(t)$  and speed  $v(t)$  of a projectile launched with speed  $v_i$  at an angle  $A$  to the horizontal are

$$h(t) = v_i t \sin(A) - 0.5 g t^2$$

$$v(t) = (v_i^2 - 2 v_i g t \sin(A) + g^2 t^2)^{1/2}$$

If  $A = 40^\circ$ ,  $v_i = 20 \text{ m/s}$  and  $g = 9.8 \text{ m/s}^2$  use MATLAB to find out maximum of  $h$  and  $v$ . Plot time vs  $h$  and  $v$ . such that  $t = [-5 \ 5]$ .

Calculate the total distance and average distance traced by a particle during Brownian motion. Generate (x,y) points by random function.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I. Why are Karnaugh maps used in simplifying Boolean expressions?
- II. Design a basic LC oscillator and calculate its resonant frequency.
- III. How does the Miller effect influence the band width of an amplifier circuit?
- IV. How can an Op-Amp be used as a summing amplifier?
- V. Discuss basic types of multivibrator.
- VI. Convert the following number, 37, into binary, octal, and hexadecimal

**Q.2. Answer the following questions.**

**(3x10=30)**

- a) Explain the principle of current series feedback with a circuit example.
- b) What is a differential amplifier? How does the common-mode rejection ratio (CMRR) affect the performance of a differential amplifier?
- c) If a 4-bit binary number is 1 0 0 1, what will its Excess-3 and Gray code representations be? Which one is more efficient for error detection?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Western Political Philosophy-II

Course Code: POL-306

Roll No. ....

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. Briefly explain Bentham's principle of utility.
2. How does J.S. Mill differentiate between liberty and authority?
3. Summarize Hegel's concept of the state.
4. What are Karl Marx's views on class struggle?
5. Discuss Laski's perspective on state sovereignty.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Compare and contrast the political philosophies of Hegel and Marx.
2. Critically assess J.S. Mill's contribution to liberalism.
3. Examine the relevance of Karl Marx's theory in contemporary politics.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Muslim Political Philosophy-II

Course Code: POL-307

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)**

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

i. What is Iqbal's concept of Mard e Momin?

i. اقبال کے مرد مومن کا تصور کیا ہے؟

ii. Describe the concept of Modernity by Muhammad Abdhu?

ii. محمد عبدہ کا تصور جدیدیت کیا ہے؟

iii. Describe the movement of Muslim Brotherhood by Syed Qutab?

iii. سید قطب کی تحریک مسلم بھائی چارہ بیان کریں؟

iv. Write a note on the life of Jamaludin Afghani?

iv. جمال الدین افغانی کے حالات زندگی پر نوٹ لکھیں؟

v. What is political Islam according to Hasan Al-Turabi?

v. حسن الترابی کے مطابق سیاسی اسلام سے کیا مراد ہے؟

vi. Write a note on the teaching of Dr. Ali Shariati?

vi. ڈاکٹر علی شریعتی کی تعلیمات پر نوٹ تحریر کریں؟

**Q.2. Answer the following Questions.**

**(3x10=30)**

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

i. Explain the Role of Iqbal in Pakistan Ideology?

i. نظریہ پاکستان کے لیے اقبال کا کردار بیان کریں؟

ii. Write characteristics of Muslim state according to Moulana Abul ala Modudi?

ii. مولانا ابوالامودودی کے مطابق اسلامی ریاست کی کیا خصوصیات ہیں؟

iii. Write an essay on the role of Ayatollah Imam Khamenie in the Iran revolution?

iii. ایرانی انقلاب میں آیت اللہ امام خمینی کے کردار پر مضمون تحریر کریں؟



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Comparative and Developmental Politics-II

Course Code: POL-308

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 meant by National Identity.
2. What is meant by Military Elite.
3. Write the factors of Socio- Political change.
4. Write five indicators of Political development.
5. What is the difference between Political modernization and Political Development.
6. Define the National Integration

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Write a detail note on Charismatic leadership.
2. What is the role of Bureaucracy in the process of political development of developing countries.
3. How ethnicity creates hurdles in the way of national integration? Special reference to Pakistan.





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: History of International Relations

Course Code: POL-309

Roll No. ....

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. Explain New World Order.
2. Briefly explain the incident of Cuban Missile Crisis.
3. Explain Marshall Plan.
4. Write two definitions of International Relations.
5. Write any two reasons for the failure of League of Nations.

**Q.2. Answer the following questions.**

**(2x15=30)**

1. Explain the causes of Second World War in Detail.
2. The incident of 9/11 changed the course of history. Comment.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Introduction to Local Government

Course Code: POL-310

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 four problems of local government in developing countries.
- II. What is devolution?
- III. Mention the central government role in strengthening of local government
- IV. Discuss the concept of 'Decentralization'.
- V. What is difference between local government and local self-government.
- VI. It is said 'Local bodies are the nursery of the democracy' kindly explain.

**Q.2. Answer the following questions.**

**(3x10=30)**

- I. Mention the major income sources of local government.
- II. How local government was introduced in the sub-continent?
- III. Why the local and provincial governments are not on the same page?





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- 1) What is Data reader?
- 2) What is entity data model?
- 3) What is a delegate in enterprise systems?
- 4) Write difference between WSDL and SOAP.
- 5) What is the syntax of XML?
- 6) What is web API?

**Q.2. Answer the following questions.**

**(2x15=30)**

1. What is MVC? Write its uses and advantages.
2. How we define variables in JavaScript? Write a program in JavaScript to calculate the factorial of a number.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Research Design & Sociometry

Course Code: SOC-307

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. Basic, Applied and Evaluative Research
2. Random and Non-random sampling
3. Research Funding and Research Costing
4. Qualitative and Quantitative Research
5. Research Reporting and its Ethics
6. Research Design and its Types

**Q.2. Answer the following questions.**

**(2x15=30)**

1. Define Sociometry? Write a detailed note on different Sociometric Scales and Indexes.
2. What are the different methods and techniques of Data Collection? Write a detailed note.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Introduction to Population Studies

Course Code: SOC-308

Roll No. ....

Time: 3 Hrs.

Marks: 60

**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(5x6=30)**

- a. What is the scope of Population Studies
- b. Define and explain Birth Rate
- c. Define and explain Death rate
- d. What is Dependency Burden
- e. What is immigration

**Q.2. Answer the following questions.**

**(3x10=30)**

- A. Write a detail note on Malthusian Population trap and its criticism
- B. Write a detail note on population related problems of Pakistan
- C. Write a detail note on Demographic processes



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Social Statistics

Course Code: SOC-309

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. Probability and Binomial Probabilities
2. Measure of Central Tendency and Measure of Dispersion
3. Distribution of Data and its Types
4. SPSS and its advantages
5. Measurement of Data and its Scales
6. Descriptive and Inferential Statistics

**Q.2. Answer the following questions.**

**(2x15=30)**

1. What is Frequency Distribution? Explain in detail the Tabular and Graphic Presentation of Data.
2. Differentiate between Parametric and Non-Parametric Tests. Explain different Non-Parametric Tests and their uses.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Urban Sociology

Course Code: SOC-310

Roll No. ....

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. Define the following terms with examples:
  - a. Urbanization
  - b. Metropolis
  - c. Megalopolis
- ii. Explain the scope of urban sociology and characteristics of urban society?
- iii. What are the key factors driving the growth of planned city development?
- iv. How do the dynamics of urban environments influence human ecology?
- v. How do social relations in the city shape the experiences and identities of its residents?

**Answer the following Questions.**

**(3x10=30)**

- Q2. What are the key trends of urbanization in Pakistan and their socio-economic implications?
- Q3. How does the lack of coordination between various social systems in the city affect community well-being and urban development?
- Q4. What role do voluntary associations play in shaping the future of cities through neighborhood planning?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Sociology of Law and Human Rights

Course Code: SOC-311

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 do you mean by Common Law as a system of law?
- 2 What are the main functions of law?
- 3 Differentiate between Sociology of Law and Jurisprudence.
- 4 Give a brief definition of social control.
- 5 What do you mean by Dispute Resolution.
- 6 What do you mean by a Subculture?

**Q.2. Answer the following questions.**

**(3x10=30)**

- .1 Briefly describe Durkheims's contribution in the Sociology of Law.
- .2 Discuss the element of gender discrimination within the legal system of Pakistan.
- .3 Write a note on the situation of human rights in Pakistan.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Social Development

Course Code: SOCW-307

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. Answer the following short questions.

(6x5=30)

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

1. What is social development?  
سماجی ترقی کیا ہے؟
2. What is modernization theory?  
جدیدیت کا نظریہ کیا ہے؟
3. Write two stages of social development.  
سماجی ترقی کے دو مراحل لکھیں۔
4. Write any two basic rules of social development.  
سماجی ترقی کے دو بنیادی اصول لکھیں۔
5. What is the job of people involved in social development?  
سماجی ترقی میں شامل افراد کیا کام کرتے ہیں؟
6. Write two things that become a barrier to social development.  
دو چیزیں لکھیں جو سماجی ترقی کو تیز کرتی ہیں۔

Q.2. Answer the following questions.

(3x10=30)

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

1. What are the main ideas and stages of social development?  
سماجی ترقی کے اہم خیالات اور مراحل کیا ہیں؟
2. What is sustainability in social development, and why is it needed?  
سماجی ترقی میں پائیداری کیا ہے اور یہ کیوں ضروری ہے؟
3. What are the main problems that stop social development? Give examples.  
وہ بڑی رکاوٹیں کون سی ہیں جو سماجی ترقی کو روکتی ہیں؟ مثالیں دیں۔





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- 1: Define SOCIAL RESEARCH, please
- 2: Please define QUANTITATIVE and QUALITATIVE research.
- 3: Please name any five research APPROACHES.
- 4: What is the difference between RESEARCH METHOD and RESEARCH METHODOLOGY?
- 5: Please write KEY CHARACTERISTICS of social research.
- 6: Please describe ACTION RESEARCH APPROACH.

**Q.2. Answer the following questions.**

**(3x10=30)**

- 1: What are the different STEPS in social research? Please discuss any two of them.
- 2: Please discuss why we do LITERATURE REVIEW in social research.
- 3: Please define and discuss research SYNOPSIS.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Social Management

Course Code: SOCW-309

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. Answer the following short questions.

(6x5=30)

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

1. What do you understand by planning?

آپ منصوبہ بندی سے کیا سمجھتے ہیں؟

2. Name two features of an organization.

کسی تنظیم کی دو خصوصیات تحریر کریں۔

3. What is delegation of authority?

اختیار سونپنے سے کیا مراد ہے؟

4. What is transformational leadership?

تبدیلی لانے والی قیادت کیا ہوتی ہے؟

5. What is training in the staffing process?

عملہ سازی کے عمل میں تربیت کیا ہے؟

6. What is the meaning of MBO (Management by Objectives)?

مقصدی نظم و نسق سے کیا مراد ہے؟

Q.2. Answer the following questions.

(3x10=30)

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

1. What is staffing? Write in simple words about hiring people, training, and giving benefits.

عملہ سازی کیا ہے؟ افراد کی بھرتی، تربیت اور سہولتوں کی فراہمی کے بارے میں آسان زبان میں بیان کریں۔

2. What is organizing? Explain how authority is shared using delegation and decentralization.

تنظیم سازی کیا ہے؟ وضاحت کریں کہ اختیار کو سونپنے اور اختیارات کی مرکزیت ختم کرنے سے کیسے ہٹا جاتا ہے۔

3. What is budgeting? Explain the types of budgets and why budgeting is important in welfare offices.

بجٹ سازی کیا ہے؟ بجٹ کی اقسام بیان کریں اور وضاحت کریں کہ غلامی و فاقہ میں بجٹ سازی کیوں اہم ہے۔



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- 1-Define Social action
- 2 Discuss the need and importance of social action.
- 3-Discuss methodology of social action
- 4-What is the history of social action?
- 5-How social action leads to social policy?
- 6-Define Human rights.

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

- 1-Discuss in detail the methodology of social action.
- 2-What do you mean by mobilization? How mobilization is for successful social action?
- 3-Discuss the role of social worker in the process of social action.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Social Gerontology

Course Code: SOCW-311

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: درج ذیل سوالات کے مختصر جوابات تحریر کریں۔

1. Write any two psychological issues faced by the elderly.  
بزرگوں کو درپیش دو نفسیاتی مسائل لکھیں۔
2. What is the Islamic view about caring for the elderly?  
عمر رسیدہ افراد کی دیکھ بھال کے بارے میں اسلامی نظریہ کیا ہے؟
3. Write two physical problems that aged people face.  
عمر رسیدہ افراد کو درپیش دو جسمانی مسائل لکھیں۔
4. Name any two laws or services available for senior citizens.  
بزرگوں کے لیے دو قوانین یا سہولیات کے نام لکھیں۔
5. What is meant by institutional care?  
ادارہ جاتی نگہداشت سے کیا مراد ہے؟
6. What is meant by loneliness in old age?  
بڑھاپے میں تنہائی سے کیا مراد ہے؟

**Q.2. Answer the following questions.**

(3x10=30)

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

1. What is Social Gerontology? Explain its meaning, definition, and importance.  
علم بزرگسالی یا عمر رسیدگی کا علم کیا ہے؟ اس کا مفہوم، تعریف اور اہمیت بیان کریں۔
2. What are the common social and psychological problems faced by older people?  
عمر رسیدہ افراد کو پیش آنے والے سماجی اور نفسیاتی مسائل بیان کریں۔
3. Describe the role of a social worker in helping senior citizens.  
بزرگ شہریوں کی مدد میں سماجی کارکن کا کردار بیان کریں۔



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

Q.1. Write a short note on the following. (6x5=30)

- I. Merits and demerits of Factorial Experiments
- II. Sign Table
- III. Fractional Replication
- IV. Partial Confounding
- V. Split Plot Design
- VI. Incomplete Block design

Answer the following questions. (3x10=30)

Q2. Suppose a study is performed to determine the effect of 3 factors (A, B, C). Suppose that each batch of raw material is only large enough to test 4 treatment combinations. Thus, each replicate of  $2^3$  design must run in 2 blocks. Two replicates are run with ABC confounded in replicate I and AB confounded in replicate II. The data is as follows:

Replicate I		Replicate I	
ABC Confounded		AB Confounded	
Blocks I	Blocks II	Blocks I	Blocks II
(1)=-3	a=0	(1)=-1	a=1
ab=2	b=-1	c=0	b=0
ac=2	c=-1	ab=3	ac=1
bc=1	abc=6	abc=5	bc=1

Analyze the experiment.

- Q3. Consider  $2^{8-4}$  the fractional factorial with generator  $I=BCDE=ACDF=ABCG=ABDH$ . Find the aliases of C.
- Q4. An experimenter wishes to compare 4 treatments in blocks of two runs. Find a BIBD for this experiment with six blocks. Also outline the ANOVA table.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

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

- I. Define Ratio estimator in stratified random sampling and discuss its types.
- II. Discuss Bias of Ratio estimator and its effect.
- III. Define Regression estimators and in which condition they are better than Ratio estimator.
- IV. Describe Separate Regression estimator in stratified random sampling.
- V. What is Cluster Sampling and discuss its types.
- VI. What is Double Sampling.

**Answer the following questions. (3x10=30)**

**Q. 2.** Show that, to the first order of approximation,

$$V(\hat{Y}_R) = \frac{N(N-n)}{n(N-1)} \sum_{i=1}^N (y_i - Rx_i)^2 \text{ where } R = Y/X \text{ is population Ratio. The approximation assumes that } n \text{ is large.}$$

**Q. 3.** In simple random sampling the large sample variance of the regression estimator for population Mean  $\bar{Y}$  is

$$V(\bar{y}_l) = \frac{1-f}{n} S_y^2 (1 - \rho^2), \text{ where } \rho = \frac{S_{xy}}{S_x S_y}$$

**Q. 4.** Show that in cluster sampling  $\bar{\bar{y}}$  is an unbiased estimator of  $\bar{\bar{Y}}$  with

$$V(\bar{\bar{y}}) = \frac{1-f}{n} \frac{NM-1}{M^2(N-1)} S^2 [1 + (M-1)\rho]$$



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

**Q.1. Answer the following short questions.**

**(6x5=30)**

1. Given the matrix

$$A = \begin{bmatrix} 2 & 3 \\ 4 & 1 \end{bmatrix}, \quad B = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix},$$

compute  $AB$  and  $A^T$ , and verify whether  $A$  is invertible.

2. State and explain the properties of the multivariate normal distribution. Illustrate with a simple bivariate example.
3. For the linear combinations  $Y = a^T X$  and  $Z = b^T X$ , show how the variance of  $Y$  is computed using the covariance matrix of  $X$ .
4. Derive the unbiased estimators for the mean vector and covariance matrix of a multivariate normal distribution.
5. Briefly explain the Wishart distribution and state its key properties.
6. Explain the concept of the joint distribution of mean vector and covariance matrix in multivariate analysis.

**Q.2. Answer the following questions.**

**(3x10=30)**

1. Given a random sample of size  $n = 20$  from a multivariate normal distribution  $N_3(\mu, \Sigma)$ , where the sample mean is

$$\bar{x} = \begin{bmatrix} 5 \\ 7 \\ 9 \end{bmatrix},$$

and the sample covariance matrix is

$$S = \begin{bmatrix} 2 & 0.5 & 0.7 \\ 0.5 & 1.5 & 0.3 \\ 0.7 & 0.3 & 2 \end{bmatrix}.$$

Test  $H_0 : \mu = [5, 6, 8]^T$  using a suitable statistic at  $\alpha = 0.05$ .

2. Derive the distribution of the covariance matrix  $S$  for a sample from a multivariate normal distribution. Relate this to the Wishart distribution.
3. Explain how linear combinations of a multivariate normal distribution are themselves normally distributed. Derive the mean and variance of such combinations.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- i) Derive mean and variance of Gamma distribution.
- ii) Find the mean deviation of Exponential distribution.
- iii) Derive the moment generating function of Chi-square distribution.
- iv) If the random variable  $X$  has normal distribution with mean 'm' and variance  $\sigma^2$ . Find the distribution of  $Y = aX + b$ .
- v) Find the distribution of  $Y = X^2$ , given that

$$f(x) = \frac{1+x}{2} \quad -1 \leq x \leq +1$$

- vi) Show that area under the curve of Normal distribution is unity.

**Answer the following questions.**

**(3x10=30)**

**Q2** A sample of odd size  $n = 2r + 1$  is taken from the rectangular distribution

$$f(x) = 1 \quad 0 \leq x \leq 1$$

The median is  $(r+1)th$  member of the sample arranged in ascending order.  
Find the variance of the median.

**Q3** Derive the p.d.f of t-distribution.

**Q4** Find the co-efficient of skewness and kurtosis of Lognormal distribution



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(6x5=30)

(a): What is an operating system. Explain main functions and features of an operating system.

(b): Write a FORTRAN program that reads the radius of a sphere and compute its volume and surface area.

(c): Write a FORTRAN expression for the following mathematical expressions.

1.  $\left| \frac{\sqrt{x^3 - y^3 - z^3}}{\cos(a+b)} \right|$

2.  $e^{|x-y|} - x^4$

3.  $\frac{\sin^2(\pi+x) + \tan\left(\frac{3\pi}{2}+x\right)}{\cot^2\left(\frac{3\pi}{2}-x\right) \cos^2(\pi-x)}$

4.  $\sin^{-1}(a\sqrt{1-b^2} + b\sqrt{1-a^2})$

5.  $a + \frac{b}{|x^2 - y^2|}$

(d): Write an FTN program to print even and odd numbers.

(e): Write a FORTRAN program to find the sum of  $(1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4}, \dots, + \frac{1}{100})$

(f): Write a program that calculates the mean and variance of X values by using array.

Answer the following questions.

(3x10=30)

Q.2 What is an array? Also, explain declaration of different types of arrays with examples in FORTRAN.

Q.3

Write a FORTRAN program to find the sum of the following series.

a.  $\left(\frac{2}{3} + \frac{4}{5} + \frac{6}{7}, \dots, + \frac{2N}{2N+1}\right)$

b.  $\left(1 - \frac{3}{2^2} + \frac{5}{3^2} - \frac{7}{4^2}, + \dots, + \frac{2N-1}{N^2}\right)$

Q.4

Write a FORTRAN program to find the sum and product of two matrices A(RxC) and B(RxC).



### THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions.

(6x5=30)

Write a short note on the following and explain by the help of an example:

- a) `sqrt()`
- b) `solve()`
- c) `paste()`
- d) `c()`
- e) `as.integer()`
- f) `transform()`

Answer the following questions.

(3x10=30)

Q2. Suppose we have n (even or odd) observations of random sample. Write an R program to calculate the medium of sample data.

Q3. Given the following matrices

$$A = \begin{bmatrix} 4 & 2 & 3 \\ 5 & 6 & 5 \end{bmatrix} \quad B = \begin{bmatrix} 9 & 4 \\ 6 & 3 \\ 8 & 9 \end{bmatrix},$$

Write R code to perform the following task:

- a) Obtain the matrix  $C=A*B$ . Report the matrix C.
- b) Calculate the determinant of matrix C
- c) If C is nonsingular calculate the inverse of matrix
- d) Check  $CC^{-1} = I$
- e) Row bind the matrix A and B

Q4. Given the following data

X1	18	25	27	19
X2	26	49	92	51

- a) Apply T test to test the equality of means. Extract the test statistics value and p value from the test results
- b) Draw the scatter plot and boxplot side by side
- c) Save the plot as .jpeg file



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Principles of Management

Course Code: UE-272

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. Katz's three essential managerial skills
- II. Organizational structure.
- III. Environment uncertainty
- IV. Strategic management
- V. Difference between recruitment and decruitment.
- VI. Authority

**Answer the following questions.**

**(3x10=30)**

**Q.No.2:** Write a detailed note on contemporary theories of motivation.

**Q.No.3:** Write a detailed note on the seven dimensions of Organizational Culture.

**Q.No.4:** What is planning? Explain the strategy formation of Planning.



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Urdu Afsaana aur Drama: Fiqri o Funny Mutaila

Course Code: URDU-304

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: درج ذیل سوالات کے مختصر جواب تحریر کریں۔

1. ممتاز مفتی کے کسی ایک اہم افسانے کا تعارف پیش کیجئے۔
2. غلام عباس عام آدمی کا افسانہ نگار ہے، مثالوں کی مدد سے تائید یا تردید کیجئے۔
3. راجندر سنگھ بیدی کے افسانوی فن کی خصوصیات کا مختصر تعارف پیش کیجئے۔
4. احمد ندیم قاسمی کے افسانوں کے اہم موضوعات کا مختصر جائزہ لیجئے۔
5. ”جلال الدین محمد اکبر“ کے کردار کو امتیاز علی تاج نے مثبت پیش کیا یا منفی کرداری خصوصیات لکھیے۔
6. من چلے کا سودا میں تصادم کی کون کون سی صورتیں ہیں مختصراً بیان کیجئے۔

(3X10=30)

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

1. پریم چند کے کسی ایک افسانے کا فکری و فنی تجزیہ پیش کیجئے۔
2. غلام عباس کی افسانہ نگاری کا جائزہ لیجئے۔
3. انارکلی ایک المیہ ڈراما ہے، ثابت کیجئے۔



**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 جواب دیں۔

- ا۔ 'اداس نسلیں' کے کردار نعیم کا تجزیہ کیجیے۔
- ب۔ اداس نسلیں کے پلاٹ کی خوبیوں کا جائزہ لیں۔
- ج۔ خدا کی بستی کی کہانی کا خلاصہ بیان کریں۔
- د۔ شوکت صدیقی نے خدا کی بستی میں سماج کے کن طبقوں پر طنز کیا ہے؟
- ه۔ راجہ گدھ کے کردار امتل پر تبصرہ کیجیے۔
- و۔ راجہ گدھ کا موضوعاتی تعارف پیش کریں۔

(3x10=30)

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

- ا۔ آخر شب کے ہم سفر پر سیر حاصل تبصرہ کریں۔
- ب۔ آنگن کی فنی خصوصیات پر نوٹ لکھیں۔
- ج۔ آخر شب کے ہم سفر کے نسوانی کرداروں کا تجزیہ کیجیے۔



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Urdu Nazam: Fiqri o Funny Mutaila

Course Code: URDU-306

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 جواب دیں۔

1. سید محمد جعفری کی نظم ”کھڑاڈ“ کا مرکزی خیال لکھیں۔
2. حالی کی مسدس کے شامل نصاب حصے پر نوٹ لکھیں۔
3. نظیر اکبر آبادی کی نظم نگاری پر نوٹ لکھیں۔
4. مثنوی نگاری کو مختصر بیان کریں۔
5. شہر آشوب کسے کہتے ہیں، سودا کے شامل نصاب شہر آشوب کو بیان کریں۔
6. ن-م-راشد کے مجموعوں کے نام لکھیں۔

(3x10=30)

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

- |    |                                      |
|----|--------------------------------------|
| 1- | مثنوی گلزار نسیم پر نوٹ لکھیں۔       |
| 2- | مجید امجد کی نظم نگاری کو بیان کریں۔ |
| 3- | قصیدہ نگاری پر تفصیلاً نوٹ لکھیں۔    |





# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Pakistan Main Farogh-e-Urdu kay Aham Idaray

Course Code: URDU-308

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 نمبر 1: درج ذیل سوالات کے مختصر جواب تحریر کریں۔ (6X5=30)

- 1۔ مجلس ترقی ادب کے پانچ خاص نمبر تحریر کریں۔
- 2۔ اردو سائنس بورڈ کے قیام کا اساسی مقصد کیا تھا؟
- 3۔ ”مجلس ترقی ادب“ سے شائع ہونے والے شعری کلیات میں سے کوئی سے پانچ تحریر کریں۔
- 4۔ اکادمی ادبیات کے پانچ ناظمین کے نام لکھیں۔
- 5۔ اردو ڈکشنری بورڈ کے بنیادی مقاصد کون سے تھے؟
- 6۔ اردو لغت کی تدوین کے لیے اردو ادب کو کن ادوار میں تقسیم کیا گیا؟

سوال نمبر 2: درج ذیل سوالات کے جواب تحریر کریں۔ (3X10=30)

- 1۔ مجلس ترقی ادب کا تعارف اور اشاعتی خدمات لکھیں۔
- 2۔ انجمن ترقی اردو پاکستان کی تصنیفی خدمات پر نوٹ لکھیں۔
- 3۔ مقتدرہ فومی زبان کا تعارف تفصیل سے لکھیں۔



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- i. Error of measurement and its sources
- ii. Criteria of Problem identification for research
- iii. ANOVA
- iv. References
- v. Motivations for research
- vi. Purpose of literature review

**Answer the following questions.**

**(3x10=30)**

**Q.2 Write a detailed note on plagiarism.**

**Q.3 Explain the general steps involved in research.**

**Q.4 Give a comprehensive note on different parts of thesis.**



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- 1 Differentiate between Phenon and Taxon.
- 2 Describe future perspective of sytematics
- 3 Differentiate between SUBSPECIES and POLYTYPIC SPECIES.
- 4 Describe NOMINALISTIC species concept.
- 5 Differentiate between NEOTYPE and LECTOTYPE.
- 6 Define HIGHER TAXONOMIC CATEGORIES.
- 7 Define SUPERSPECIES.
- 8 Define TYPE METHOD of nomenclature.
- 9 Define WEIGHTING OF CHARACTERS
- 10 Define SUPERSPECIES.
- 11 Define CLAD.
- 12 Describe problems of Evolutionary species concept.
- 13 From where taxonomic collection should be done.
- 14 Describe LAW OF PRIORITY.
- 15 Differentiate SYNONYMS and HOMONYMS

**Answer the following questions.**

**(3x10=30)**

Q2. What is Cladistic classification? Discuss in detail.

Q3. Describe Biological species concept and difficulties in its application.

Q4. Write a note on modes of speciation



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I: What is HFR conjugation? Explain why in HFR conjugation the recipient bacteria remains F negative at the end of conjugation process?
- II: What are Leader and Trailer sequences?
- III: Differentiate between Introns and spacer DNA?
- IV: What is 5-methyl Uracil? How many hydrogen bonds are made between Adenine and 5 methyl uracil in DNA molecules?
- V: What is induction? Describe role of repressor lysogenic cycle?
- VI: What is genetic engineering? Briefly describe the major elements of genetic engineering?

**Answer the following questions.**

**(3x10=30)**

- Q.2: What is Blue-White Screening? Describe the principle and procedure of Blue-White screening with the help of a diagram?
- Q.3: What is Western blotting? Briefly describe major steps of Western blotting?
- Q.4: Write a note on the following

A: RNA transposons

B: Rolling Circle DNA replication



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I. Differentiate between the theories of Preformation and Epigenesis.
- II. Describe Spermioteliiosis with pictorial illustrations.
- III. What is sperm **Capacitation**?
- IV. Describe basic principles of **Teratogenesis**.
- V. What is the role of Sertoli and Lydig cells in Spermatogenesis?
- VI. What are **cell adhesion molecules**? Exemplify with cadherins.

**Answer the following questions.**

**(3x10=30)**

**Q.2** Write a note on **Cleavage and Gastrulation** in Birds.

**Q.3** Give a comprehensive account on **Menstrual cycle** in primates.

**Q.4** What is *In Vitro* Fertilization (IVF)? Discuss advantages and dis advantages of IVF.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I: A woman with Blood Group A +ve and normal blood clotting gave birth a baby having blood group O –ve and hemophilia. The woman stated that a man with Blood group B +ve and normal blood clotting was the father of baby. Is there any merit to her statement? Justify your answer biologically.
- II: What is Criss-cross inheritance?
- III: What is Interference? How is interference calculated?
- IV: Differentiate between Promotor, Operator and repressor?
- V: What is Heterosis? Describe importance of Heterosis.
- VI: How is sex determined in Drosophila? What will be the phenotype of Drosophila having 6 autosomes and 3X chromosomes?

**Answer the following questions.**

**(3x10=30)**

Q.2: Write a comprehensive note on elements of genetic engineering.

Q.3: What is epistasis? Describe the phenomenon of epistasis with the help of example?

Q.4: Write a note on the following

A: Inbreeding

B: Single gene disorders



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- I. What is meant by differential RNA processing?
- II. How germ cells are migrated in mammals during gonadal development.
- III. Describe the role of cadherins and some other cell adhesion molecules during morphogenesis.
- IV. Define paracrine factors, and give examples.
- V. What are secondary inductions? Exemplify their role during organogenesis.
- VI. Differentiate between autonomous and conditional specifications.

**Answer the following questions.**

**(3x10=30)**

- Q.2** What are Indifferent gonads? Briefly discuss the development of gonads.
- Q.3** What is teratogenesis? Discuss environmental factors as teratogens.
- Q.4** Give a detailed account on the development of vertebrate eye.





**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(6x5=30)**

- i. Differentiate between Home range and Territory.
- ii. Differentiate between Mortality and Natalty?
- iii. Differentiate between Clutch and Convey?
- iv. Differentiate Crepuscular and nocturnal?
- v. Define Adaptations with example?
- vi. Write note on the following Animals?

**A) White Headed duck**

**B). Brown Bear**

**C). Urial**

**Answer the following questions.**

**(3x10=30)**

**Question.2** Differentiate between wildlife sanctuaries, Game Reserves and National Parks with examples.

**Question.3** Discuss IUCN red list categories?

**Question.4** Define National Parks and describe any three national parks of Pakistan in detail?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Paper: Wildlife

Course Code: ZOOL-314

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 a short note on IUCN Categories?
- ii. What are major threats to wetlands?
- iii. Write detail note on In-Situ Conservation and explain how it is advantageous?
- iv. Differentiate Crepuscular and nocturnal?
- v. Define Adaptations with example?
- vi. Write note on the following Animals?

**A). Houbara Bustard**

**B). Brown Bear**

**C). Urial**

**Answer the following questions.**

**(3x10=30)**

**Question.2** Write a note on upkeep and health care of animals in a zoo

**Question.3** Discuss in detail Ramsar Convention?

**Question.4** Define National Parks and describe any three national parks of Pakistan in detail?



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – Spring 2025

Roll No. ....

Paper: Environmental Biology

Course Code: ZOOL-316

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. Briefly describe the mechanisms of succession.
- ii. Differentiate between primary and secondary pollutants with examples.
- iii. Define noise pollution and mention its significant effects on human health.
- iv. What are the major causes of water pollution?
- v. What is population dynamics, and why is it important in population ecology?
- vi. Differentiate between geometric growth and exponential growth in populations

**Q.2. Answer the following questions.**

**(2x15=30)**

- 1) Explain the mechanism of succession and its relationship with community and ecosystem stability.
- 2) Discuss the sources and types of air pollution, including primary and secondary pollutants. Explain the effects of air pollution on human health and the environment.



**THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED**

**Q.1. Answer the following short questions.**

**(15x2=30)**

- i. What is comparative psychology?
- ii. What is sexual conflict?
- iii. What is action potential?
- iv. What are territorial birds?
- v. What is polyandry?
- vi. What is social communication?
- vii. What is Negative feedback system?
- viii. What is Fisher Law?
- ix. How group foraging is beneficial?
- x. What are cognitive maps?
- xi. What is classical conditioning?
- xii. What is aggression?
- xiii. What is imprinting?
- xiv. What is optimal foraging?
- xv. What are pseudomorphs?

**Q.2. Answer the following questions.**

**(3x10=30)**

- i. What are the challenges and benefits of Migration?
- ii. What are alarm calls? Discuss in detail?
- iii. Give a detailed account of Optimal foraging behavior?