



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION - 2017
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll No.

ESSAY

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS: 100

NOTE:(i) Make an outline and write a **COMPREHENSIVE ESSAY** (2500-3000 words) on any **ONE** of the given topics. Make sure you use different forms of discourses, e.g. exposition, argumentation, description and narration. Credit will be given for organization, relevance and clarity.
(ii) No Page/Space be left blank between the answer. All the blank pages of Answer Book must be crossed.

- 1. Is colonial mentality impeding Pakistan's progress?**
- 2. Brexit means globalization is the rhetoric of the privileged, and capitalism will return ferociously as ever.**
- 3. More and more International military engagements by the United Nations; is the world moving towards peace?**
- 4. Modernity is an unending project.**
- 5. Feminism is not really a Third World issue.**
- 6. Literature is a lonely planet of idealists.**
- 7. Being a minority is a fate no one wants. Can nationalism be really inclusive?**
- 8. Ideologies thrive on notions of resistance, yet change is a simulation.**
- 9. Are modern wars not holy wars?**
- 10. Life without controversy is no life. But why one should not choose the safe haven of conformism?**



**FEDERAL PUBLIC SERVICE COMMISSION
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Roll Number

ENGLISH (PRECIS & COMPOSITION)

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE:(i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt ALL questions from PART-II.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

Q. 2. Write a précis of the following passage and also suggest a suitable title:

(20)

All the evils in this world are brought about by the persons who are always up and doing, but do not know when they ought to be up nor what they ought to be doing. The devil, I take it, is still the busiest creature in the universe, and I can quite imagine him denouncing laziness and becoming angry at the smallest waste of time. In his kingdom, I will wager, nobody is allowed to do nothing, not even for a single afternoon. The world, we all freely admit, is in a muddle but I for one do not think that it is laziness that has brought it to such a pass. It is not the active virtues that it lacks but the passive ones; it is capable of anything but kindness and a little steady thought. There is still plenty of energy in the world (there never were more fussy people about), but most of it is simply misdirected. If, for example, in July 1914, when there was some capital idling weather, everybody, emperors, Kings, arch dukes, statesmen, generals, journalists, had been suddenly smitten with an intense desire to do nothing, just to hang about in the sunshine and consume tobacco, then we should all have been much better off than we are now. But no, the doctrine of the strenuous life still went unchallenged; there must be no time wasted; something must be done. Again, suppose our statesmen, instead of rushing off to Versailles with a bundle of ill-digested notions and great deal of energy to dissipate had all taken a fortnight off, away from all correspondence and interviews and what not, and had simply lounged about on some hillside or other apparently doing nothing for the first time in their energetic lives, then they might have gone to their so-called peace conference and come away again with their reputations still unsoiled and the affairs of the world in good trim. Even at the present time, if half of the politicians in Europe would relinquish the notion that laziness is crime and go away and do nothing for a little space, we should certainly gain by it. Other examples come crowding into mind. Thus, every now and then, certain religious sects hold conferences; but though there are evils abroad that are mountains high, though the fate of civilization is still doubtful, the members who attend these conferences spend their time condemning the length of ladies' skirts and the noisiness of dance bands. They would all be better employed lying flat on their backs somewhere, staring at the sky and recovering their mental health.

Q. 3. Read the following passage carefully and answer the questions that follow:

(20)

Education ought to teach us how to be in love and what to be in love with. The great things of history have been done by the great lovers, by the saints and men of science, and artists, and the problem of civilization is to give every man a chance of being a saint, a man of science, or an artist. But this problem cannot be attempted, much less solved, unless men desire to be saints, men of science, and artists. And if they are to desire that continuously and consciously they must be taught what it means to be these. We think of the man of science or the artist, if not of the saint, as a being with peculiar gifts, not as one who exercises, more precisely and incessantly perhaps, activities which we all ought to exercise. It is a commonplace now that art has ebbed away out of our ordinary life, out of all the things which we use, and that it is practiced no longer by workmen but only by a few painters and sculptors. That has happened because we no longer recognize the aesthetic activity of the spirit, so common to all men. We do not know that when a man makes anything he ought to make it beautiful for the sake of doing so, and that when a man buys anything he ought to demand beauty in it, for the sake of beauty. We think of beauty if we think of it at all as a mere source of pleasure, and therefore it means to us ornament, added to things for which we can pay extra as we choose. But beauty is not an ornament to life, or to the things made by man. It is an essential part of both. The aesthetic activity, when it reveals itself in things made by men, reveals itself in design, just as it reveals itself in the design of all natural things. It shapes objects as the moral activity shapes actions, and we ought to recognize it in the objects and value it, as we recognize and value moral activity in actions. And as actions empty of the moral activity are distasteful to us, so should objects be that are empty of the aesthetic activity. But this is not so with most of us. We do not value it; do not even recognize it, or the lack of it, in the work of others. The artist, of whatever kind, is a man so much aware of the beauty of the universe that he must impart the same beauty to whatever he makes. He has exercised his aesthetic activity in the discovery of the beauty in the universe before he exercises it in imparting beauty to that which he makes. He has seen things in that relation in his own work, whatever it may be. And just as he sees that relation for its own sake, so he produces it for its own sake and satisfies the desire of his spirit in doing so. And we should value his work; we should desire that relation in all things made by man, if we too have the habit of seeing that relation in the universe, and if we knew that, when we see it, we are exercising an activity of the spirit and satisfying a spiritual desire. And we should also know that work without beauty means unsatisfied spiritual desire in the worker; that it is waste of life and common evil and danger, like thought without truth, or action without righteousness.

Questions: 1. What has been lamented in the text?

(4)

2. What is the difference between ordinary man and an artist?

(4)

3. How can we make our lives beautiful and charming?

(4)

4. What does the writer actually mean when he says, "Beauty is not an ornament to life"?

(4)

5. Do art and beauty affect our practical life and morals? Justify whether you agree or disagree.

(4)

ENGLISH (PRECIS & COMPOSITION)

- Q. 4. (a) Correct only FIVE of the following: (5)**
- In the accident one of my arms was broken and my legs bruised.
 - The people who had been raising slogans against the government for many hours they wanted increase in their salaries.
 - You have been working very hard for the last two years. Isn't it?
 - John could hardly do no better than to have caught a bass of such dimensions.
 - I who have no chance to meet him would rather go with you instead of sitting at home.
 - He not only comes there for swimming but also for coaching new swimmers.
 - When he visited the fair last time, he bought no less than twenty school bags.
 - Ten cattles were grazing in the field.
- (b) Re-write the following sentences (Only FIVE) after filling in the blanks appropriately: (5)**
- I cannot buy this car _____ this price.
(a) for (b) in (c) at (d) on
 - Send these books _____ my home address.
(a) on (b) at (c) in (d) to
 - Monkeys live _____ trees.
(a) in (b) at (c) upon (d) on
 - I said it _____ his face.
(a) at (b) on (c) to (d) upon
 - The manager _____ the receipt of my letter promptly.
(a) accepted (b) realized (c) recognized (d) acknowledged
 - Most foreign students don't like American coffee, and _____.
(a) I don't too (b) either don't (c) neither don't I (d) neither do I
 - We _____ take care of our parents when they are old.
(a) could (b) would (c) might (d) ought to
 - Yousaf _____ in the garden the whole of yesterday.
(a) has dug (b) was digging (c) dug (d) had dug
- Q. 5. (a) Choose the ANALOGY of words written in capital letters. Attempt any FIVE. (5)**
- LION: ROAR
(a) Snake : Slither (b) Goat: Bleat
(c) Lizard : Crawl (d) Elephant : Tusk
 - SHADOW : LIGHT
(a) Flood : Rain (b) Image : Object
(c) Reaction : Action (d) House : Bricks
 - CLOT : BLOOD
(a) Ink: Water (b) Curdle : Milk
(c) Vaporize : Camphor (d) Brew : Coffee
 - FEARFUL: COWER
(a) Humble: Boast (b) Weak : Exercise
(c) Arrogant : Strut (d) Wise : Dispute
 - EXPEDITE : HASTEN
(a) Conscript : Write down
(b) Diver : Make harder
(c) Facilitate : Make easiest
(d) Satirize : Praise
 - WOOD: FURNITURE
(a) Father : Child (b) Tree : Seedling
(c) Soil : Clay (d) Stone : Sculpture
 - SURGEON : DEXTEROUS
(a) Clown : Fat (b) Actress : Beautiful
(c) Athlete : Tall (d) Acrobat : Agile
 - LECHER : LUST
(a) Pith : Herb (b) Glutton : Greed
(c) Business : Profit (d) Showbiz : Fame
- (b) Punctuate the following text, where necessary. (5)**
- a quaker was one day walking on country road he was suddenly met by a highwayman pointing a pistol the man exclaimed your money or your life my friend said the quaker I cannot deliver my money for i should be helping thee in evildoing however exchange is lawful and i will give thee my purse for the pistol the robber agree on receiving the purse the quaker at once held the pistol at the robbers head and said i now give my purse back or the weapon may go off fire said the robber there is no powder in the pistol
- Q. 6. (a) Explain the difference between the following word pairs (Any FIVE) by using each word in your own sentences: (5)**
- Wrath, Wroth (ii) Veracity, Voracity (iii) Subtler, Sutler (iv) Retenue, Retinue
 - Minute, Minuet (vi) Furor, Furore (vii) Dinghy, dingy (viii) Bony, Bonny
- (b) Use ONLY FIVE of the following in sentences which illustrate their meaning: (5)**
- Spirit away (ii) Plough back (iii) Eager beaver (iv) Ring a bell
 - Be left holding the baby (vi) Cap in hand (vii) Hold out a carrot (viii) Over the moon
- Q. 7. Translate the following into English by keeping in view figurative/idiomatic expression. (10)**
- اپنے پوشیدہ عیبوں کو معلوم کرنے کے لیے یہ دیکھنا ضروری ہے کہ ہمارے دشمن ہم کو کیا کہتے ہیں۔ ہمارے دوست اکثر ہمارے دل کے موافق ہماری تعریف کرتے ہیں۔ اول ہمارے عیب ان کو عیب ہی نہیں لگتے یا پھر ہماری خاطر کو ایسا عزیز رکھتے ہیں کہ اس کو رنجیدہ نہ کرنے کے خیال سے ان کو چھپاتے ہیں۔ یا پھر ان سے چشم پوشی کرتے ہیں۔ ہر خلاف اس کے ہمارا دشمن ہم کو خوب ٹٹولتا ہے اور کونے کونے سے ڈھونڈ کر ہمارے عیب نکالتا ہے، گو وہ دشمنی سے چھوٹی بات کو بڑا بنا دیتا ہے۔ مگر اس میں کچھ نہ کچھ اصلیت ہوتی ہے۔ دوست ہمیشہ اپنے دوست کی نیکیوں کو بڑھاتا ہے اور دشمن عیبوں کو۔ اس لیے ہمیں اپنے دشمن کا زیادہ احسان مند ہونا چاہیے کہ وہ ہمیں ہمارے عیبوں سے مطلع کرتا ہے۔ اس تناظر میں دیکھا جائے تو دشمن دوست سے بہتر ثابت ہوتا ہے۔



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Roll Number

GENERAL KNOWLEDGE-I
(GENERAL SCIENCE & ABILITY)

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**, selecting **TWO** questions from **EACH SECTION**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) **Use of Calculator is not allowed.**

PART-II
SECTION-I

- Q. No. 2.** (A) What are the factors responsible for environmental pollution? (5)
(B) Briefly explain the main reasons of water-logging in Pakistan. (5)
(C) What do you mean by Ozone depletion and how we can prevent its depletion? (5)
(D) What is an Acid Rain and how it is produced. Briefly describe the dangers associated with it? (5)
- Q. No. 3.** (A) Explain in detail the common causes of Heart Attack. (5)
(B) Differentiate between drug addiction and drug abuse. (5)
(C) Draw the structure of human ear and briefly explain its functions. (5)
(D) What is the significance of Vitamins? Describe the sources, uses and deficiency symptoms of fat soluble vitamins. (5)
- Q. No. 4.** (A) What is a mirage? Describe in detail the creation of mirage. (5)
(B) Differentiate between the occurrence of Lunar and Solar Eclipse? (5)
(C) Briefly explain what effects are produced due to Rotation & Revolution of Earth? (5)
(D) Most of the household appliances utilize 'DC' then why we generate 'AC' at power stations? (5)
- Q. No. 5.** (A) Differentiate between RAM and ROM. (5)
(B) Name three basic buses employed in a computer and explain what each is used for. (5)
(C) Draw a basic computer block diagram and briefly explain the function of each part. (5)
(D) Describe various types of computers classified on the basis of size, memory, capacity and speed. (5)

SECTION-II

- Q. No. 6.** (A) Differentiate with examples between a "Pictogram" and "Histogram". (5)
(B) The teachers of a certain school were asked to indicate the average number of hours they spend on marking students assignments each day. The following set of data was obtained (5)
- | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 3 | 1 | 2 | 2 | 3 | 1 | 4 |
| 1 | 2 | 5 | 3 | 4 | 5 | 2 | 2 | 3 |
| | 3 | 1 | 2 | 2 | 3 | 1 | 4 | 2 |
- Construct a frequency table and draw a Histogram illustrating the results.
- (C) How many teachers responded to the survey? (5)
(D) What the longest number of hours and most common number of hours are spent? (5)

GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

- Q. No.7.** (A) A man buys 5kg of meat at Rs.500 per kg. In addition, for every kilogram of meat purchased, he has to pay a consumption tax of 6% on the selling price. Calculate the total amount of money that he has to pay. (5)
- (B) It takes Ali 30 minutes to mark a paper. Aslam only needs 25 minutes to mark a paper. If they both start marking papers at 10:00 AM, at what time they will finish marking at the same time? (5)
- (C) Two bus tickets from Rawalpindi to Islamabad and three tickets from Rawalpindi to Murree cost Rs.770 but three tickets from Rawalpindi to Islamabad and two tickets from Rawalpindi to Murree cost Rs.730. What are the fares for cities Islamabad and Murree from Rawalpindi? (5)
- (D) A told B that C is his father's nephew. D is A's cousin but not the brother of C. What relationship is there between D and C? (5)
- Q. No. 8.** (A) Divide Rs.500 between Arham, Mariam and Sarim so that Arham gets $\frac{2}{3}$ of what Mariam gets and Mariam gets $\frac{1}{4}$ of what Sarim gets. Find the share of each. (5)
- (B) A school has enough provision of food for 52 days. After 20 days a group of 400 students arrives and the food would have last for 24 days only. How many students are there in the school actually? (5)
- (C) A man walks 2km towards North. Then he turns to East and walks 10km. After this he turns to North and walks 3km. Again he turns towards East and walks 2km. How far is he from the starting point? (5)
- (D) In a certain code language COMPUTER is written as RFUVQNPC. How will MEDICINE be written in that code language? (5)





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GENERAL KNOWLEDGE-II (CURRENT AFFAIRS)

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** Highlight the role of National Action Plan (NAP) in stabilization of internal security of Pakistan. Critically analyze its outcomes? **(20)**
- Q. No. 3.** What measures do you suggest to improve the security conditions of Balochistan in respect to China-Pakistan Economic Corridor (CPEC), and the role of regional powers to sabotage it? **(20)**
- Q. No. 4.** Critically analyze the US-Russia relations in context of ISIS and its impact on the security situation of Middle East. **(20)**
- Q. No. 5.** Explain the salient contours of the US 'rebalancing' policy and China's assertive policy in South China Sea and latter's disputes with the regional countries. Critically evaluate. **(20)**
- Q. No. 6.** The impact of burgeoning US-India strategic partnership over the security situation of the region and Indian Ocean Region. **(20)**
- Q. No. 7.** Critically examine China's strategic vision behind its 'One Belt, One Road' venture. **(20)**
- Q. No. 8.** (a). Analyze the effects of commissioning of nuclear-powered ballistic missile submarine (SSBN), INS *Arihant* equipped with nuclear-capable missile called K-4 over the strategic stability of South Asia. **(10)** **(20)**
- (b). US-India in August 2016 signed Logistics Exchange Memorandum of Agreement (LEMOA) that will reportedly facilitate the two allies to use each other's military facilities to check China's growing influence. Comment. **(10)**



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Roll Number

GENERAL KNOWLEDGE-III (PAKISTAN AFFAIRS)

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** Pakistan's national culture reflects unity in diversity. Elaborate. (20)
- Q. No. 3.** Discuss the role of judiciary in the constitutional development of Pakistan. (20)
- Q. No. 4.** CPEC is a flagship project of One Belt One Road (OBOR) and a regional game changer. Explain. (20)
- Q. No. 5.** Explore the significance of Shinghai Cooperation Organization (SCO) for Pakistan. (20)
- Q. No. 6.** Enumerate the measures adopted by HEC for promotion of higher education and qualitative research in Pakistan. (20)
- Q. No. 7.** Explore the option of alternative energy resources to overcome energy crisis in Pakistan. (20)
- Q. No. 8.** How general elections in 2002, 2008 and 2013 strengthened democracy in Pakistan? (20)



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Roll Number

ISLAMIC STUDIES

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt FOUR questions from PART-II. ALL questions carry EQUAL marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2. Who are entitled to receive Zakat according to the Quran? Elucidating social impact of Zakat, clarify how can poverty be alleviated with its distribution in Islamic Society? (20)
- Q. No. 3. Write a comprehensive note on the right of inheritance granted to women by Islam. (20)
- Q. No. 4. How were the Rightly-guided Caliphs elected? To what extent their system of government be regarded as democratic? (20)
- Q. No. 5. Elucidate how the Prophet of Islam (Peace be upon him) exemplified him as the greatest peace maker in the world by making reconciliation with pagans, Jews and Christians? (20)
- Q. No. 6. Explain the concept of self-purification in the light of the Qur'ān and Sunnah and its impact on society. (20)
- Q. No. 7. Enumerate the reasons of extremism in Pakistan and suggest solutions to eradicate it in the light of Islamic teachings. (20)
- Q. No. 8. Define Ijma' (consensus) and explain its different kinds. Highlight its importance in the light of the Qur'ān and Sunnah. (20)

URDU VERSION

سوال نمبر 2: قرآن مجید کے بیان کردہ مصارفِ زکوٰۃ کون کون سے ہیں؟ زکوٰۃ کے سماجی اثرات بیان کرتے ہوئے واضح کریں کہ اس کی تقسیم سے اسلامی معاشرے میں غربت کو کیسے کم کیا جا سکتا ہے؟ (20)

سوال نمبر 3: اسلام میں عورتوں کے حق وراثت پر ایک تفصیلی شذرہ قلم بند کریں۔ (20)

سوال نمبر 4: خلفائے راشدین کا انتخاب کیسے عمل میں آیا؟ ان کی حکومت کو کس حد تک جمہوری قرار دیا جا سکتا ہے؟ (20)

سوال نمبر 5: واضح کریں کہ کیسے مشرکین اور یہود و نصاریٰ سے مفاہمت کر کے حضور اکرم ﷺ نے دنیا کے عظیم ترین پیغمبر امن ہونے کی مثال قائم کی؟ (20)

سوال نمبر 6: قرآن و سنت کی روشنی میں تزکیہ نفس کی وضاحت کریں اور معاشرے پر اس کے اثرات کا جائزہ لیں۔ (20)

سوال نمبر 7: پاکستان میں انتہا پسندی کے اسباب کیا ہیں؟ اسلامی تعلیمات کی روشنی میں اس کے خاتمے کا حل پیش کریں۔ (20)

سوال نمبر 8: اجماع سے کیا مراد ہے؟ اس کی مختلف اقسام کی وضاحت کریں۔ نیز قرآن و سنت کی روشنی میں اس کی اہمیت واضح کریں۔ (20)



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ACCOUNTANCY AND AUDITING, PAPER-I

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt ONLY FOUR questions from PART-II, selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
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(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) Use of Calculator is allowed.

PART-II
SECTION-I

Q. 2. Bella Beauty Salon's unadjusted trial balance for the current year follows: **(20)**

Bella Beauty Salon Trial Balance December 31		
Cash.....	\$ 4,200	
Prepaid insurance	1,480	
Shop supplies	990	
Shop equipment	3,860	
Accumulated depreciation shop equipment		\$ 770
Building.....	57,500	
Accumulated depreciation–building		3,840
Land	55,000	
Unearned rent.....		1,600
Long-term notes payable.....		50,000
Bella Hanson, Capital		49,860
Rent earned		2,400
Fees earned.....		23,400
Wages expense.....	3,200	
Utilities expense.....	690	
Property taxes expense.....	600	
Interest expense.....	4,350	
Totals.....	\$131,870	\$131,870

Additional information:

- a. An insurance policy examination showed \$1,240 of expired insurance.
- b. An inventory count showed \$210 of unused shop supplies still available.
- c. Depreciation expense on shop equipment, \$350.
- d. Depreciation expense on the building, \$2,220.
- e. A beautician is behind on space rental payments, and this \$200 of accrued revenues was unrecorded at the time the trial balance was prepared.
- f. \$800 of the Unearned Rent account balance was earned by year-end.
- g. The one employee, a receptionist, works a five-day workweek at \$50 per day. The employee was paid last week but has worked four days this week for which she has not been paid.
- h. Three months' property taxes, total \$450, have accrued. This additional amount of property taxes expense has not been recorded.
- i. One month's interest on the note payable, \$600, has accrued but is unrecorded.

Required: Based on the above information, prepare the adjusting journal entries for Bella's Beauty Salon and adjusted trial balance for Bella's Beauty Salon.

ACCOUNTANCY AND AUDITING, PAPER-I

- Q. 3. (A)** A corporation had stockholders' equity on January 1 as follows: **(20)**
Common Stock, \$10 par value, 1,500,000 shares authorized, 600,000 shares issued;
Paid-in Capital in Excess of Par Value, Common Stock, \$1,000,000;
Retained Earnings, \$2,500,000.
Required: Prepare journal entries to record the following transactions:
Feb. 15 The board of directors declared a 10% stock dividend to stock holders of record on
March 1, to be issued on April 15. The stock was trading at \$8 per share prior to the dividend.
March 30 Sold 100,000 shares of common stock for \$11 per share.
March 31 Issued the stock dividend.
- (B)** Company installs a computerized manufacturing machine in its factory at the beginning of the year at a cost of \$42,300. The machine's useful life is estimated at 10 years, or 363,000 units of product, with a \$6,000 salvage value. During its second year, the machine produces 35,000 units of product.
Required: Determine the machine's second-year depreciation under the straight-line method.

- Q. 4.** The following financial data were taken from the annual financial statements of Smith Corporation: **(20)**

Details	2007	2008	2009
Current assets	\$ 450,000	\$ 400,000	\$ 500,000
Current liabilities	390,000	300,000	340,000
Sales	1,450,000	1,500,000	1,400,000
Cost of goods sold	1,180,000	1,020,000	1,120,000
Inventory	280,000	200,000	250,000
Accounts receivable	120,000	110,000	105,000

Required: (A). Based on these data, calculate the following for 2008 and 2009:

1. Working capital
2. Current ratio
3. Acid-test ratio
4. Accounts receivable turnover
5. Merchandise inventory turnover
6. Inventory turnover in days

(B). Evaluate the results of your computations in regard to the short-term liquidity of the firm.

SECTION-II

- Q. 5.** The marketing department of Graber Corporation has submitted the following sales forecast for the upcoming fiscal year. **(20)**

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Budgeted unit sales .	16,000	15,000	14,000	15,000

The selling price of the company's product is \$22.00 per unit. Management expects to collect 75% of sales in the quarter in which the sales are made, 20% in the following quarter, and 5% of sales are expected to be uncollectible. The beginning balance of accounts receivable, all of which is expected to be collected in the first quarter, is \$66,000. The company expects to start the first quarter with 3,200 units in finished goods inventory. Management desires an ending finished goods inventory in each quarter equal to 20% of the next quarter's budgeted sales. The desired ending finished goods inventory for the fourth quarter is 3,400 units.

Required:

1. Prepare the company's sales budget and schedule of expected cash collections.
2. Prepare the company's production budget for the upcoming fiscal year.

- Q. 6.** Valenko Company provided the following account balances for the year ended December 31 **(20)**
(all raw materials are used in production as direct materials):

Selling expenses	\$215,000
Purchases of raw materials	\$260,000
Direct labor	?
Administrative expenses	\$160,000
Manufacturing overhead applied to work in process	\$340,000
Total actual manufacturing overhead costs	\$350,000

Inventory balances at the beginning and end of the year were as follows:

	<u>Beginning of Year</u>	<u>End of Year</u>
Raw materials	\$50,000	\$40,000
Work in process	?	\$33,000
Finished goods	\$30,000	?

The total manufacturing costs for the year were \$675,000; the cost of goods available for sale total \$720,000; the unadjusted cost of goods sold total \$665,000; and the net operating income was \$35,000. The company's over-applied or under-applied overhead is closed entirely to cost of goods sold.

Required: Prepare schedules of cost of goods manufactured and cost of goods sold and an income statement. (Hint: Prepare the income statement and schedule of cost of goods sold first followed by the schedule of cost of goods manufactured.)

ACCOUNTANCY AND AUDITING, PAPER-I

Q. 7. Linden Company manufactures and sells a single product. Cost data for the product as follows: **(20)**

Variable costs per unit:

Direct materials	\$ 6
Direct labor	12
Variable factory overhead	4
Variable selling and administrative	3
Total variable costs per unit	\$25

Fixed costs per month:

Fixed manufacturing overhead	\$240,000
Fixed selling and administrative	180,000
Total fixed cost per month	\$420,000

The product sells for \$40 per unit. Production and sales data for May and June, the first two months of operations, are as follows:

	Units Produced	Units Sold
May	30,000	26,000
June	30,000	34,000

Income statements prepared by the accounting department, using absorption costing, are presented below:

	May	June
Sales	\$1,040,000	\$1,360,000
Cost of goods sold	780,000	1,020,000
Gross margin	260,000	340,000
Selling and administrative expenses	258,000	282,000
Net operating income	\$ 2,000	\$ 58,000

Required:

- Determine the unit product cost under:
 - Absorption costing.
 - Variable costing.
- Prepare contribution format variable costing income statements for May and June.
- Reconcile the variable costing and absorption costing net operating incomes.

Q. 8. The PVC Company manufactures a high-quality plastic pipe that goes through three processing stages prior to completion. Information on work in the first department, Cooking, is given below for May: Production data: **(20)**

Pounds in process, May 1: materials 100% complete; conversion 90% complete	70,000
Pounds started into production during May	350,000
Pounds completed and transferred to the next department.	?
Pounds in process, May 31: materials 75% complete; conversion 25% complete	40,000

Cost data:

Work in process inventory, May 1:	
Materials cost	\$86,000
Conversion cost	\$36,000
Cost added during May:	
Materials cost	\$447,000
Conversion cost	\$198,000

The company uses the weighted-average method.

Required:

- Compute the equivalent units of production.
- Compute the costs per equivalent unit for the month.
- Determine the cost of ending work in process inventory and of the units transferred out to the next department.
- Prepare a cost reconciliation report for the month.



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ACCOUNTANCY AND AUDITING, PAPER-II

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt ONLY FOUR questions from PART-II, selecting AT LEAST ONE questions from EACH SECTION A, B & C. ALL questions carry EQUAL marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

(vii) Use of Calculator is allowed.

PART-II

SECTION-A (AUDITING)

Q. No. 2. What system of Internal check would you recommend for a large manufacturing company to prevent fraud in connection with the purchase of raw material on credit basis? **(20)**

Q. No. 3. A fraud has been committed in a business. Being a Manager of Accounts you are asked by the authorities to take up investigative measures and steps to extract the fraudulent matter. Discuss the measures and steps you will take in this regard. **(20)**

Q. No. 4. What is meant by Auditor's Report? Describe the key characteristics of a good audit report, along with the significance of Auditor's report to show the transparent picture of the company. **(20)**

SECTION-B (BUSINESS TAXATION)

Q. No. 5. (A) Define the concept of sales tax & describe the sales tax act of 1990. **(20)**
Identify the official positions of Inland revenue officers and their powers.
(B) Mr. Sartaj is registered under the Sales Tax Act, 1990 as a manufacturer as well as a commercial importer. He has provided you the following information for the month of February, 2016:

	Rs. in Million
Export sales – manufactured goods	35
Local sales of exempt manufactured goods	25
Taxable supplies – manufactured goods	130
Taxable supplies – commercial imports	70
Purchases	
• Local purchases of raw material from:	
Registered person	180
Unregistered persons	60
• Commercial imports	50

All the above amounts are exclusive of sales tax. Commercial imports have been stated at C&F value and are subjected to customs duty at the rate of 10%. There was no stock of commercial imports at the beginning or end of the month.

Required:

Compute the sales tax liability of Mr. Sartaj along with input tax to be carried forward (if any) in his sales tax return for the month of February 2016. **(Ignore the effect of minimum value addition in case of commercial imports)**

ACCOUNTANCY AND AUDITING, PAPER-II

- Q. No. 6.** (A) Identify the main features of Income Tax ordinance 2001. Also discuss the exemptions and tax concessions available to a taxpayer under that ordinance. (20)
- (B) Mr. Ahmed is an employee of a company. He has submitted the following information for the tax year 2016.

	Rs.
Basic Salary per annum	340,000
Bonus	56,000
Cost of living allowance	66,000
Dearness allowance	32,000
Rent free unfurnished accommodation – annual value	162,000
Company maintained car for personal and official use, cost of vehicle is.	980,000
Utility allowance	58,000
Leave encashment	31,600
Leave Fare Assistance provided every year	22,600
Hotel bills paid by the company relating to a pleasure trip	28,400
Employee's contribution towards provident fund	30,000
Zakat paid under Zakat and Ushr Ordinance	15,000
Tax deducted by the company for salary	35,000

Required: Compute the total income, taxable income and tax liability of Mr. Ahmed.

SECTION-C (BUSINESS STUDIES & FINANCE)

- Q. No. 7.** (A) Identify the major barriers that hamper global business in an open economy. (20)
- (B) Consider a coupon bond that has a face value of \$1000, has a yield of 16%, pays a semi annual coupon of 70, and matures in one year 'assuming that the bond will pay the face value amount that the cost coupon payment on the maturity date. Calculate the price of the bond.
- Q. No. 8.** (A) Describe the economic systems, also Identify which system is more beneficial for the economic development of the country. (20)
- (B) XYZ company presently pays a dividend of \$ 1.50 per share on its common stock. The company expects to increase the dividend at a 20% annual rate the first four years and at the rate of 13% at the next four years then the growth on the dividend at a 7% thereafter. This phased growth patterns is in keeping with the expected life cycle of earnings. You are required a 16% return to invest in this stock. What value should you place on a share of this Stock?



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AGRICULTURE & FORESTRY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II
SECTION-I

- Q. No. 2.** Energy is driving force for agricultural output. Fossil fuels have aggravated the problem of pollution. What are alternate sources which can be manipulated to earn carbon credit and results in comparable level of farm output with already available sources? Discuss in the light of scientific advancement and economics. (20)
- Q. No. 3.** It is well established fact that irrigation water is the most critical factor in crop production and its efficient use is imperative in terms of water scarcity in semi-arid and arid zones of Pakistan. What technological advancements and up-gradations Government Institutions/Organizations at national and provincial levels have imparted in farm water management? Also elaborate environmental and economical issues related with these techniques of farm water management. (20)
- Q. No. 4.** What are prospects of biofuels crops in Pakistan? How much land and labour can be allotted for these crops to compromise with cereal and vegetable crops, economically and socially, keeping in view small holdings as some trading corporations have called for a worldwide ban on biofuels production, claiming that it contributes to food shortages? (20)
- Q. No. 5.** Rural demography in Pakistan is in transition phase towards mini-urbanization. How can this shift affect gender discrimination and parity in rural societies towards farm income, rural infrastructure and rural livelihood? Can present educational investment in rural areas improve the human resource involvement in the decision making and development? What are prospects of equitable and healthy rural communities in Pakistan? (20)

SECTION-II

- Q. No. 6.** Implications for the Sustainable Forest Management and Livelihoods Security rest on non-participatory roles of human population. How far present forest policies have prevented this role and how can policies be amended to prioritize people involvement in raising forest and plantations? Also elaborate preference of molecular biology over traditional forest breeding to commensurate purposes of ethanobotany, eco-tourism and carbon sequestration (20)
- Q. No. 7.** Discuss in detail constraints in new rangelands development in low and high altitudes in Pakistan. What are reasons for degradation of old rangelands? Also explain vision for the formulation of the range policy in the country. (20)
- Q. No. 8.** Write short notes on any **Four** of the following: (5 marks each) (20)
- Silvopastoral planning
 - Forest and climate change; preparedness and strategies in Pakistan
 - Zero waste agriculture
 - Economic and social impacts of land reforms on rural societies in Pakistan
 - Improvement in animal husbandry practices
 - Biosafety regulations in Pakistan



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ANTHROPOLOGY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** How perspective of Anthropology can be used to study global trends like global warming and erosion of bio-diversity? (20)
- Q. No. 3.** How applied anthropology can be utilized to solve the problems faced by humanity in contemporary world? (20)
- Q. No. 4.** Write a detailed account of gift exchange. Give samples from everyday life to substantiate your answer? (20)
- Q. No. 5.** Define “animism” and state the evolutionary scheme of religion provided by E. B. Tylor. (20)
- Q. No. 6.** What is incest taboo? Explain different theories about incest taboo. (20)
- Q. No. 7.** Is this poverty which is the real cause of overpopulation or it is the population pressure that is responsible for increasing poverty? Substantiate your argument by quoting relevant facts and figures. (20)
- Q. No. 8.** Write short notes on any **FOUR** of the following: (5 each) (20)
- (a) Sororal Polygyny & Sororate
 - (b) Uxorilocal residence & Virilocal Residence
 - (c) Phratry & Moiety
 - (d) Research tools & Research Method
 - (e) Palaeolithic Culture
 - (f) Ethnography



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APPLIED MATHEMATICS

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS = 100

- NOTE:**(i) Attempt **ONLY FIVE** questions. **ALL** questions carry **EQUAL** marks
(ii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iii) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(iv) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(v) **Use of Calculator is allowed.**

Q. No. 1. (a) Suppose $\mathbf{r}(t) = (e^t \cos t)\hat{i} + (e^t \sin t)\hat{j}$. Show that the angle between \mathbf{r} and $\frac{d^2\mathbf{r}}{dt^2}$ never changes. What is the angle? (10)

(b) Using divergence theorem of Gauss, Evaluate $\iint_S x^2 dx dy + x^2 y dz dx + x^2 z dx dy$ where S is the closed surface consisting of the cylinder $x^2 + y^2 = a^2$, ($0 \leq z \leq b$) and the circular disks $z = 0$ and $z = b$, ($x^2 + y^2 \leq a^2$). (10)

Q. No. 2. (a) A 100 Kg wooden crate rests on a wooden ramp with an adjustable angle of inclination. Draw a free body diagram of the crate. If the angle of the ramp is set to 10° , find the perpendicular and parallel components of the crate's weight to the ramp. Also find the static friction force between the crate and the ramp. At what angle will the crate just begin to slip? (coefficient of static friction μ_s between wood block and wood surface is 0.28) (10)

(b) A ladder having a uniform density and a mass m rests against a frictionless vertical wall at an angle of 60° . The lower end rests on a flat surface where the coefficient of static friction is 0.40. A person of mass $M=2m$ attempts to climb the ladder. What fraction of the length L of the ladder will the person have reached when the ladder begins to slip? (10)

Q. No. 3. (a) A particle moving in a straight line starts with a velocity u and has acceleration v^3 , where v is the velocity of the particle at time t . Find the velocity and the time as functions of the distance travelled by the particle. (10)

(b) A particle describing simple harmonic motion has velocities 5 ft/sec and 4 ft/sec when its distance from the centre are 12 ft and 13 ft respectively. Find the time-period of motion. (10)

Q. No. 4. (a) Check for the exactness and solve the following ordinary differential equation. (10)
 $(2xy + y - t \tan y)dx + (x^2 - x \tan^2 y + \sec^2 y)dy = 0$

(b) Solve the following second order differential equation: (10)
 $\frac{d^2 y}{dx^2} + 4x = \sec 2x$

Q. No. 5. (a) Solve the initial value problem. (10)

$$\frac{d^2 y}{dx^2} = 2-6x, y'(0) = 4, y(0) = 1$$

(b) Solve the following Boundary Value Problem. (10)
 $y' + 4y = 0, y(0) = -2, y(2\pi) = -2$
How many solutions do you get for this problem?

APPLIED MATHEMATICS

Q. No. 6. (a) Compute the Fourier series for the function x^2 on the interval $0 < x < L$, using as a basis of function with boundary conditions $u'(0) = 0$ and $u'(L) = 0$. Sketch the partial sums of the series for 1, 2, 3 terms. **(10)**

(b) Find a solution to the following partial differential equation that will also satisfy the boundary conditions. **(10)**

$$\frac{\partial u}{\partial t} = k \frac{\partial^2 u}{\partial x^2}, \quad u(x,0) = f(x), \quad u(0,t) = 0, \quad u(L,t) = 0$$

Q. No. 7. (a) Use bisection and false position methods to locate the root of $f(x) = x^{10} - 1$, between 0 and 1.3. Which of the two methods is better and why? **(10)**

(b) Use Lagrange interpolation polynomial of the first and second order to evaluate $f(x)$ at $x=15$ for the following data; **(10)**

$x:$	0	20	40
$f(x):$	3.850	0.800	0.212

Q. No. 8. (a) Use Trapezoidal Rule with 3 segments to evaluate. **(10)**

$$\int_0^{0.8} x \cdot e^{2x} dx$$

Also find the true solution and the percentage error.

(b) Consider the function $f(x) = xe^x$. Obtain approximations to $f'(2)$ with $h = 0.5$ using forward, backward and central difference formulas. **(10)**



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ARABIC

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt ONLY FOUR questions from PART-II. Answers must be written in respective language. ALL questions carry EQUAL marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

(20) السؤال 2- كيف بدأت وتطورت الرواية العربية؟ ناقش الموضوع مع التركيز على روايات طه حسين ونجيب محفوظ.

(20) السؤال 3- ناقش فصاحة القرآن وبلاغته ذكراً الأمثلة من الآيات القرآنية.

(20) السؤال 4- اكتب مقالاً على أغراض الشعر الجاهلي ومزاياه مع التركيز الخاص على المعلقات السبع.

(20) السؤال 5- كيف تطور فن النقد عند العرب في العصر الجاهلي، عرّف بأهم النقاد للشعر في هذا العصر-

(20) السؤال 6- عرّف بالجملة الإسمية والجملة الفعلية ووضح الفرق بينهما بالأمثلة من اللغة العربية.

(20) السؤال 7- اشرح الأبيات التالية ووضح لمن هذه الأبيات وما غرضها:

ولد الهدى فالكائنات ضياء

وفم الزمان تبسمٌ وثناء

للدين والدنيا به بشراء

والمنتهى، والسدرة العصماء

بالترجمان، شذية، غناء

الروح والملا الملائك حوله

والعرش يزهو، والحظيرة تزدهي

وحديقة الفرقان ضاحكة الربا

(20) السؤال 8- اكتب شذرة مختصرة على الموضوعات التالية:

i. فن النقائض في العصر الأموي.

ii. فن الموشحات في الأندلس الإسلامي.

iii. الغزل الصريح والغزل العذري.

iv. أسواق العرب في العصر الجاهلي



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BOTANY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** Describe briefly habitat, structure, reproduction and life cycle of adiantum. (20)
- Q. No. 3.** Discuss evolution of seed and its importance in vascular plants. (20)
- Q. No. 4.** Why is Darwin's theory of evolution still so controversial? Explain. (20)
- Q. No. 5.** How does the C_4 pathway differ from C_3 pathway of carbon fixation? What are the advantages and disadvantage of each pathway? (20)
- Q. No. 6.** How did the discovery that the DNA molecule is helical with uniform 2-mm diameter lead Watson and crick to propose the pairing rules for double-helix model? Explain. (20)
- Q. No. 7.** Describe causes and reclamation of soil salinity and water logging in Pakistan. (20)
- Q. No. 8.** Writer short notes on any FOUR of the following: (5 each) (20)
- (a) Forensic Palynology.
 - (b) Chemo taxonomy.
 - (c) Imperfect Fungi.
 - (d) Chorosomal aberrations.
 - (e) Economic importance of Acacia Family.



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BRITISH HISTORY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II
SECTION-I

Q.No.2. What were the merits and demerits of the Whig rule? What led to the downfall of Whig ascendancy? Analyze comprehensively. (20)

Q.No.3. Industrial Revolution drastically changed methods of production in England. How did it affect the Social, Economic, Political and Cultural life of the English people? (20)

Q.No.4. Give a comprehensive account of chartist movement. Why did it fail? Explain and Analyse. (20)

Q.No.5. "Gladstone's domestic policy was the climax of liberalism". Discuss it comprehensively. (20)

SECTION-II

Q.No.6. Explain the Eastern Question and critically analyse the attitude of England towards this question from 1820 to 1913. (20)

Q.No.7. What do you understand by British Commonwealth of Nations and how it developed? How does it differ from the term British Empire? (20)

Q.No.8. What are the advantages and disadvantages of Brexit for England? Analyse with arguments. (20)



**FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2017
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT
BUSINESS ADMINISTRATION**

Roll Number

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) **Use of Calculator is allowed.**

PART-II

- Q. No. 2.** What does a company need to do to achieve strategic fit between the supply chain and competitive strategies? (20)
- Q. No. 3.** Describe how marketing strategies change during product life cycle. Also indentify and discuss some potential problems with the product life cycle. (20)
- Q. No. 4.** There are several basic techniques managers use for appraising the performance of employees. Discuss these techniques. (20)
- Q. No. 5.** A manager who really wants to approach a decision rationally and logically should try to follow the steps in rational decision making. Discuss these steps with examples. (20)
- Q. No. 6.** (a) A successful strategy requires determining the firm's Critical Success Factors (CSF) and core competencies. Discuss how a manager of pharmaceutical firm can align core competencies with CSF. (10)
- (b) How an operation manager can manage demand of a product in the light of available capacity? (10) (20)
- Q. No. 7.** The following data relates to ABC Company (20)

Income statement

Sales	Rs. 500,000
Cost of goods sold	300,000
Operating expenses	60,000
Interest expenses	10,000
Income tax expenses	40,000
Net income	90,000

Balance sheet

Assets

Cash	Rs 10,000
Accounts receivable	15,000
Inventory	20,000
Equipment	455,000

Total:

500,000

Liabilities

Accounts payable	Rs 12,000
Long-term notes payable	48,000
Shareholder's equity:	
Capital stock	300,000
Retained earnings	140,000

Total:

500,000

Find and interpret the company's

- (i) Current ratio (ii) Quick ratio (iii) Average collection period
(iv) Time interest earned (v) Inventory turn over

- Q. No. 8.** Discuss the three common capital budgeting decision techniques with examples and formulas. (20)

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FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION - 2017
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll Number



BALOCHI

TIME ALLOWED: THREE HOURS

PART-I(MCQs): MAXIMUM 30 MINUTES

PART-I (MCQs)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

- (ii) Attempt ONLY FOUR questions from PART-II. Answer must be written in respective language except where specified in the question paper. ALL questions carry EQUAL marks.
- (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
- (iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- (vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART- II

(20)

سوال نمبر 2: جہل و داغئیں سر حال لاں چہ کیے عسرا ہشتا نکلے نویس ات۔

(i) بلوچستان و مزین سندیس (یونیورسٹی و کالج) دا ننگ و زانگ و جاوہر حال۔

(ii) چائے پاکستان اکنا ننگ کوریدور و بلوچ دودمان و زبان و سرائیکیوں کی اثرات۔

(iii) بلوچستان و آثار و قدیمہ و جاوہر حال۔

(20)

سوال نمبر 3: جہل و داغئیں شاعراں چہ کیے و زنگ و ازم (فن) و سراسر جمی و نویس ات۔

(i) میر گل خان نصیر۔ (ii) ملا فاضل۔ (iii) جوان سال بگٹی۔

(20)

سوال نمبر 4: بلوچی زبان و لہجہ ایک و طنز و مزاح و بندات و دیویری و شاپوچون گند ات؟ بحث کن ات۔

(20)

سوال نمبر 5: جہل و داغئیں دودمانی گالہندی معنہاں کشین مل ات۔

لڑ و بار۔ مستگی۔ سرگشت۔ گام بڑی۔ سرگوب۔ بردست (پنخ)۔ چم بند۔ رکت۔ ہم شیرک۔ جالار۔

(20)

سوال نمبر 6: میر احمد یار خان و اصلاحی کار و کردانی سر اہشتا نکلے پدیت۔

(20)

سوال نمبر 7: کارینا جہانی و کتاب "اسٹنڈ رائیزیشن اینڈ آرٹھوگرافی ان دی بلوچی لینگویج" و سراسر جمیں ہشتا نکلے پدیت۔

(10)

سوال نمبر 8 (الف): جہل و داغئیں بلوچی ٹیکسٹ آں چہ ماں انگریزی و رجا نکلے کن ات۔

ڈرامہ بنی آدم وراثتیں کرد (شرع حراب) و پیش دارگ و نام انت، بزاں ڈرامہ چاگرد و سماج و شرع و شرین کار و کار پدانی آدینک و ٹیکس انت۔

لہذا نکلے ڈرامہ و مزین ارزشت و بستارے است انت۔ انچو کش انت کہ اثر و ڈرامہ و دی کرت کنت، آکلوہ و پیغام و کہ ڈرامہ و دات کنت،

لہذا نکلے و دوی تہر و بہر آدرج و حد و سر بوت نہ کن انت۔

ڈرامہ کہ بلوچی و ایثار "کسما نکلے" کش انت بندات و شاعری و بہرے بوتگ بیٹے رندا و تہر و ہشتا نکلے دیر و دی کرت کہ لہذا نکلے و تہادت جتا کن

تہرے (صنف) منگ و بنے کنگ بوت۔

(20)

(10)

(ب): جہل و داغئیں انگریزی ٹیکسٹ آں چہ ماں بلوچی و رجا نکلے کن ات۔

Economic growth and development means an increase in production of goods and services and an increase in well being of the people. The Economic development of an area is dependent on four main factors, namely natural resources, human capital, physical capital and technology. Given endowment of natural resources, economic growth takes place when improvements in human Capital i.e. education, training and skills, improvements in investment in economic infrastructure and improvements in technology take place.

FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION-2017

FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll Number

SINDHI

TIME ALLOWED:
THREE HOURS

PART-I
PART-II

30 MINUTES
2 Hours and 30 Minutes

MAXIMUM MARKS = 20
MAXIMUM MARKS = 80

PART-II

- NOTE: (i)** Part-II is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. Answer must be written in **respective language** except where specified in the question paper. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write **Q. No.** in the **Answer Book** in accordance with **Q. No.** in the **Q. Paper**.
(v) No Page/Space be left blank between the answers. All the **blank pages** of **Answer Book** must be **crossed**.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

سوال نمبر 2- لوڪ ادب ڇاڪي ٿو چئجي! ڊاڪٽر عبدالڪريم سنديلي جون لوڪ ادب ۾ ڪيل خدمتن جو جائزو پيش ڪريو؟
(20)

سوال نمبر 3- مرزا قليچ بيگ کي ”سنڌي ادب جو ابو“ چيو وڃي ٿو. سندس ڪيل ادبي خدمتن تي روشني وجهو؟
(20)

سوال نمبر 4- الطاف شيخ جي سفرنامن تي تفصيلي نوٽ لکو.
(20)

سوال نمبر 5- ”آغا سليم هڪ محقق، افسانه نگار، ناول نويس، مترجم ۽ شاھ لطيف جو پارکو اديب هو.“ انهيءَ لاءِ جي روشنيءَ ۾ تنقيدي جائزو پيش ڪريو.
(20)

سوال نمبر 6- سنڌي ناول ۾ فني سٽاءَ جي لحاظ کان ڪهڙي جدت آئي آهي. واضح ڪريو؟
(20)

سوال نمبر 7- سنڌي ٻولي جي پڻ بنياد ۽ لهجن تي تفصيلي نوٽ لکو.
(20)

سوال نمبر 8- (a) (الف) هيٺ ڏنل سنڌيءَ ۾ لکيل پٿراگراف جو انگريزيءَ ۾ ترجمو ڪريو. (10)

قوم هڪ عظيم اتحاد جونالو آهي. جيڪا قرباني جي جذبي سان پنهنجي ذات کي معاشري جي وسيع تر مفادن تي قربان ڪرڻ سان وجود ۾ اچي ٿي. اهڙي قرباني جو مظاهرو ماضي ۾ ڪيو ويو ۽ اڄ اڳ کان به وڌيڪ قرباني لاءِ جذبو هجي.

(B) Translate following paragraph in Sindhi. (10)

Shah Abdul Latif Bhatai is generally known as a mystic, spritual and pantheistic poet; however, his poetry highlights several other aspects: for instance, romanticism, aestheticism, regionalism.



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COMPETITIVE EXAMINATION-2017
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UNDER THE FEDERAL GOVERNMENT

Roll Number

CHEMISTRY PAPER-I

TIME ALLOWED: THREE HOURS
PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)
PART-II

MAXIMUM MARKS = 20
MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) **Use of Calculator is allowed.**

PART-II

- Q. No. 2.** (a) Derive Schrodinger wave equation for motion of a particle in one dimensional box. (10)
(b) Solve Schrodinger wave equation to find the expression for wave function energy of a particle in one dimensional box. (6)
(c) What is Eigen function and Eigen value? Give examples. (4)
- Q. No. 3.** (a) Define heat capacities and molar heat capacities. Prove that $C_p - C_v = R$ for ideal gases. (10)
(b) What is Gibbs energy? Derive a relation between standard Gibbs energy change and equilibrium constant. (6)
(c) Differentiate spontaneous and non spontaneous process. (4)
- Q. No. 4.** (a) State and explain Kohlrausch's law. Give its applications. (10)
(b) What is meant by standard deviation? Give its significance in analytical chemistry. (6)
(c) Briefly describe conductometric titrations. (4)
- Q. No. 5.** (a) Discuss the effect of temperature on rate of chemical reaction on the basis of Arrhenius equation. How can you determine activation energy and pre-exponential factor for a chemical reaction using Arrhenius equation? (10)
(b) Derive kinetic equation for 1st order reaction. (6)
(c) Prove that half life period for 1st order reaction is independent of initial concentration of reactant. (4)
- Q. No. 6.** (a) What is adsorption isotherm? Derive Langmuir adsorption isotherm for adsorption of a gas on solid surface. (10)
(b) What is enzyme catalysis? Discuss its kinetics. (6)
(c) What are surfactants? Give their properties. (4)
- Q. No. 7.** (a) What is electrophoresis? Give its principle and discuss its applications in biochemistry. (10)
(b) Give six chemical properties of nitrogen. (6)
(c) What is Common ions effect? Give its applications. (4)
- Q. No. 8.** (a) State John-Teller theorem. Explain it using suitable examples from coordination complexes. (10)
(b) Give postulates of Werner's theory of coordination complexes. (6)
(c) Briefly describe nuclear decay rate law for disintegration of radioactive elements. (4)



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COMPETITIVE EXAMINATION-2017 FOR RECRUITMENT TO
POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT

Roll Number

CHEMISTRY PAPER-II

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

(vii) Use of Calculator is allowed.

PART-II

Q. No. 2. Write brief notes on the following (2 each) (20)

(i) Covalent Bond

(ii) Hybridization

(iii) Isomerism

(iv) Monosaccharides

(v) Triglycerides

(vi) Electronegativity

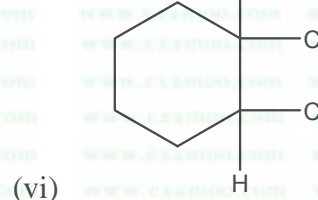
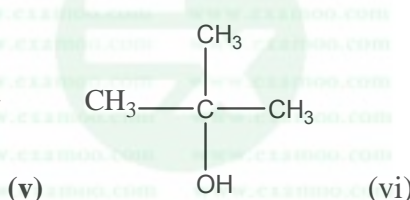
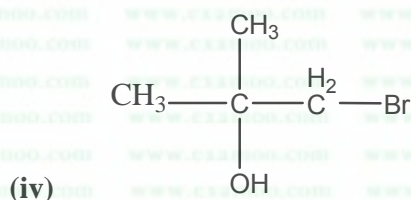
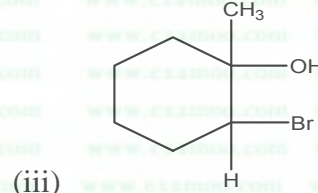
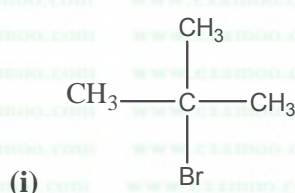
(vii) The Inductive Effect

(viii) Chemical Shift

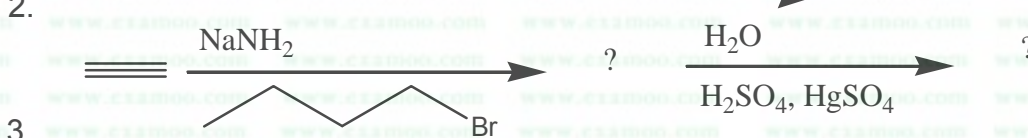
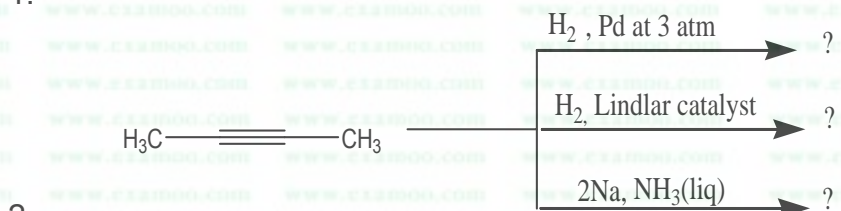
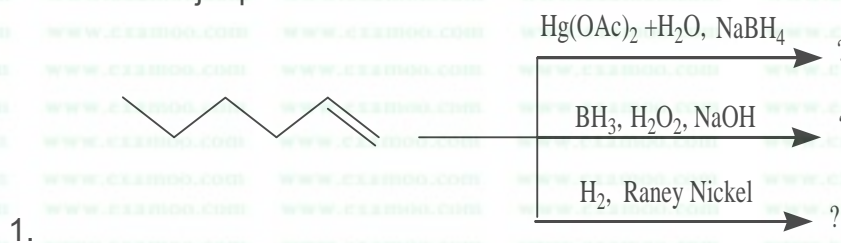
(ix) Stereoselectivity

(x) Fertilizers

Q. No. 3. (a) Give the method of synthesis of the following compounds from an appropriate alkene of your choice with reagents. (12)

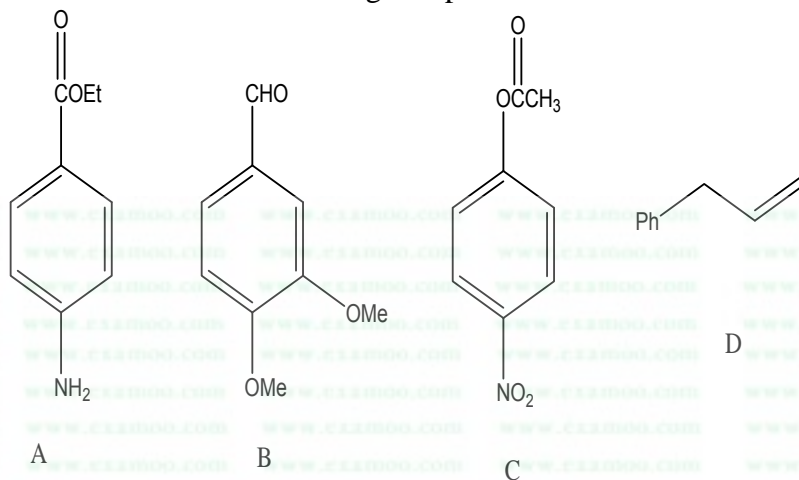


(b) Write the Major product for these Reactions. (8)



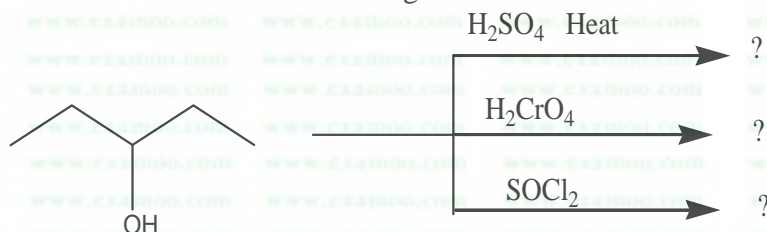
CHEMISTRY PAPER-II

- Q. No. 4.** (a) What is aromaticity? Explain the Hückel criteria for aromaticity. (6)
 (b) Write names of the following compounds. (4)

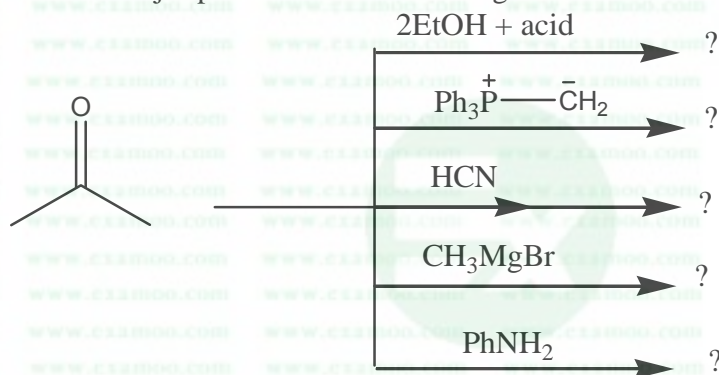


- (c) Write the reaction and mechanism of Friedel Craft alkylation and acylation reaction. (10)

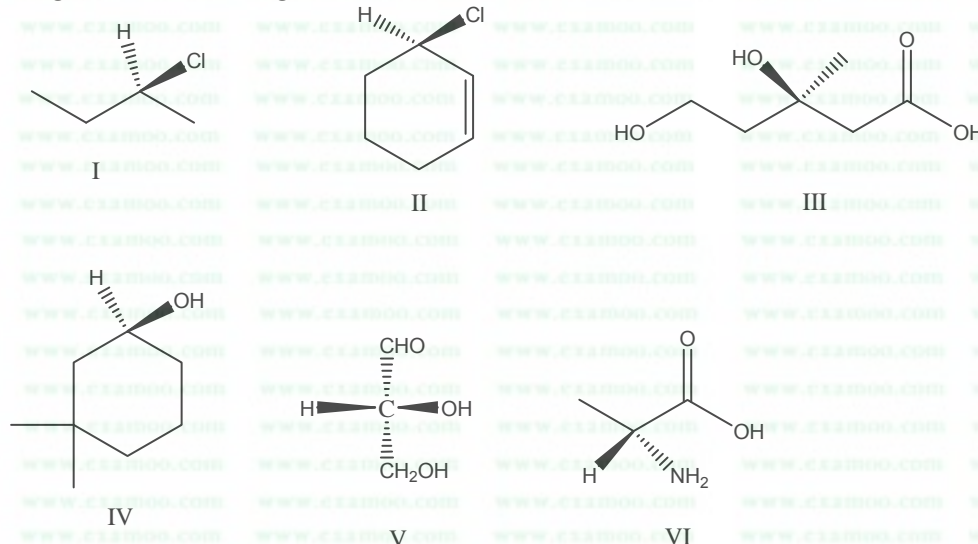
- Q. No. 5.** (a) What is Grignard reagent? What are its applications? How would you prepare Grignard reagent starting from an alkyl halide of your choice. (8)
 (b) Give the Product of the following reactions: (3)



- (c) Give the IUPAC nomenclature of Aldehydes and Ketones. (4)
 (d) Give the major products of the following reactions. (5)

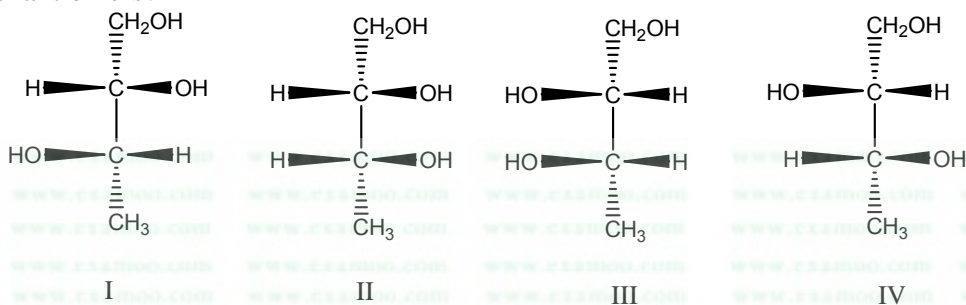


- Q. No. 6.** (a) What is stereoisomerism? Give an account of different types of stereoisomerism. (5)
 (b) Assign an R or S configuration to the chiral center in each molecule. (9)

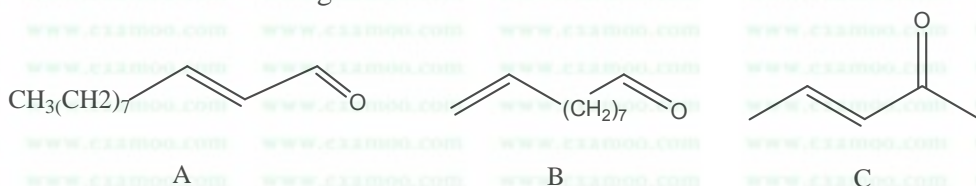


CHEMISTRY PAPER-II

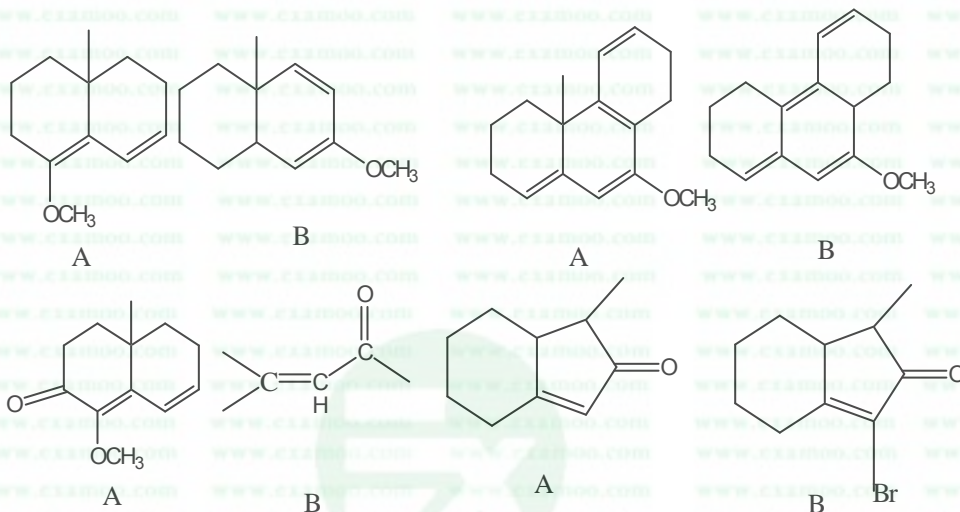
- (c) In the following molecules identify that which are diastereomers and which are enantiomers? (6)



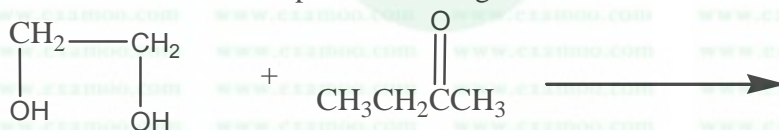
- Q. No. 7. (a) What is the difference between Dispersive IR Spectrometer and Fourier Transform (FT)-IR Spectrometer. (5)
- (b) Differentiate the following on the basis of IR. (3)



- (c) Differentiate the following pairs of compounds on the basis of UV. (8)



- (d) Deduce the structure of the product of the given reaction from the following data. (4)



The product has

IR: Four strong bands that appear in the range of 1200 to 1020 cm^{-1}

NMR: 3 Proton triplet at 0.8ppm, 3 Proton singlet at 1.3ppm, 2 proton quartet at 1.8ppm and 4 proton multiplet at 4.0ppm

- Q. No. 8. Write notes on any **FOUR** of the following: (5 each) (20)
- Reactions of Monosaccharides
 - Biosynthesis of Cholesterol
 - Primary structure of Polypeptides and Protein.
 - Prostaglandins
 - Synthesis of Peptides



FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION - 2017
FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT

Roll Number

COMPARATIVE STUDY OF MAJOR RELIGIONS
(FOR NON MUSLIMS)

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt **FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2.** Write a comprehensive note on Hindu Puranas, types and numbers. Explain its importance in Hindu literature. (20)
- Q. No. 3.** Write a comprehensive note on basic teachings of Judaism in the light of basic principles of Jewish Philosopher Memonides. (20)
- Q. No. 4.** Islam educates tolerance for other religions. Explain in the light of Quran and Sunnah and biography of Prophet Muhammad (PBUH). (20)
- Q. No. 5.** Which ethical system presented Buddha to his followers? Write a comprehensive contemporary situation of Buddhism. (20)
- Q. No. 6.** Why Zoinism movement came into being? Write a brief note on its history and explain the concepts of Jewish sect "Reform Judaism". (20)
- Q. No. 7.** Write an introductory note on Catholic and Protestant. Also compare their concepts and beliefs. (20)
- Q. No. 8.** Write a detailed note on golden age of Hazrat Umar (R.A) and also explain how reforms of Hazrat Umar (R.A) can be beneficial in current age? (20)

URDU VERSION

- سوال نمبر 2: ہندو پُرانوں پر جامع نوٹ تحریر کریں۔ نیز انکی اقسام اور تعداد واضح کرتے ہوئے بتائیں ہندومت کے لٹریچر میں انکی کیا اہمیت ہے؟ (20)
- سوال نمبر 3: یہودی فلسفی موسیٰ بن میمون کے پیش کردہ عقائد و اصول کی روشنی میں یہودیت کی بنیادی تعلیمات پر جامع سذرہ قلمبند کریں۔ (20)
- سوال نمبر 4: اسلام دیگر مذاہب کے لیے برداشت اور رواداری کی واضح تعلیم دیتا ہے۔ قرآن و سنت اور سیرت طیبہ کی روشنی میں وضاحت کریں۔ (20)
- سوال نمبر 5: گوتم بدھ نے اپنے پیروکاروں کو اخلاقیات کا کیا نظام دیا؟ نیز بدھ مت کے عصر حاضر میں احوال و اشاعت پر جامع نوٹ لکھیں۔ (20)
- سوال نمبر 6: صہیونیت کی تحریک کیونکر وجود میں آئی؟ اسکی تاریخ پر مختصر نوٹ لکھیں۔ نیز اصلاح یافتہ یہودیت نامی فرقہ کے نظریات زیر بحث لائیں۔ (20)
- سوال نمبر 7: رومن کیتھولک اور پروٹسٹنٹ کا تعارف پیش کرتے ہوئے ان کے عقائد و نظریات کا باہم تقابل پیش کریں۔ (20)
- سوال نمبر 8: حضرت عمر فاروقؓ کے زرین عہد کے احوال و اصلاحات بیان کرتے ہوئے واضح کریں کہ عصر حاضر میں کس طرح فاروقی عہد کی اصلاحات سے استفادہ کیا جا سکتا ہے۔ (20)



FEDERAL PUBLIC SERVICE COMMISSION
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FOR RECRUITMENT TO POSTS IN BS-17
UNDER THE FEDERAL GOVERNMENT
COMPUTER SCIENCE, PAPER-I

Roll Number

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II
SECTION-I

- Q. 2.** (a) The internet era has given rise to the problem of cybercrimes. Given the need to maintain privacy which is an ethical responsibility of the government, what technical means would you suggest to curb this problem? (8)
- (b) Describe the difference between Harvard and Von-Neumann architectures of computers. Also discuss their traits in the light of their capabilities. (6)
- (c) Virtual memory is used by the computer to support the running of heavy applications. Describe the functioning of virtual memory in the computer. Also comment on the management of virtual and physical memory by an operating system. (6)
- Q. 3.** (a) Three types of languages exist for use in programming of computers, Machine, Low Level and High Level languages. Elucidate on these three types, giving details of the conversion process between Low Level and High Level language into Machine language. (8)
- (b) Write a function that calculates the quadratic equation in $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. You may use the math library for this purpose. The program should ask the user to enter values of a, b and c and should print the result. A sample execution of the program is shown below: (6)
- Enter value of a: 1
Enter value of b: 2
Enter value of c: 1
The values of x are -1, -1
- (c) Consider that you are required to create a program for a supermarket checkout machine. The machine has a database of the items available in the supermarket which consists of the items name, code and price. Make a program that requires the cashier (user) to enter the code or name of the product and the quantity that has been bought. It should allow for multiple entries to be made. Once all the entries have been made. The program prints the total amount to be charged on the screen. A sample execution is shown below: (6)
- Enter product name or code: 1
Enter quantity: 1
Do you have more products to add (Y/N): N
The total amount is 500
You may construct the database as a structure.
- Q.4.** (a) What factors should be considered when choosing particularly between evolutionary and incremental models? Elucidate the characteristics of Rapid Application Development, Joint Application Development and Agile Software Engineering. (8)
- (b) Differentiate between Software Validation and Verification. Discuss some of the techniques used for empirical software evaluation. (6)
- (c) Discuss the importance of Requirements Engineering in the success of a software project. Explain in detail the process of 'Requirements Sign-off'. (6)

- Q. 5. (a)** Draw and build a Red-black tree for the following keys (50, 60, 70, 80, 90) and (50, 40, 30, 20, 10). (8)
Would a binary tree be suitable for the insertion of these keys?
- (b)** Hash tables enable for fast insertion and searching within the database. Describe the process of hashing with a suitable example. (6)
- (c)** Describe the process of Bubble Sorting. Write down the output after each pass of the Bubble Sort algorithm for sorting the sequence (3, 8, 2, 6, 1, 10). (6)

SECTION-II

- Q. 6. (a)** The design methodologies of programs can have multiple approaches including the Big Bang, Code and Fix, Water Fall and the Spiral Model. Consider a test application and describe the development of the application while following each of these four approaches. (8)
- (b)** Discuss the design issues of Task Partitioning and Task Allocation in Distributed Software Engineering tasks. (6)
- (c)** Explain the importance of Design Patterns under the umbrella of Agile software design and programming. Explain Software Testing and different methodologies. (6)
- Q. 7. (a)** The handling of syntax errors involves the use of parser and the lexical analyzer. Comment on its functioning. (8)
- (b)** Using a suitable example, compare the operation of a top-down and a bottom-up Parser based compiler. (6)
- (c)** Explain the two different methods of code optimization that is Loop optimization and Peephole optimization by giving a suitable example. (6)
- Q. 8.** Write short notes on any FOUR of the following: (5 each) (20)
 - (a)** Global, Local and shared variables for nested function access
 - (b)** Protecting IP rights in the digital domain
 - (c)** Parallel processing and the use of pipelining for this purpose
 - (d)** Resource allocation during runtime processes
 - (e)** Intermediate Code Generation
 - (f)** Searching Algorithms



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COMPUTER SCIENCE, PAPER-II

Roll Number

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II** by selecting **TWO** questions from **EACH SECTION**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
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(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II
SECTION-A

- Q. 2.** (a) Discuss the following methods of storage systems: (8)
(i) Direct Access (ii) Random Access
- (b) If clock speed reaches its maximum then what are the two methods to increase the performance of a computer? Briefly explain. (6)
- (c) Draw and explain instruction execution state diagram with interrupt. (6)
- Q. 3.** (a) Explain the following network protocols: (8)
(i) HTTP and SIP (ii) TCP and UDP
- (b) What is the transmission time of a packet sent by a station if the length of the packet is 1 million bytes and the bandwidth of the channel is 200 Kbps? (6)
- (c) Given the IP address 10.5.118.3 and the network mask 255.255.240.0, what are the assignable IP addresses and broadcast in this subnet? (6)
- Q. 4.** (a) What are differences between Optimal & LRU (Least Recently Used) page Replacement Policies? (8)
- (b) Discuss the four necessary conditions for deadlock to occur. How can we deny any two of these conditions? (6)
- (c) Consider three processes given in the table. Find average waiting time and average turnaround (completion) time when these processes are scheduled using Round-Robin scheduling using time quantum (TQ) = 4. (6)

Process	CPU Burst
P1	24
P2	7
P3	10

- Q. 5.** (a) Explain the functionality and purposes of following registers with diagrams: (8)
(i) Memory Address Register (MAR)
(ii) Memory Buffer Register (MBR)
(iii) Instruction Register (IR)
- (b) Discuss the functionality of Ethernet LAN and its types. (6)
- (c) What happens in the following cases? (6)
(i) If the job size is kept very low in time sharing systems.
(ii) If the page size is kept very small in paged memory management.

SECTION-B

- Q. 6. (a)** What is Normalization? Discuss 1NF, 2NF and 3NF with example(s). **(8)**
- (b)** Write short notes on the following: **(6)**
(i) Data **(ii)** Database **(iii)** Database Management System
- (c)** Differentiate between Centralized Database and Distributed Database. **(6)**

- Q. 7. (a)** Define image histogram. What is meant by histogram equalization? Explain their applications in image processing. **(8)**
- (b)** Find the storage in bytes required to store a 256 x 200 colored image using RGB color model with 24 bit color depth. **(6)**
- (c)** Briefly explain Geometric Transformations. **(6)**

- Q. 8. (a)** Explain the following web concepts: **(8)**
(i) localStorage and sessionStorage objects
(ii) Application cache in HTML5
(iii) Manifest file
(iv) Web Worker
- (b)** What is SVG? What are the advantages of SVG over JPEG or GIF? **(6)**
- (c)** Explain Non Breaking space in HTML with example. **(6)**





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Roll Number

CONSTITUTIONAL LAW

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
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PART-II

- Q. No. 2.** Discuss the sources of the Indian Constitution. “Indian Constitution is a bag of borrowings.” Discuss. (20)
- Q. No. 3.** “There are certain provisions in the Constitution of Pakistan 1973, which have been incorporated just to adorn the legislation but in fact are far from being actually practised.” Discuss this statement with special reference to Article 62 and 63 of the Constitution. (20)
- Q. No. 4.** “It is fundamental principle of English law that parliament can do everything but make a woman a man, and a man a woman.” But Dicey examines this statement as the negative aspect of parliamentary sovereignty. Discuss. (20)
- Q. No. 5.** “Rule of law” forms a fundamental principle of the constitution. Explain how it has influenced the British Constitution. (20)
- Q. No. 6.** ‘The Senate of USA is the only example in the world of a second chamber that is incontestably more powerful than the first and more popularly elected House’. Discuss. (20)
- Q. No. 7.** ‘The Russian Federation is a Federation with a highly centralised administration.’ Discuss. (20)
- Q. No. 8.** Which is the highest organ of state authority in Peoples’ Republic of China? Explain its composition, power and functions. (20)



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Roll Number

CRIMINOLOGY

TIME ALLOWED: THREE HOURS PART-I(MCQS): MAXIMUM 30 MINUTES	PART-I (MCQS) PART-II	MAXIMUM MARKS = 20 MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book. (ii) Attempt ONLY FOUR questions from PART-II by selecting ONE question from EACH SECTION. ALL questions carry EQUAL marks. (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places. (iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper. (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed. (vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II
SECTION-I

- Q. No. 2.** Write a critical note on the increasing importance of Criminology in Pakistan. (20)
Also discuss the historical development of criminology as a scientific discipline.
- Q. No. 3.** Enlist the criminological perspectives. Briefly describe the three (20)
criminological perspectives on the study of crime and criminal behaviour.

SECTION-II

- Q. No. 4.** Write a comprehensive note on the Juvenile justice system of Pakistan. (20)
Suggest measures for the improvement of Juvenile justice system of Pakistan.
- Q. No. 5.** Write short notes on: (10 each) (20)
(a) Causes of Juvenile delinquency in Pakistan
(b) Probation and Parole

SECTION-III

- Q. No. 6.** Write a comprehensive note on the principles of criminal investigation. (20)
Illustrate with examples from Pakistan.
- Q. No. 7.** Elaborate importance of legal and ethical guidelines for the criminal (20)
investigation of gender based crimes. Support your answer with example from
Pakistani society.

SECTION-IV

- Q. No. 8.** Write a critical note on the role of law enforcement agencies in the control of (20)
terrorism in Pakistan. Suggest measures to minimize radicalization in Pakistan.
- Q. No. 9.** Write notes on: (10 each) (20)
(a) Money-laundering in Pakistan
(b) Gender and Crime



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Roll Number

ECONOMICS, PAPER-I

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
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PART-II

- Q. No. 2.** How does the Indifference Approach to analyzing consumer demand avoid having to measure utility? Explain. (20)
- Q. No. 3.** Explain the Lewis Model of Modern-Sector Growth in a Two-Sector Surplus-Labour Economy with graphical analysis. (20)
- Q. No. 4.** What do you know about 'Demand-Side' Inflation and 'Supply-Side' Inflation? Explain with the help of graphs and briefly explicate the policies to tackle both sides Inflation. (20)
- Q. No. 5.** How does the IS-LM model allow equilibrium to be shown in both Goods and Money Markets simultaneously? Elucidate with graphs. (20)
- Q. No. 6.** What is the concept of Public debt? Explain the dimensions for tackling the debt problems of developing countries like Pakistan. (20)
- Q. No. 7.** Examine the causes of Balance of Payments problem under Fixed Exchange Rate in short-run keeping in view the New Classical and Keynesian Analyses. (20)
- Q. No. 8.** Explicate the following briefly: (5 each) (20)
- (a) Difference between Development and Human Development
 - (b) Difference between Income Inequality and Poverty
 - (c) Sources of Government Revenue
 - (d) Functions of Central Bank



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Roll Number

ECONOMICS, PAPER-II

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
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PART-II

- Q. No. 2.** Explain the characteristics of Less Developed Countries (LDCs) with particular reference to Pakistan. (20)
- Q. No. 3.** Critically evaluate the economic planning strategy of Pakistan. What policy measures would you suggest for sound economic planning? Discuss. (20)
- Q. No. 4.** Elaborate the difference between agricultural development and rural development. What are the limitations of agricultural and rural development policies of Pakistan? Discuss. (20)
- Q. No. 5.** Explain the major monetary and fiscal measures taken in Pakistan for industrial development for the last 20 years. (20)
- Q. No. 6.** Highlight and explain changes in direction of trade in recent years. Also explain trends in exports and imports of Pakistan. (20)
- Q. No. 7.** Delineate the difference among privatization, deregulation and decentralization. Evaluate the experience of Pakistan in privatization. (20)
- Q. No. 8.** Write short notes on TWO of the following: (10 each) (20)
- (a) Export-led Growth Strategy
 - (b) Growth vs. Distribution
 - (c) Energy Crisis in Pakistan



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Roll Number

ENGLISH LITERATURE

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II . ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
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PART-II

- Q. No. 2.** In what way, Wordsworth has democratised the tradition of literature? Discuss it with special reference to his poem “Resolution and Independence” (20)
- Q. No. 3.** “The Waste Land” evoked the waste and sterility of a Western world ravaged by the horrors of World War-I; it is not a poem about war but the war’s trauma. Discuss. (20)
- Q. No. 4.** Bradley argues that Hamlet’s inaction is due to his melancholia caused by his father’s death and his mother’s hasty remarriage. What do you think, why does Hamlet procrastinate in killing the King? (20)
- Q. No. 5.** D.H. Lawrence’s *Sons and Lovers* is somewhat autobiographical in which is portrayed a young man’s inner struggles caused by his affection for his mother. What self-realization does the protagonist experience after the death of his mother? (20)
- Q. No. 6.** With what kind of evidence and reasoning does Freud support the psychoanalytic theory that children entertain death-wishes toward their parents? And how does it help us to interpret literary texts? (20)
- Q. No. 7.** Female poetics seeks to understand why female authors tend to favour certain genres (lyric, poetry, novel, short story, tale, letters, diaries, memories) over others (epic, martial romance, drama, satire). Elaborate. (20)
- Q. No. 8.** (a) According to Emerson what terrors frighten us from self-trust? Where in the essay “Self-Reliance” do you find the clearest statements that tune the strings of transcendentalism? (10 each) (20)
- (b) Sketch the character of Thomas Wilson in Somerset Maugham’s “The Lotus Eater.” Is the title of the story appropriate to him?



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Roll Number

ENVIRONMENTAL SCIENCES

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
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PART-II

- Q. No. 2.** (A) How the hazardous material is defined, identified and differentiated from the toxic material? Explain the environmental problems and health risks linked with the hazardous waste. (10) (20)
- (B) What stands for CERCLA and why it is related with hazardous waste? (10)
- Q. No. 3.** Which of the GHGs are the most significant contributors to the global warming? How do they work? And what mitigation steps could be taken to stabilize the GHG content of the atmosphere? (20)
- Q. No. 4.** (A) Discuss the global efforts that are currently in place to protect our ozone shield. What evidence is there that such efforts have been effective? (12) (20)
- (B) Discuss and comment on the social and economic dimensions of Agenda 21. (8)
- Q. No. 5.** Trace the political history of UNFCCC and the Kyoto Protocol. Do you think that the UNFCCC (2015) conference in Paris was the next step in reaching an agreement on climate change? (20)
- Q. No. 6.** (A) What do you understand by climate and microclimate? (4) (20)
- (B) How do forest burning and land clearing affect the global climate? (8)
- (C) What impact would changing climate have on the 'ecosystem in general' and 'coastal environment in particular'? (8)
- Q. No. 7.** (A) What is genetic engineering or biotechnology and how it may affect the agriculture and the environment? (12) (20)
- (B) What is the relation between poverty and food security? (8)
- Q. No. 8.** Write short notes on any FOUR of the following: (5 each) (20)
- (a) E-waste (b) Superfund
- (c) Eutrophication (d) Carbon foot print
- (e) Smog (f) Energy from biomass



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Roll Number

EUROPEAN HISTORY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
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(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO Questions from EACH SECTION. ALL questions carry EQUAL marks.		
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PART-II

SECTION-I

- Q. No. 2.** How did the French Revolution and the era of Napoleonic conquests stimulate liberalism, nationalism and conservatism in Europe? (20)
- Q. No. 3.** What was the German Confederation and how did it attempt to resolve the classical problem of Central Europe? (20)
- Q. No. 4.** Between Mazzini, Cavour and Garibaldi, who do you think made the most significant contribution to Italian unification? (20)
- Q. No. 5.** Would it be a fair assessment of Bismarck's legacy that in creating a united Germany he laid the foundations of the First World War? (20)

SECTION-II

- Q. No. 6.** How did the First World War generate conditions conducive to the emergence of radical left-wing and radical right-wing movements in Europe? (20)
- Q. No. 7.** What was, in your view, the most important factor that led the United States to abandon its historic policy of isolationism and adopted internationalism after 1945? (20)
- Q. No. 8.** Write short notes on any FOUR of the following: (5 each) (20)
- (a) Georges Clemenceau (b) The Berlin Wall
(c) The Cuban Missile Crisis (d) Winston Churchill
(e) Stalin (f) Charles de Gaulle



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Roll Number

GENDER STUDIES

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
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PART-II

- Q. No. 2.** Define and discuss the discipline of gender studies and also differentiate (20)
between women studies and gender studies.
- Q. No. 3.** What are the different forms of gender based violence and, in your opinion, (20)
what could be the workable strategies to eliminate gender based violence from
Pakistani society?
- Q. No. 4.** “Women active political participation could stabilize democracy and boost (20)
economic development.” Comment on this statement within context of
socio-economic realities of Pakistani society.
- Q. No. 5.** What is the status of women’s health in Pakistan? How it could be improved (20)
within the available economic resources?
- Q. No. 6.** “ Powerful forces of globalization have highlighted various gender issues across (20)
cultures and throughout the globe.” Discuss by quoting examples from
developing countries.
- Q. No. 7.** Write a comprehensive note on autonomy versus integration debate in gender (20)
studies.
- Q. No. 8.** Write short notes on the following: (10 each) (20)
- Honor killing
 - Gender and development



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Roll Number

GEOLOGY

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PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks.		
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PART-II
SECTION-I

- Q. No. 2.** Describe structure of neso silicates. Also draw its sketch. Narrate physical and optical properties of olivine group of minerals. (20)
- Q. No. 3.** Describe development of different types of metamorphic facies during subduction process. With the help of temperature-pressure diagram, elaborate regimes of metamorphic facies. (20)
- Q. No. 4.** What categories of information we depict from the fossils found in sedimentary strata? Give examples. Describe some of common processes of fossilization. (20)
- Q. No. 5.** Outline important events of Indian Plate drift and subsequent tectonics from Mesozoic onwards in Pakistan region. Draw sketches. (20)

SECTION-II

- Q. No. 6.** Enlist methods of surface and near surface prospecting methods of oil and gas. Describe implementation details of any two methods, leading to successful discovery of hydrocarbon in a region. (20)
- Q. No. 7.** Discuss the geological conditions that normally trigger land sliding in northern Pakistan. Describe some of the measures to mitigate its effects. (20)
- Q. No. 8.** Write notes on any **TWO** of the following: (10 each) (20)
- a. Polarizing microscope
 - b. Paleobotany
 - c. Geothermal energy



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Roll Number

HISTORY OF PAKISTAN & INDIA

TIME ALLOWED: THREE HOURS
PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)
PART-II

MAXIMUM MARKS = 20
MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2.** “Conquest of Sindh in 712 opened the corridor to both Islam and Trade”. (20)
Discuss.
- Q. No. 3.** Analyze Allauddin Khilji’s economic reforms and measure its impact on the (20)
state and society.
- Q. No. 4.** Discuss the sway of Sufism in 13th and 14th century AD. (20)
- Q. No. 5.** Examine the Religious Policy of Mughal Kings. (20)
- Q. No. 6.** Estimate the Hindu Reformist and Political Movements of 19th and 20th century (20)
AD and also their impact on Muslim Society and Politics.
- Q. No. 7.** “ Lucknow Pact 1916 was forerunner to the creation of Pakistan.” Discuss. (20)
- Q. No. 8.** Discuss the pros and cons of Pakistan’s Foreign Policy. (20)



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Roll Number

INTERNATIONAL RELATIONS, PAPER-I

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** What are the essential differences between the liberal internationalist and realist theories? In your opinion, why is realism the most dominant theory in the discipline of International Relations? (20)
- Q. No. 3.** The positivist and post-positivist debate offers a striking contrast in terms of approach and methodology to the study of International Relations. Describe, compare and critically evaluate the divergence between the two debates. Are there any point of convergence? (20)
- Q. No. 4.** The nation-state system is in a flux with an independence referendum in Scotland and another projected for Catalonia in September 2017. Critically evaluate reasons as to why the modern nation-state in Europe faces internal challenges to its sovereignty and territorial integrity. (20)
- Q. No. 5.** The rise of China is being heralded as a return of 'balance of power' politics in international relations. As the world moves towards multipolarity, account for the essential features of the international security architecture and its evolving dynamics. (20)
- Q. No. 6.** Define globalisation and its attendant manifestations in global politics. Do you agree with the view that economic globalisation is a form of neo-imperialism which only stands to exploit the Third World states? (20)
- Q. No. 7.** Critically evaluate the strategically competitive dynamics of Pakistan-India relations in the context of Pakistan's growing ties with China and India's increased alignment with the United States. (20)
- Q. No. 8.** The non-state actor as a military competitor is gaining ground in the Middle East with the rise of ISIS. What strategies can the United Nations and major powers implement in order to ensure peace and security in Iraq and Syria. (20)



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Roll Number

INTERNATIONAL LAW

TIME ALLOWED: THREE HOURS
PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)
PART-II

MAXIMUM MARKS = 20
MAXIMUM MARKS = 80

- NOTE:** (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2.** International Law is Oxymoronic. Argue. (20)
- Q. No. 3.** Explain the basic difference between Primary and Subsidiary sources of International Law. (20)
- Q. No. 4.** How can good offices and mediation help in avoiding influence of Security Council's highhandedness? Analyze. (20)
- Q. No. 5.** How does International Law deal with POWs? Explain with examples. (20)
- Q. No. 6.** Under Vienna Convention how would you define treaty, its major features and conditions of termination of a treaty? (20)
- Q. No. 7.** What are the Jurisdictional constraints to the right of self-determination in context to Montevideo Convention on the recognition of state? (20)
- Q. No. 8** Write short notes on any TWO of the following: (10 each) (20)
- (a) Nature of relationship of a state with an individual.
 - (b) International Soft Law.
 - (c) Collective use of Force.



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Roll Number

ISLAMIC HISTORY AND CULTURE

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE: (i) Part-II is to be attempted on the separate Answer Book.**
- (ii) Attempt ONLY FOUR questions from PART-II selecting TWO Questions from EACH SECTION. ALL questions carry EQUAL marks.**
- (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.**
- (iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.**
- (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.**
- (vi) Extra attempt of any question or any part of the attempted question will not be considered.**

PART-II

SECTION-I

- Q. No. 2.** Peace and security is the top-most priority and policy of an Islamic State. Give (20)
reasons and a comprehensive commentary on the battles fought by the Holy
Prophet (PBUH).
- Q. No. 3.** Throw light on Islamic Political System under the Holy Prophet (PBUH) and the (20)
Pious Caliphs. Explain that how is it different from Western Political System?
- Q. No. 4.** Write notes on any two of the following: (20)
- (a) Statecraft & the administration under the Umayyads.
 - (b) Religious Conditions in Arabia before the dawn of Islam.
 - (c) Educational system in the early phase of Islam.

SECTION-II

- Q. No. 5.** Point out the main features of Muslim contribution to religious literature and (20)
philosophy in Spain under the Muslim rule.
- Q. No. 6.** Discuss the role and response of Muslim Scholars to modernism and (20)
post-modernism.
- Q. No. 7.** Discuss in detail the impact of Crusades on Muslim Society throughout the (20)
history.
- Q. No. 8.** Write notes on the following: (10 each) (20)
- (i) Scientific achievements during Abbassids rule.
 - (ii) Dissemination of Muslim learning in the West.



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Roll Number

JOURNALISM & MASS COMMUNICATION

TIME ALLOWED: THREE HOURS
PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)
PART-II

MAXIMUM MARKS = 20
MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2.** Briefly narrate the implications and shortcomings of the Shannon and Weaver model of Communication? (20)
- Q. No. 3.** Explain how Uses and Gratification Theory is an audience centered approach in understanding Mass Communication. Also explain how is it positivistic approach? (20)
- Q. No. 4.** How Mac Bride Commission report analyze communication problems in modern societies? Discuss its recommendations in detail. (20)
- Q. No. 5.** Define Public Relations. Also explain its tools and techniques and challenges in Pakistan. (20)
- Q. No. 6.** Define and explain the term Development Support Communication. Also narrate how it can be helpful in solving various social issues of Pakistani society? (20)
- Q. No. 7.** “Pakistani media organizations are unable to formulate a self-disciplined code of ethics.” Do you agree or not. Support your answer with logic and arguments. (20)
- Q. No. 8.** Write brief notes on any **TWO** of the following: (10 each) (20)
- (a) Media as an agent of social change
 - (b) Gerbner’s Model of Communication
 - (c) Role of Social media in Pakistan



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Roll Number

LAW

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** What is the relation of claim preclusion and issue preclusion with the concept of res judicata? Differentiate between actual and constructive res judicata. (20)
- Q. No. 3.** Discuss the logic behind concept of bail in criminal justice. How the right of bail in non-bailable offences has been curtailed under the Code of Criminal Procedure 1898 and other special criminal substantive laws in Pakistan? (20)
- Q. No. 4.** Critically appraise the constitutional safeguards for recording the confessions. Explain the procedure provided for recoding of confessions. (20)
- Q. No. 5.** Examine powers of Justice of Peace under the Code of Criminal Procedure. Whether these powers are in contravention of theory of separation of Powers? (20)
- Q. No. 6.** Differentiate between appeal and revision in civil matters. Do the appellate courts have the same powers and duties as are conferred on the courts of original jurisdiction? (20)
- Q. No. 7.** Discuss background of Arbitration Agreements and Foreign Arbitral Awards Act 2011. On what grounds an arbitral award can be set aside by the court? (20)
- Q. No. 8.** How Pakistan Penal Code has differentiated the punishments of Diyat, Arsh and Daman? Explain limits prescribed by law on solitary confinements. (20)

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Roll Number

PERSIAN

TIME ALLOWED: THREE HOURS
PART-I (MCQs): MAXIMUM 30 MINUTES
PART-II (MCQs): MAXIMUM 30 MINUTES
PART-I (MCQs) MAXIMUM MARKS = 20
PART-II (MCQs) MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. Answer must be written in respective language except where specified in the question paper. ALL questions carry EQUAL marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART - II SECTION-I

- سوال نمبر 2: کئی از شاعران زیر رامور و بحث قرار بدید۔
(1) فردوسی طوسی (ب) غائب دهلوی (ج) امیر خسرو (20)
- سوال نمبر 3: از عنوان های زیر به دو مقاله های مختصر به زبان فارسی بنویسید۔
(1) محاسن شعر حافظ شیرازی (ب) مثنوی معنوی مولوی (ج) سبک عراقی (د) فلسفه خودی اقبال (20) (10+10)
- سوال نمبر 4: (1) از مصداق زیر پنج تا به فعل ماضی بعید صرف نماید۔
(10) خندیدن، خوردن، بردن، جوشیدن، کوشیدن، خفتن، نوشتن، باریدن
- (ب) از مصداق زیر پنج تا به زبان فارسی در جمله های کاربردید۔
(10) فرا گرفتن، انجام دادن، التماس کردن، باز کردن، دوست داشتن، بیگانه شدن، آتش افروختن، پیمان خوردن (20)
- سوال نمبر 5: متن زیر را به زبان فارسی ترجمه کنید۔
(20)

The poetry of Dara Shikoh has been devoted to the explanation of sufistic thoughts of the Prince. Although like the prose works, his poetical compositions can not be specifically dated, they do reveal the gradual development in his sufistic thought. The earlier verses may be regarded those which reveal him a simple muslim devoted to Islam and his faith in one God, in his last Prophet (PBUH) and respect for the four pious Caliphs.

SECTION-II

- سوال نمبر 6: از اجزای زیر دو جزو را به زبان انگلیسی شرح دهید۔
(10+10) (20)
- (1) ای چهره زیبای تو رشک بتان آذری
هرگز نیاید در نظر نقشی ز رویت خوتر
آفاق ها گردیده ام، مهر بتان ورزیده ام
من تو شدم تو من شدم من تن شدم تو جاں شدم
هر چند و صفت می کنم در حسن ازان زیبا تری
شکی ندانم یا قمر حوری ندانم یا پری
بسیار خوبان دیده ام اما تو چیز دیگری
تا کس نگوید بعد ازین من دیگرم تو دیگری

PERSIAN

(ب) بیا تا قدر یکدیگر بدانیم که تا ناگه ز یکدیگر نمایم
 کریمان جان فدای دوست کردند سگی بگذار ما هم مردانیم
 گوی خوش دل شوی از من که میرم چرا مرده پرست و خصم جانیم
 چو بعد از مرگ خواهی آشتی کرد همه عمر از غمت در امتحانیم

(ج) به وادینی که در آن خضر را عصا خفتت به سین می سپرم ره اگر چه پا خفتت
 بروز حشر چنین خسته رویه خیزد که در شکایت درد و غم دوا خفتت
 هوا مخالف و شب تار و بحر طوفان خیز گسته لنگر کشتی و ناخدا خفتت
 درازی شب و بیداری من اسنمه نیست ز بخت من خبر آرید که کجا خفتت

(20)

سوال نمبر 7: حکایت زیر را با انگلیسی ترجمه کرده به سوالهای زیر پاسخ بدهید۔

یکی از فضلا تعليم ملك زاده ای همدی داد و ضرب بی محابازدی و ز جربی قیاس کردی باری پسر از بریطاتی شکایت پیش پدر برد و جامه از تن دردمند برداشت پدر رادل بهم برآمد استاد را گفت که پسران آحاد رعیت را چندین جفا و توتوخ روانمیداری که فرزند مرا سبب چیست گفت سبب آنکه سخن اندیشه باید گفت و حرکت پسندیده کردن همه خلق را علی العموم و پادشاهان را علی الخصوص بموجب آنکه بردست و زبان ایشان هر چه رفته شود هر آینه بانواه گویند و قول و فعل عوام الناس را چندان اعتباری نباشد۔

(ا) پدر رادل بهم برآمد چه معنی دارد؟

(ب) پسران آحاد رعیت را چندین جفا و توتوخ روانمیداری چه مفهومی دارد؟

(ج) دل بهم برآمد چه معنی دارد؟ توضیح بدهید۔

(د) برداشت کلی از این حکایت را بنویسید۔

(20)

(10+10)

سوال نمبر 8: از شاعران زیر از لحاظ فکر و هنر، دو تا را مورد بحث قرار بدهید۔

(ا) رضا شفیعی کدکنی

(ب) اقبال شاعر فیلسوف

(ج) فردوسی شاعر حماسه سرایی ایران

(د) محتشم کاشانی شاعر رثا



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Roll Number

PHYSICS, PAPER-I

TIME ALLOWED: THREE HOURS PART-I(MCQS): MAXIMUM 30 MINUTES	PART-I (MCQS) PART-II	MAXIMUM MARKS = 20 MAXIMUM MARKS = 80
-----------------------------------------------------------------------------	----------------------------------------	--------------------------------------------------------

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) **Use of Calculator is allowed.**

PART-II

- Q. No. 2.** (a) What is the cross product of two vectors? Why the cross product is called pseudo vector? (5)
(b) What is divergence of vector field? What is its physical significance? (5)
(c) What is line integral? Under what condition it is used to calculate the work done. (5)
(d) Consider three vectors: (5) (20)
 $\vec{A} = -3\hat{i} + 3\hat{j} + 2\hat{k}$ $\vec{B} = -2\hat{i} - 4\hat{j} + 2\hat{k}$ and $\vec{C} = 2\hat{i} + 3\hat{j} + 1\hat{k}$
(i) Find $\vec{A} \cdot (\vec{B} \times \vec{C})$ (ii) Find $\vec{A} \times (\vec{B} \times \vec{C})$
- Q. No. 3.** (a) What do you mean by circular motion? What is centrifugal force? Explain your answer by taking an example from daily life. (5)
(b) What is projectile motion? Why a cricket player lowers his hand while catching a ball? (7)
(c) What do you mean by work done by the system and work done on the system? Explain by taking an example of each. (5)
(d) A batsman hits a cricket ball at an angle with respect to the horizontal. The ball would strike the ground at 60m from the batsman if it is not stopped. But a fielder at a distance 55 m catches the ball at a height of 1.5 m. Calculate the angle of projection and the velocity of projection. (3) (20)
- Q. No. 4.** (a) What do you mean by phase and group velocity? Derive a relation between a group and phase velocity. (7)
(b) What is superposition of waves? Show that the standing waves are produced by the superposition of two waves of equal amplitudes moving in opposite direction. (7)
(c) A medium is disturbed by an oscillation described by, (3)
 $Y = 3.0\text{cm} \sin(\pi x/10\text{cm}) \cos(50\pi t)$
Determine the amplitude, frequency, wavelength, speed and direction of the component waves whose superposition produces this result.
(d) If light of $\lambda = 660\text{nm}$ has wave train 20λ , what is its coherence length and coherence time? (3) (20)
- Q. No. 5.** (a) What is unique about light from a laser source, and why should you never look directly into a laser beam? Explain briefly. (5)
(b) What is plasma? What do you mean by plasma frequency? Briefly discuss. (5)
(c) How the blue laser is useful in storing large amount of data on a CD as compared to red laser? (5)
(d) For the He-Ne laser at 2m and 4m distances from the laser, the output beam spot diameters are 2 mm and 3 mm. Calculate the angle of divergence. (5) (20)

PHYSICS, PAPER-I

- Q. No. 6.** (a) What is viscosity? Discuss effect of temperature on the viscosity of liquids and gases. (6)
- (b) Differentiate between streamline and turbulent flow and establish equation of continuity. (4)
- (c) Explain why the level of mercury is down in capillary when placed in container of mercury, while it is up in the capillary in case of water? (6)
- (d) A garden hose has an inside diameter of 2 cm and water flows through it is at 3 m/s. (4) (20)
- (i) What nozzle diameter is required for the water to emerge at 10 m/s?
- (ii) At what rate does the water leave the nozzle?

- Q. No. 7.** (a) What do you understand by classical statistical mechanics and quantum statistical mechanics? (6)
- (b) Differentiate between Fermi-Dirac, Bose-Einstein and Maxwell-Boltzman's statistics. (6)
- (c) What is equipartition of energy? Explain. (5)
- (d) A 0.5m^3 vessel is filled with air at atmospheric pressure. The air is churned by a paddel wheel attached to a shaft 0.1m in diameter, rotating at a speed of 1800 rpm. A force of 5.0N acts on the rim of the shaft. What would be the pressure in the vessel after 10 sec of operation (3) (20)

- Q. No. 8.** Write notes on any **FOUR** of the following: (5 each) (20)
- (a) Polarization of light and its application in determining specific rotation of a liquid.
- (b) Wave equation on a string.
- (c) Normal and anomalous dispersion of light.
- (d) Kinetic theory of gases.
- (e) Scalar Triple product.





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Roll Number

PHYSICS, PAPER-II

TIME ALLOWED: THREE HOURS

PART-I(MCQS): MAXIMUM 30 MINUTES

PART-I (MCQS)

PART-II

MAXIMUM MARKS = 20

MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.

(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.

(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.

(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.

(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.

(vi) Extra attempt of any question or any part of the attempted question will not be considered.

(vii) Use of Calculator is allowed.

PART-II

- Q. No. 2.** (a) What is dipole moment? Obtain the expression for the potential and field due to an electric dipole. (10)
- (b) Calculate the potential at a point on the axis of circular plastic disk of radius R, one surface of which carries a uniform charge density σ . (8)
- (c) Why do we use unit "electron volts"? (2) (20)
- Q. No. 3.** (a) State and explain the Biot Savart law. (4)
- (b) State and prove Ampere's law. Apply it to calculate the magnetic field due to a solenoid. (10)
- (c) A long straight wire carries a current of 20 Amperes. An electron at 2.0 cm from the wire is travelling at a speed of 10^7 m/sec. What force acts on the electron if its motion is directed (1) towards the wire, (2) parallel to the wire and (3) at right angles to the direction given in (1) and (2). (6) (20)
- Q. No. 4.** (a) Write the Maxwell's equations and explain the significance of each equation. (6)
- (b) Deduce the Maxwell equations for free space and also prove that electromagnetic waves are transverse. (12)
- (c) What is index of refraction? (2) (20)
- Q. No. 5.** (a) Describe the Stern Gerlach experiment that provided experimental evidence of the space quantization of atomic magnetic moments. (10)
- (b) What is the physical significance of the three quantum numbers n, l, and m in the labelling of the hydrogenic wave functions? (6)
- (c) What do you understand by strange particles? (4) (20)
- Q. No. 6.** (a) What is liquid drop model of nucleus and write down its essential features? (8)
- (b) What are magic numbers? How can they be generated on the basis of shell model? (8)
- (c) What is nuclear fusion? (4) (20)
- Q. No. 7.** (a) Differentiate the Metals, Semiconductors and Insulators on the basis of Energy Band Theory. (6)
- (b) What is a rectifier? How we can use diode as a rectifier? Explain half-wave rectification in detail with diagrams. (14) (20)
- Q. No. 8.** Write short notes on any TWO of the following: (10 each) (20)
- (a) Schrodinger equation
- (b) Linear accelerator
- (c) Cyclotron



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Roll Number

POLITICAL SCIENCE, PAPER-I

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II by selecting at least TWO Questions from EACH SECTION. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

SECTION-I

- Q. No. 2.** Compare and contrast the different political philosophies of Hobbes and Locke. How are these philosophies implemented in present day political systems and policy making? (20)
- Q. No. 3.** According to Marx “the mode of production in material life determines the general character of social, political and spiritual process in life”. Elucidate. (20)
- Q. No. 4.** Discuss the upward and downward development of state, rulers and ruled in the socio-political thought of Ibn Khaldun. (20)

SECTION-II

- Q. No. 5.** What is the Islamic concept of state? Identify issues and challenges to the Islamic concept of state in the modern times. (20)
- Q. No. 6.** What characteristic of society leads to adoption of federal form of government? How it can function successfully? (20)
- Q. No. 7.** Compare and contrast the differing roles played by political parties and interest groups in making public policy? (20)
- Q. No. 8.** What is Fascism and why is it considered to be the child of first half of 20th century events to place in Europe? (20)



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Roll Number

POLITICAL SCIENCE, PAPER-II

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. Selecting **ONE** Question from **SECTION-I** and **THREE** Questions from **SECTION-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

SECTION-I

- Q. No. 2.** To what extent is it true that the President of the United States is more powerful than the Prime Minister of the United Kingdom (UK)? Justify your answer with comparative analysis. **(20)**
- Q. No. 3.** Discuss the basic norms of regional politico-economic integration and organizational structure of the European Union. **(20)**

SECTION-II

- Q. No. 4.** "A strong political system needs a very strong political economy." Prove this statement by making a comparative and analytical answer with reference to China and Malaysia. **(20)**
- Q. No. 5.** Allama Muhammad Iqbal and Quaid-e-Azam Muhammad Ali Jinnah were the genuine leaders who led the Muslim Nation towards success through their socio-political visions in South Asia. Discuss their community services rendered for the Muslims of the subcontinent. **(20)**
- Q. No. 6.** Discuss the Major issues during the constitutional making process in Pakistan in 1956, 1962 and 1973. **(20)**
- Q. No. 7.** How far do you agree that the Political Parties and Interest Groups have established and demolished the political system of Pakistan? Critically analyze. **(20)**
- Q. No. 8.** Write comprehensive notes on the following: **(10 each) (20)**
- (a). Foreign policy making process in Pakistan.
- (b). Global Civil Society



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PSYCHOLOGY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE:** (i) **Part-II** is to be attempted on the separate **Answer Book**.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART-II

- Q. No. 2.** Define Personality. Discuss in detail few major theories of personality. **(20)**
- Q. No. 3.** Differentiate between fine sensation and perception. Elaborate Gestalt Principles of perception. **(20)**
- Q. No. 4.** What is reliability of psychological tests? Elaborate different types of reliability for test with suitable examples. **(20)**
- Q. No. 5.** Differentiate between intelligence (IQ) and emotional intelligence (EQ). Also discuss major theories of emotional intelligence with suitable examples. **(20)**
- Q. No. 6.** Define psychological disorders and its major categories. Discuss major therapeutic techniques used by the clinical psychologists for the treatment of psychological disorders. **(20)**
- Q. No. 7.** What are different leadership styles with reference to major leadership style theories? Elaborate the characteristics of transformational and transactional leaders with appropriate examples. **(20)**
- Q. No. 8.** Write comprehensive notes on any **TWO** of the following: **(10+10) (20)**
- (A) Goals of psychotherapy
- (B) Test Validity and its Types
- (C) Development in childhood



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PUBLIC ADMINISTRATION

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book. (ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks. (iii) All the parts (if any) of each Question must be attempted at one place instead of at different places. (iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper. (v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed. (vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** Appropriate separation of powers between the legislative, executive and judicial branches ensure effective check and balance and hence accountable public administration. Discuss, the statement in the light of historic Watergate Scandal, which forced Nixon to resign as head of public bureaucracy. (20)
- Q. No. 3.** Privatisation as a global phenomenon has major implications for Bureaucratic role and scope, especially in state-dominated political system. Discuss, the statement with for or against arguments. (20)
- Q. No. 4.** Discuss in detail the Prismatic-Sala model enunciated by Fred Riggs in order to evaluate the under-developing society and its implications for public administration. (20)
- Q. No. 5.** Harnessing intrinsic motivation within the public servants is prelude to better public service delivery and effective curb on corruption. Discuss the statement in the light of public service motivation paradigm and its requisite ingredients enunciated by James L. Perry. (20)
- Q. No. 6.** Public sector innovation creates value for society either through new or improved processes or services. Discuss factors which hamper procedural innovation in public sector in Pakistan. (20)
- Q. No. 7.** There are three major forms of administrative decentralization; deconcentration, delegation and devolution each with different set of characteristics. Argue which one is the most suitable form within the Pakistan's socio-political context? (20)
- Q. No. 8.** Write substantive notes on any TWO of the following: (10 each) (20)
- (a) Zero based budgeting
 - (b) Judicial Activism
 - (c) Social Policy

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Roll Number



PUNJABI

TIME ALLOWED: THREE HOURS

PART-I (MCQs)

MAXIMUM MARKS = 20

PART-I(MCQs): MAXIMUM 30 MINUTES

PART-II

MAXIMUM MARKS = 80

- NOTE: (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt FIVE questions from PART-II, Answer must be written in respective language except where specified in the question paper. ALL questions carry EQUAL marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.

PART - II

نوٹ: ایس حصے وچوں پنج (5) سوالاں دے جواب دیو۔

- سوال نمبر 2: بابا فرید گنج شکر نے اخلاقیات نوں انسانی جیون دی گنجی قرار دتا اے۔ کھل کے بیان کرو۔ (16)
- سوال نمبر 3: ”بہے شاہ دی کافی سُن کے مُکدا کفر اندر دا“، تئیں ایس رائے نال کتھوں تیک اتفاق کر دے او؟ (16)
- سوال نمبر 4: پیر فضل گجراتی نوں پنجابی غزل داماں تران آکھیا جاندا اے۔ کیوں؟ بیان کرو۔ (16)
- سوال نمبر 5: منیر نیازی نوں نویں امکانات دا شاعری آکھیا جاندا اے۔ کیہ تئیں ایس گل نال متفق او۔ (16)
- سوال نمبر 6: ”چوہنواں“ دافنی تے فکری تجزیہ پیش کرو۔ (16)
- سوال نمبر 7: ”جھاتیاں“ وچ نفسیاتی تنقید دے بہت سوہنے نمونے دکھالی دیندے نیں۔ ویروے نال گل کرو۔ (16)
- سوال نمبر 8: پنجابی لوک گیت ساڈی تہذیب تے ثقافت دے امین نیں۔ مثالاًں راہیں بیان کرو۔ (16)
- سوال نمبر 9: پٹھلے سرناویاں وچوں کسے دو اتے بھرواں نوٹ لکھو۔ (8+8)
- (الف) پنجابی دے نثری ادب وچ ”مواعظ نوشہ“ دی اہمیت
(ب) پنجابی تنقیدی ادب وچ ”ادب سمندر“ دا مقام
(ج) لوک گیت ”ماہیا“



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PURE MATHEMATICS

TIME ALLOWED: THREE HOURS

MAXIMUM MARKS = 100

- NOTE: (i)** Attempt **FIVE** questions in all by selecting **TWO** Questions each from **SECTION-A&B** and **ONE** Question from **SECTION-C**. **ALL** questions carry **EQUAL** marks.
- (ii)** All the parts (if any) of each Question must be attempted at one place instead of at different places.
- (iii)** Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
- (iv)** No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- (v)** Extra attempt of any question or any part of the attempted question will not be considered.
- (vi) Use of Calculator is allowed.**

SECTION-A

- Q. 1. (a)** Let H, K be subgroups of a group G . Prove that HK is a subgroup of G if and only if $HK=KH$. (10)
- (b)** If N, M are normal subgroups of a group G , prove that (10) (20)
 $NM/M \cong N/N \cap M$.
- Q. 2. (a)** If R is a commutative ring with unit element and M is an ideal of R then show (10)
that M is a maximal ideal of R if and only if R/M is a field.
- (b)** If F is a finite field and $\alpha \neq 0, \beta \neq 0$ are two elements of F then show that we (10) (20)
can find elements a and b in F such that
 $1 + \alpha a^2 + \beta b^2 = 0$.
- Q. 3. (a)** Let V be a finite-dimensional vector space over a field F and W be a subspace (10)
of V . Then show that W is finite-dimensional,
 $\dim W \leq \dim V$ and $\dim V/W = \dim V - \dim W$.
- (b)** Suppose V is a finite-dimensional vector space over a field F . Prove that a (10) (20)
linear transformation $T \in A(V)$ is invertible if and only if the constant term of
the minimal polynomial for T is not 0.

SECTION-B

- Q. 4. (a)** Use the Mean-Value Theorem to show that if f is differentiable on an (10)
interval I , and if $|f'(x)| \leq M$ for all values of x in I , then
 $|f(x) - f(y)| \leq M|x - y|$
for all values of x and y in I . Use this result to show further that
 $|\sin x - \sin y| \leq |x - y|$.
- (b)** Prove that if $x = x(t)$ and $y = y(t)$ are differentiable at t , and if (10) (20)
 $z = f(x, y)$ is differentiable at the point $(x, y) = (x(t), y(t))$, then
 $z = f(x(t), y(t))$ is differentiable at t and
$$\frac{dz}{dt} = \frac{\partial z}{\partial x} \frac{dx}{dt} + \frac{\partial z}{\partial y} \frac{dy}{dt}$$

where the ordinary derivatives are evaluated at t and the partial derivatives
are evaluated at (x, y) .
- Q. 5. (a)** Evaluate the double integral (10)
$$\iint_R (3x - 2y) dx dy$$
- (b)** Where R is a region enclosed by the circle $x^2 + y^2 = 1$. (10) (20)
Find the area of the region enclosed by the curves
 $y = \sin x, y = \cos x, x = 0, x = 2\pi$.

PURE MATHEMATICS

- Q. 6. (a)** Find an equation of the ellipse traced by a point that moves so that the sum of its distance to (4,1) and (4,5) is 12. (10)
- (b)** Show that if a, b and c are nonzero, then the plane whose intercepts with the coordinate axes are $x = a, y = b,$ and $z = c$ is given by the equation. (10) (20)

$$\frac{x}{a} + \frac{y}{b} + \frac{z}{c} = 1.$$

SECTION-C

- Q. 7. (a)** Prove that a necessary and sufficient condition that $w = f(z) = u(x, y) + iv(x, y)$ be analytic in a region R is that the Cauchy-Riemann equations (10)
- $$\frac{\partial u}{\partial x} = \frac{\partial v}{\partial y} \text{ and } \frac{\partial u}{\partial y} = -\frac{\partial v}{\partial x}$$
- are satisfied in R where it is supposed that these partial derivatives are continuous in R .
- (b)** Show that the function $f(z) = \bar{z}$ is not analytic anywhere in the complex plane Z . (10) (20)

- Q. 8. (a)** Let $f(z)$ be analytic inside and on the boundary C of a simply-connected region R . Prove that (10)

$$f'(a) = \frac{1}{2\pi i} \oint_C \frac{f(z)}{(z-a)^2} dz.$$

- (b)** Show that (10) (20)
- $$\int_0^{2\pi} \frac{d\theta}{(5-3 \sin \theta)^2} = \frac{5\pi}{32}.$$



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TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

- NOTE: (i)** Part-II is to be attempted on the separate Answer Book.
(ii) Attempt **ONLY FOUR** questions from **PART-II**. Answers must be written in respective language except where specified in the question paper. **ALL** questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
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PART-II

(14) (a) لاندینے انگریزی عبارت په عیاری پښتو کښې ترجمه کړئ.

The flowing zeal, the religious fervour, the passion for freedom, the true courage, the love of battle-field, the vindictive spirit, the rigid eastern realism, the penetrating wit, the harmony, music, the magnificent decision, deep photos and in diction command of language are characteristics of Khushhal's poetry.

(06) (2 each) (b) لاندینو نه صرف د دریو په پښتو کښې ترجمه اوکړئ.

- (i) The virtuous waits, the unvirtuous strikes. (ii) A well cannot be dug with one pick-axe.
(iii) The spectator hits the bull's eye. (iv) The elders did it, the children copied them.
(v) Noble men die, their noble deeds survive. (vi) He who is cunning will clear himself.

(14) (a) لاندې ورکړل شوي پښتو عبارت په انگریزی کښې ترجمه کړئ.

پښتونولۍ د پښتانه د ژوند نظام ده. دې ته د پښتنو کلتور یا ثقافت هم وئیلې ، ولی د پښتونولۍ اصطلاح په خپلو معنو کښې له دغه بڼې الملی اصطلاحاتو نه څه زیاته پراختیا لري، ځکه چې دا پښتونولۍ د ژوند د نظام او طریقې سره سره د پښتانه د ایمان علامت هم ګڼلې کېږي ، دا د پښتنې اخلاق او کردار فلسفه هم ده ، او د پښتانه د وند جواز هم ، که ژوند د پښتونولۍ د اصولو سره سم ؤ، خو ژوند ورته وئیلې شي ، که نه وي نو دا د ژوند په معنا نه ده .

(06) (2 each) (b) د لاندینو متلونو نه و په انگریزی کښې ترجمه کړئ.

– اوبه په پیچون بیایه که لارې لارې ، که نه ښکته نې لار ده .

بوس راوړه شوملې وړه ، د ماما کور دې خپل ده .

– پښتون چې پښتو نه لري زمکه دې پرې ډکه شي .

تښه تلې تشه راتلې ، د پیڅو دورې دې تلې .

– چې اورې هغه وایه ، چې وینې هغه مه وایه .

ه باله شي ، نه ښاره شي .

(20) ؛ – په نسلي توګه پښتانه څوک دې په دې اړه مدلل بحث اوکړئ –

۱ – په پښتو ژبه او ادب د خوشحال بابا په و یو جامع اولیکئ –

(20)

– قلندر مومند بحیثیت ادیب و نقاد او د هغه په ژوند جامع بحث اوکړئ –

(20)

– پښتو کښې ابتدا د نظم نه پس شوي ده ، په دې حقله بحث اوکړئ –

(20)

په مثالونو سره ثابته کړئ چې 'تپه د پښتنو د معاشرتي ژوند هینداره

(20)

(Reflection) ``



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SOCIOLOGY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** How evolutionary theories of sociology provide a stimulating gesture to transform societies? Compare and contrast the classical and neo-classical school of thoughts for understanding phenomenon of social change. (20)
- Q. No. 3.** What are core elements which lead to develop rigorous research design in social research? (20)
- Q. No. 4.** Discuss in brief the socio-cultural factors that may enhance and retard the process of social and cultural change in societies. (20)
- Q. No. 5.** Marx and Weber theorized that modern society alienated people. How do their approaches contrast each other and how their concepts of alienation can be compared with Durkheim's concept of anomie? (20)
- Q. No. 6.** What key characteristics distinguish capitalism from socialism? Compare these two systems in terms of productivity, economic inequality and personal freedom. (20)
- Q. No. 7.** What is the role of culture in socialization of an individual to become a useful member of a society? Discuss what cultural patterns help to explain this phenomenon. (20)
- Q. No. 8.** Write note on the following. (10 each) (20)
- (a) Political economy of globalization
 - (b) Regional migration



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Roll Number

STATISTICS

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.
(ii) Attempt **ONLY FOUR** questions from PART-II by selecting **TWO** questions from EACH SECTION. ALL questions carry **EQUAL** marks.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the attempted question will not be considered.
(vii) **Use of Calculator is allowed.**

PART-II
SECTION-I

Q. No. 2. (a) Suppose a set of observations has mean \bar{X} and variance s^2 . What happens to the mean and variance if each score is divided by s and then \bar{X} is subtracted from each quotient? Is the result same if you first subtract \bar{X} from each score and then divide the difference by s ? (8)

(b) Calculate (i) S. D (ii) Co-efficient of variation (12)
(iii) Co-efficient of Skewness and discuss the result from the following weekly wages of 300 workers.

Weekly wages	Below 5	Below 10	Below 15	Below 20	Below 25	Below 30	Below 35
No. of workers	7	78	120	189	205	275	300

Q. No. 3. (a) If the probability that an individual suffers a bad reaction of a given serum is 0.001, determine the probability that out of 2000 individuals (a) exactly 3 and (b) more than 2 individuals will suffer a bad reaction. Find the answer using both poisson and the binomial distributions. (8)

(b) A random variable to assume the value 1 with probability p , with probability $q = 1 - p$. Prove that (a) $E(X) = p$ and (b) $E[(X - \bar{X})^2] = pq$. (6)

(c) An experiment consists of drawing three cards in succession from a well-shuffled ordinary deck of cards. Let E_1 be the event "king" on the first draw, E_2 be the event "king" on the second draw, E_3 be the event "king" on the third draw. State in words the meaning of each of the following: (6)

- (i) $pr\{E_1\bar{E}_2\}$ (ii) $\bar{E}_1 + \bar{E}_2$ (iii) $\bar{E}_1\bar{E}_2\bar{E}_3$
(iv) $pr\{E_1 + E_2\}$ (v) $pr\{\bar{E}_3|E_1\bar{E}_2\}$ (vi) $pr\{E_1E_2 + \bar{E}_2E_3\}$

Q. No. 4. (a) What is regression model? Write the assumptions made in a linear regression. Also proof the Comment on the unbiasedness of regression estimates. (8)

(b) Calculate coefficient of correlation by the method of least squares for the following paired values of X and Y variables. Also verify that this value of r is same as that obtained by pearson's formula. (12)

X	10	12	13	17	18
Y	5	6	7	9	13

SECTION-II

- Q. No. 5.** (a) Discuss time reversal test and explain the factor reversal test. (8)
- (b) Per capita income of a person from 1980-81 to 1986-87 and the consumer price index with 1980-81 were as follows: (12)

Year	Income per capita (Rs)	Index Nos.
1980-81	1627	100
1981-82	1851	103.5
1982-83	1993	103.4
1983-84	2290	109.4
1984-85	2494	110.9
1985-86	2735	113.8
1986-87	2970	115.6

Find real wages and real income indices.

- Q. No.6.** (a) What is the difference between population census and vital statistics? What are the various uses of vital statistics for a country? (8)
- (b) The population and its distribution by sex and number of births in a tehsil in 1991 and survival rates are given below: (12)

Group	Population	Males	Females	Male birth	Female birth	Total birth	Survival rate
15-19	11832	6145	5687	65	60	125	0.91
20-24	10538	5214	5324	144	132	276	0.90
25-29	9375	4655	4720	135	127	262	0.84
30-34	7843	3910	3933	82	81	163	0.87
35-39	7270	3600	3670	62	56	118	0.85
40-44	6315	3290	3025	12	15	27	0.83
45-49	5394	2793	2601	3	3	6	0.82
Total	58567	29607	28960	503	474	977	

From the given data, calculate

- (i) General fertility rate (ii) Age specific fertility rate
 (iii) Total fertility rate (iv) Gross production rate
 (v) Net reproduction rate

Assuming no mortality.

- Q. No. 7.** (a) Given the following data obtained from a completely randomized design with four treatments; analyse the given data and draw conclusion about the equality of treatment effects. (8)

Treatments			
T ₁	T ₂	T ₃	T ₄
20.9			5.8
12.4	23.7	13.2	6.1
10.1	14.4	10.2	4.8
4.2	9.0	5.1	1.5

- (b) Give Statistical model for completely randomized design with one observation per unit. (6)
- (c) What is the role of randomization in the process of the experimentation? Discuss and define experimental error. What factors are responsible for determining the number of replications? (6)

Q.No.8. (a) A random sample of 100 workers in a farm took an average of 14 minutes to complete a task. A random sample of 150 workers in another large farm took an average of 11 minutes to complete the task. Can it be assumed at 1% level of significance that the average time taken by the workers in the two farms is same, if the S.D. of the workers of first farm and second farm are 2 minutes and 3 minutes respectively? **(8)**

(b) Describe the general procedure for testing a hypothesis about a difference between population mean, when sample size is large. **(6)**

(c) Distinguish between: **(6)**

(i) Sampling error and non-sampling error

(ii) Sampling with replacement and without replacement

(iii) Probability and non-probability Sampling





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Roll Number

TOWN PLANNING & URBAN MANAGEMENT

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. <u>Elucidate your answers with SKETCHES, DIAGRAM and FLOW CHARTS where necessary.</u> ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** ‘Town Planning’ is considered to be a multidisciplinary field. Discuss in detail the different professionals that should be part of a town planning exercise, explaining the ways in which they can contribute in the process. (20)
- Q. No. 3.** Cities in Pakistan have witnessed uncontrolled growth as part of rapid urbanization. In the role of a technocrat and decision maker what would be your approach to address the issues of our urban centres gearing them towards a more balanced and sustained growth. (20)
- Q. No. 4.** What do you understand by the ‘human development paradigm’? Explain how it should be incorporated within planning and development process. (20)
- Q. No. 5.** Informal settlements in cities have offered a respite to the housing crisis for the masses in Pakistan. In the light of examples from the developing countries discuss possible ways of improvements in such settlements. Also mention examples of such initiatives in Pakistan, if any. (20)
- Q. No. 6.** Explain what is an Intelligent Transport System (ITS)? Discuss the need for such systems in the context of Pakistan’s urban centres. (20)
- Q. No.7** What do you understand by the terms Metropolitan City, Megacity, Cosmopolitan city? Using examples of cities in Pakistan discuss the challenges of planning and management of such cities and how could these be addressed? (20)
- Q. No. 8** Write short notes on any two of the following, using appropriate examples: (20)
(10 each)
- (i) Garden City Movement
 - (ii) Urban Area Conservation
 - (iii) Poverty Alleviation through Planning Process



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Roll Number

URDU LITERATURE

TIME ALLOWED: THREE HOURS	PART-I (MCQs)	MAXIMUM MARKS = 20
PART-I(MCQs): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80

NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ALL questions.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART - II

(15) سوال نمبر 2 (الف) درج ذیل میں سے کسی ایک جزو کی تشریح کیجیے۔ شاعر کا نام بھی لکھیے۔

جزو اول

- (1) مرتے ہیں آرزو میں مرنے کی
موت آتی ہے پر نہیں آتی
- (2) ہم وہاں ہیں جہاں سے ہم کو بھی
کچھ ہماری خبر نہیں آتی
- (3) کوفت سے جان لب پہ آئی ہے
ہم نے کیا چوٹ دل پہ کھائی ہے
- (4) سائے میں تاک کے مجھے رکھا سیر کر
صیاد کے کرم سے قفس آشیاں ہوا

جزو دوم

- (1) جہاں تازہ کی افکار تازہ ہے نمود
کہ سنگ و خشت سے ہوتے نہیں جہاں پیدا
- (2) ہوا گر خود مگر خود گر و خود گیر خودی
یہ بھی ممکن ہے کہ تو موت سے بھی مر نہ سکے
- (3) مرد خدا کا عمل عشق سے صاحب فروغ
عشق ہے اصل حیات موت ہے اس پر حرام
- (4) عشق دم جبرئیل، عشق دل مصطفیٰ
عشق خدا کا رسول، عشق خدا کا پیغام

(10) (ب) مندرجہ ذیل میں سے کوئی ایک سوال حل کیجیے۔ اشعار سے دلائل بھی دیجیے۔

ناصر کاظمی کی غزل ان کے تجربے اور دل کی واردات کا اظہار تھی۔

یا

فیض احمد فیض کی غزل سے موضوعات کا اجمالی جائزہ پیش کیجیے۔

(15) سوال نمبر 3 (الف): شبلی کا ذہن منطقی ترتیب کا حامل تھا۔ استدلال ان کا مزاج، تخیل کمال۔ اس حوالے سے سیرت النبی کے اسلوب پر رائے دیجیے۔

یا

مشائق احمد یوسفی ادبی طنز و مزاح کے اُفق کا درخشندہ ستارہ ہیں۔ "آب گم" کے مضامین پر مختصر مگر جامع رائے دیجیے۔

(10) (ب) مندرجہ ذیل اقتباسات میں سے کسی ایک کی تشریح کیجیے نیز مضمون کا عنوان اور مصنف کا نام بھی لکھیے۔

"مگر انسان کی بھلائی اخیر تک جاری رہتی ہے۔ میں تمام انسانوں کی روح ہوں، جو مجھ کو تسخیر کرنا چاہے انسان کی بھلائی میں کوشش کرے، کم سے کم اپنی قوم کی بھلائی میں دل و جان و مال سے مساعی ہو۔ یہ کہہ کر وہ دلہن غائب ہو گئی۔ اور بڑھا پھر اپنی جگہ آ بیٹھا۔"

یا

"اس تقریر سے ہمارا مطلب یہ ہے کہ تمام خرابیوں کی جڑ جو ہم پر نازل ہیں یہی ہے کہ ہم نے اپنے دل کو اور اپنے اندرونی قوی کو بالکل خراب کر دیا ہے۔ علم جو حاصل کرتے ہیں وہ بھی بعض اس کے کہ روحانی قوی کو شگفتہ و شاداب کرے۔ ان کو پڑ مردہ بلکہ مردہ کر دیتا ہے اور ہمارے قوی کو جو درحقیقت سرچشمے تمام نیکیوں کے ہیں بالکل کمزور اور ناکارہ کر دیتا ہے۔"

URDU LITERATURE

(10)

سوال نمبر 4: کسی ایک نثر پارے کی تلخیص کیجیے۔

(۱) " واللہ باللہ اگر کسی شہزادے یا امیر زادے کے دیوان کا دیباچہ لکھتا تو اوس کی اتنی مدح نہ کرتا جتنی تمہاری مدح کی ہے۔ ہم کو اور ہماری روش کو اگر پہچانتے تو اتنی مدح کو بہت جانتے۔ قصہ مختصر تمہاری خاطر کی اور ایک فقرہ تمہارے نام کا بدل کر اوس کے عوض ایک فقرہ اور لکھ دیا۔ اس سے زیادہ بھئی میری روش نہیں۔ ظاہر تم خود فکر نہیں کرتے۔ اور حضرات کے بہکانے میں آجاتے ہو۔ وہ صاحب تو بیشتر اس نظم و نثر کو مہمل کہیں گے، اس واسطے کہ اون کے کان اس آواز سے آشنا نہیں۔ جو لوگ کہ قیتل کو اچھے لکھنے والوں میں جانیں گے، وہ نظم و نثر کی خوبی کو کیا پہچانیں گے۔ "

یا

(۲) " آپ کا وہ خط جو آپ نے کانپور سے بھیجا تھا، پہنچا۔ بابو صاحب کے سیر و سفر کا حال اور آپ کا لکھنؤ جانا اور وہاں کے شعرا سے ملنا سب معلوم ہوا۔ اشعار جناب رند کے پہنچنے کے ایک ہفتہ بعد درست ہو گئے اور اصلاح اور اشارے اور فوائد جیسا کہ میرا شیوہ ہے، عمل میں آیا۔ جب تک کہ اون کا یا تمہارا خط نہ آوے اور اقامت گاہ معلوم نہ ہو، میں وہ کو اغذ ضروری کہاں بھیجوں اور کیونکر بھیجوں؟ اب جو تمہارے لکھنے سے جانا کہ ۱۹ فروری تک اکبر آباد آؤ گے تو میں نے یہ خط تمہارے نام لکھ کر لفافہ کر رکھا ہے۔ آج انیسویں ہے، پرسوں اکیسویں کو لفافہ آگرے کو روانہ ہوگا۔ بابو صاحب کو میں نے خط اس واسطے نہیں لکھا کہ جو کچھ لکھنا چاہیے تھا وہ خاتمہ اوراق اشعار پر لکھ دیا ہے۔ تم کو چاہیے کہ اون کی خدمت میں میرا سلام پہنچاؤ اور سفر کے انجام اور حصول مرام کی مبارکباد دو اور اوراق اشعار گزراؤ اور یہ عرض کرو کہ جو عبارت خاتمے پر مرقوم ہے اوس کو غور سے پڑھیے اور اپنا دستور العمل گردائیے۔ نہ یہ کہ سرسری دیکھیے اور بھول جائیے۔ بس تمام ہوا وہ پیام کہ جو بابو صاحب کی خدمت میں تھا۔ "

(20)

سوال نمبر 5: کسی ایک موضوع پر مضمون تحریر کیجیے۔

- (۱) " قومی زبان ملک و قوم کے تشخص کو اجاگر کرتی ہے۔ " دلائل سے ثابت کیجیے۔
- (۲) " فورٹ ولیم کالج کی ادبی خدمات اور اردو ترجمے کی روایت کے اردو ادب پر اثرات۔ " تفصیل سے روشنی ڈالیے۔
- (۳) " دہشت گردی ہماری تہذیبی تربیت کی کمزوری کا نتیجہ ہے۔ " تفصیل سے لکھیے۔



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Roll Number

ZOOLOGY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
NOTE: (i) Part-II is to be attempted on the separate Answer Book.		
(ii) Attempt ONLY FOUR questions from PART-II. ALL questions carry EQUAL marks.		
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.		
(iv) Candidate must write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.		
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
(vi) Extra attempt of any question or any part of the attempted question will not be considered.		

PART-II

- Q. No. 2.** How has the role of forests been identified in mitigating climate change? What are the various mechanisms designed in this regard? Also describe various controversies attached to these mechanisms? (20)
- Q. No. 3.** How the ecology of Arthropod vectors and their breeding habitats may be manipulated at different levels to introduce novel strategies for integrated pest management? (20)
- Q. No. 4.** How members of Hemichordata are different from Chordates? Highlight Phylogenetic significance of different classes of Hemichordata. (20)
- Q. No. 5.** Explain in detail the digestion of carbohydrates and fats in various segments of the gastrointestinal tract in simple stomach animals. (20)
- Q. No. 6.** One of the important functions of the hypothalamus is to link the nervous system to the endocrine system via the pituitary gland (hypophysis). Enlist the releasing factors/hormones of hypothalamus and explain their effects on target cells/tissue/glands. (20)
- Q. No. 7.** Describe the synthesis, transport and functions of thyroid hormones. How the secretion of thyroid hormones is regulated in hyper-and-hypo thyroidism? (20)
- Q. No. 8.** Write short notes on any **FOUR** of the following: (5 each) (20)
- (a) Control of nematode parasites
 - (b) Neo-Darwinian theory
 - (c) Adaptability pattern of mammals
 - (d) Advantages and disadvantages of allosteric regulation versus covalent modification
 - (e) Concept of second messenger in hormone action
 - (f) Adaptation of fishes in cold and hot water
