

Time Allowed: 3:00 Hours

Total Marks: 100

ENGLISH ESSAY

Note: Write a comprehensive essay on any ONE of the following topics.

1. Nothing is so necessary for a young man as the company of intelligent women.
2. The more you sweat in peace, the less you bleed in war.
3. Money and success don't change people; they merely amplify what is already there.
4. Think like a wise man but communicate in the ~~language~~ language of the people.
5. Our scientific power has outrun our spiritual power. We have guided missiles and misguided men.
6. Almost always, the creative dedicated minority has made the world better.
7. In a racist society it is not enough to be non-racist, we must be anti-racist.
8. Patriotism and nationalism are two sides of the same coin.

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PMS (2022)
(EVERYDAY SCIENCE)

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any **FIVE** questions.

- Q1.** (a) Write the contributions of at least five Muslim Scientists in the field of science (10)
(b) Briefly explain the impact of science on society with practical examples from everyday life. (10)
- Q2.** Explain the following (4+4+4+4+4)
(i) Astronomy
(ii) Solar System
(iii) Solar system units
(iv) Galaxy
(v) Universe
- Q3.** (a) What do you mean by energy? Explain the law of conservation of energy and write the various available sources of energy in Pakistan (10)
(b) What is renewable energy and how many different types of renewable energy are there. Elaborate each type of renewable energy with example (10)
- Q4.** (a) What do you mean by ceramics? Write various types and uses of ceramics in the modern technological world. (10)
(b) What is a computer? Write the different input and output devices of a computer. Also explain the difference between hardware and software with suitable examples (10)
- Q5.** Write short notes on the following (5+5+5+5)
(i) Laser
(ii) Microscope
(iii) Camera
(iv) Television
- Q6.** (a) Explain the structure and types of a Cell in Biology with diagrams (10)
(b) What do you mean by chromosomes? Explain the function of chromosomes in the human body. (10)
- Q7.** (a) Differentiate between animals and plants in detail. (10)
(b) Explain DNA and RNA. (10)
- Q8.** (a) Describe the function of arteries, veins, and capillaries (10)
(b) Explain the cardiac cycle in detail (10)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PMS - 2022

CURRENT AFFAIRS

Time Allowed: 03 hours

Maximum Marks: 100

NOTE: Attempt any **FIVE** questions; all questions carry equal marks. Be original, objective and analytical.

- Q. 1 Pakistan has launched its first-ever National Security Policy 2022-26 with special emphasis on economic security. Discuss the salient feature of NSP and its prospects to achieve national security objective for the country.
 - Q. 2 Pakistan has declared 2020 as the year of 'Blue Economy.' Discuss the potential challenges and likely prospects of this idea to improve the overall economic position of Pakistan.
 - Q. 3 Political and Economic instability are the core issues of Pakistan since independence. As a policymaker, devise ways and means to achieve stability in these spheres with viable/practical steps.
 - Q. 4 The Indian revocation of Article 370 and 35A in the Indian Occupied Kashmir is to 'officially' annex the area into its territory through ethnic cleansing, forceful conversion and illegal settlements. Analyze the impact of these actions on the self-determination struggle of Kashmiris.
 - Q. 5 The regional rivalry and competition between Saudi Arabia and Iran are impacting Pakistan in politico-economic realm. How Pakistan can maintain the balance in its relations with these countries to safeguards its own national security interests.
 - Q. 6 The China Pakistan Economic Corridor (CPEC) is termed as a 'Game Changer' in the regional trade/economic connectivity. Objectively analyze its pros and cons with arguments and examples.
 - Q. 7 How do you view the merger of FATA into the KPK; how far this merger would bring the area at par with rest of the country in socio-economic and political developments.
 - Q. 8 Discuss the role of Pakistan in the United Nations Peacekeeping Mission across the world. How far Pakistan has been successful to achieve positive reputation in these endeavors.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022

Time Allowed: 03 Hours

PAKISTAN AFFAIRS

Max Marks: 100

Note: Attempt five questions in all, including Question No. 1 which is compulsory.

Q.1: Select the best option / answer.

1	How the Hindu society was divided at the dawn of Islam in India?	A. Vertical	B. Horizontal	C. Not divided	D. Both A & B
2	What attracted Hindus more to the religion of Islam?	A. Physical power of the Muslims	B. Five times prayers of the Muslims	C. Simple dress of Muslims	D. Belief in unity of God and mankind
3	Who invited Ahmad Shah Abdali to help in restoring the Muslim power in India?	A. Mujaddid Alaf Thani	B. Shah Waliullah	C. Sir Sayyed Ahmad Khan	D. Syed Ahmad Shaheed
4	Why Muslims were reluctant in joining British schools in the middle of 19 th century?	A. Because they thought it inferior to Muslim education.	B. Due to the missionary activities of the British.	C. They were not allowed by the British to be admitted as Muslims.	D. A & B both.
5	Who adopted the policy of indifference / confrontation with the British Indian Govt. after 1857?	A. Maulana Shibli Numani / Nadwatul Ulama.	B. Maulana Mohammad Qasim Nanutwi / Dar ul Ulum-i-Deoband	C. Sir Sayyed Ahmad Khan / Aligarh.	D. Allama Iqbal / Muslim League.
6	When did Nadwat ul Ulama got prominence?	A. Maulana Mohammad Ali Jawhar joined Nadva	B. Maulana Abul Kalam Azad joined Nadva	C. Maulana Shibli Numahi joined Nadva.	D. Sayyed Suleman Nadvi joined Nadva.
7	Which of the leaders of Tahrik-i-Rashmi Romal belonged to NWFP who was imprisoned in Malta?	A. Abdul Ghaffar Khan	B. Maulana Abdul Halim Asar	C. Maulana Ghulam Ghows Hazarvi.	D. Maulana Uzair Gul
8	Who wrote the book "Our Indian Muslims"?	A. W.W. Hunter.	B. Sir Michel O Dyer	C. Lord Curzon	D. Lord Willington
9	Who established Mohammadan Educational Conference?	A. Nawab Muhsan ul Mulk	B. Nawab Wiqar ul Mulk	C. Sayyed Amir Ali	D. Sir Sayyed Ahmad Khan
10	Why Mohammad Ali Jinnah resigned from Indian National Congress?	A. When it rejected Muslim League's demand for Pakistan	B. When it adopted non-constitutional means during Khilafat movement	C. When Gandhi withdrew his support from the Khilafat movement	D. When it adopted Nehru Report
11	The acceptance of which plan meant the rejection of the idea of Pakistan by the Muslim League?	A. Simon Commission Plan	B. Cripps Mission Plan	C. Cabinet Mission Plan	D. 3 rd June Plan
12	Who supported Choudri Rahmat Ali in his scheme of Pakistan from NWFP?	A. Allah Bakhsh Yousafi	B. Aslam Khan Khattak	C. Sahibzada Abdul Qayyum	D. Abdur Rab Nishtar
13	When for the first time separate electorate system was demanded by the Muslims?	A. 1905	B. 1906	C. 1909	D. 1907
14	Who were happy on the scheme of partition of Bengal in 1947?	A. Muslims	B. Sikhs	C. Hindus	D. None of these
15	Which one is the most important permanent determinant factor in the foreign policy of a state?	A. Economy	B. Military strength	C. Political system	D. Geography
16	When Objective Resolution was passed?	A. March 12, 1949	B. March 23, 1949	C. August 14, 1947	D. August 11, 1947
17	When was the word "Pakistan" used for the first time?	A. in Lahore Resolution 1940	B. in 1930 Allahabad Address	C. in Iqbal letters to Jinnah	D. in a booklet "Now or Never"
18	With which of the neighbouring country Pakistan solved its territorial disputes peacefully?	A. India	B. Afghanistan	C. China	D. Iran
19	What is the meaning of Sangaton?	A. to convert	B. to clean	C. to organize	D. to send
20	Who is the author of the book "Muslim Separatism in India?"	A. I.H Qureshi	B. Abdul Hamid	C. Ayesha Sadiqa	D. Z.A. Sulehri

Q.2: When, where and how Islam spread in the Indo-Pak Subcontinent?

Q.3: How far the political differences between Muslim League and Indian National Congress played a role in the creation of Pakistan?

Q.4: What Shah Waliullah contributed to the Muslim intellectual history of South Asia?

Q.5: What factors are responsible to the origin and growth of Deoband as a movement in the post-1857 period?

Q.6: Jinnah considered Nehru Report as "Parting of Ways". Why?

Q.7: Evaluate the political and economic reforms introduced by Z.A. Bhutto in 1970s in Pakistan.

Q.8: What is the geo-political importance of Pakistan?

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022

Time Allowed: 03 Hours

ISLAMIYAT

Max Marks: 100

Note: Attempt five questions from the following in Urdu or English. Q. No. 1 is compulsory.

Q.1: CHOOSE THE CORRECT ANSWER.

درست جواب کا انتخاب کریں

(20 Marks)

1	There are ____ basic component of Islam.	اسلام کے بنیادی عقائد _____ ہیں
	A. 3 B. 5 C. 7 D. 10	
2	The literal meaning of "Hajj" is ____.	حج کے لغوی معنی _____ ہے
	A. Worship عبادت B. Help مدد C. Neatness طہارت D. Intention ارادہ	
3	The last Prophet (P.B.U.H) was ____ years old on the death of Abu-Talib.	ابوطالب کی وفات کے وقت رسول اللہ ﷺ خاتم النبیین کی عمر _____ سال تھی۔
	A. 6 B. 12 C. 25 D. 50	
4	Life of The last Prophet (P.B.U.H) in Madina was ____ years.	رسول اللہ ﷺ خاتم النبیین کی مدنی زندگی _____ تھی۔
	A. 13 B. 10 C. 23 D. 63	
5	In the court of king Habasha Hazrat Jaffar (R.A) Recited ____.	شاد حبشہ کے دربار میں حضرت جعفر رضی اللہ عنہ نے سورۃ _____ کی تلاوت کی۔
	A. Surah Maryum سورۃ مریم B. Surah Muhammad سورۃ محمد C. Surah Al-Fatiha سورۃ الفاتحہ D. Surah Al-Nas سورۃ الناس	
6	Youmul Furqan means ____.	یوم الفرقان سے مراد _____ ہے
	A. Hudaibia Pact صلح حدیبیہ B. Ghazwa e Uhad غزوہ احد C. Ghazwa e Badar غزوہ بدر D. Bait e Rizwan بیت رضوان	
7	Macca was conquered in ____ Hijri.	مکہ معظمہ کو فتح ہوا _____
	A. 6 B. 8 C. 12 D. 5	
8	In Ghazwa e Badar the number of Islamic Army was ____.	غزوہ بدر میں اسلامی فوج کی تعداد _____ تھی۔
	A. 1000 B. 700 C. 313 D. 153	
9	The number of Arkan e Iman is ____.	ارکان ایمان کی تعداد _____ ہے
	A. 10 B. 7 C. 5 D. 3	
10	There were ____ tribes of Jews in Madina.	مدینہ منورہ میں یہودیوں کے _____ قبائل آباد تھے۔
	A. 5 B. 4 C. 3 D. 2	

Q.2: Write a note on Aqeed e Akhirat and its impacts on human life.

(20 Marks)

عقیدہ آخرت کیا ہے۔ انسانی زندگی پر اس کے کیا اثرات مرتب ہوتے ہیں۔

Q.3: Discuss the role and importance of Religion in Human life.

(20 Marks)

انسانی زندگی میں مذہب کا کردار اور اہمیت پر سیر بحث کریں۔

Q.4: Write a comprehensive note on Hajj in Islam, its obligation and importance.

(20 Marks)

اسلام میں ادا ہجج، حج، اس کی فرضیت اور اہمیت پر جامع شذرہ تحریر کریں۔

Q.5: Write a note on the importance of Ijma in Islamic Shariah.

(20 Marks)

اسلامی شریعت میں اجماع کی اہمیت پر نوٹ لکھیں۔

Q.6: Discuss the Judicial system of Islam.

(20 Marks)

اسلام کے عدالتی نظام پر بحث کریں۔

Q.7: Discuss the concept of Morality in Islam.

(20 Marks)

اسلام میں نظریہ اخلاقیات پر بحث کریں۔

Q.8: Translate Surah "Al-Maoun".

(20 Marks)

"سورۃ الماعون" کا ترجمہ کریں۔

أَرَأَيْتَ الَّذِي يَكْذِبُ بِالْبَيِّنَاتِ ۚ الَّذِي يَدْعُ الْبُتَيْمَ ۚ وَلَا يُخَفِّضُ عَلَى طَعَامِ الْمُسْكِينِ ۚ فَوَيْلٌ لِلْمُصَلِّينَ ۚ الَّذِينَ هُمْ عَنْ صَلَاتِهِمْ سَاهُونَ ۚ الَّذِينَ هُمْ يُزْأَوْنَ ۚ وَهُمْ يُنْفَعُونَ الْمَاعُونَ ۚ

Q.9: Translate Surah "Al-Falaq".

(20 Marks)

"سورۃ الفلق" کا ترجمہ کریں۔

قُلْ أَغُوذُ بِرَبِّ الْفَلَقِ ۝ مِنْ شَرِّ مَا خَلَقَ ۝ مِنْ شَرِّ غَاسِقٍ إِذَا وَقَبَ ۝ وَمِنْ شَرِّ النَّفَّاثَاتِ فِي الْعُقَدِ ۝ وَمِنْ شَرِّ حَاسِدٍ إِذَا حَسَدَ ۝

**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION, 2022**

(ECONOMICS PAPER-2)

Time Allowed: 03 Hours

Total marks: 100

NOTE: Attempt Any FIVE question.

Q-1: "Economic growth is a short run phenomenon while economic development is a long term process" elaborate the statement?

Q-2: Critically evaluate the process of nationalization in Pakistan for the development of the economy? Make a comparative analysis of nationalization and privatization?

Q-3: Explain how the government can play its role by combining fiscal measures to monetary measures for the agriculture sector development?

Q-4: What is efficiency in industrial sector? What are different types of efficiency? What factors affect efficiency in industrial sector?

Q-5: "Trade should be promoted rather than demanding financial aid from developed countries" Elaborate this statement in the context of Pakistan

Q-6: How can you relate income inequality with poverty? What policy measure can be taken to reduce poverty and income inequality in Pakistan?

Q-7: Briefly discuss the strategies adopted in the last Five Years Plan of Pakistan?

Q-8: What is Balance of Payment (BoP). What are its major accounts? What measures to be taken to improve the Balance of Payment deficit of Pakistan?

KHYBER PAKHTOON KHWA, PUBLIC SERVICE COMMISSION, PESHAWAR

COMPETITIVE EXAMINATION FOR THE POST OF PROVINCIAL MANAGEMENT SERVICES (BPS-17) 2022

Business Administration

TIME ALLOWED: 03 HOURS

MAX: MARKS: 100

Note: Attempt only FIVE questions in all by selecting At Least ONE question from each part.

Part – I: Management

1. Compare and contrast the Classical and Behavioral schools of management thought. Explain in detail Maslow's Hierarchy of Needs Theory.
(10 + 10 marks)
2. Describe in detail Fred Fiedler's contingency theory of leadership. What are the criticisms against this model of leadership?
(15 + 5 marks)
3. Define Change Management with reference to Kurt Lewin's 3-Step Change Model. Discuss factors which impede the change process.
(10 + 10 marks)

Part – II: Marketing

4. Write about the key elements of the Marketing Mix. Explain in detail the pros and cons of Advertising versus Public Relations as promotional strategies.
(10 + 10 marks)
5. Distinguish between External and Internal Marketing Environment. Write about changes which have taken place in the External Marketing Environment of companies due to COVID 19 pandemic.
(10 + 10 marks)

Part – III: Financial Management

6. The working capital of ABC Ltd. has deteriorated in recent years and now stands as under:

Current Assets		Current Liabilities	
	Rs.		Rs.
Inventory	5,60,000	Creditors	4,90,000
Debtors	3,50,000	Bank Loan	2,10,000
Cash	70,000		
	9,80,000		7,00,000

A bank loan of Rs. 50,000 against debtors is under negotiation. Assuming the loan is received, calculate and interpret the current and quick ratios before and after receiving the loan.

7. What are the advantages of the perpetual inventory system over the periodic inventory system? How is Cost of Goods Sold (COGS) calculated in both systems?
(10 + 10 marks)
8. Explain the concept of Time Value of Money (TVM). How is Net Present Value (NPV) and Internal Rate of Return (IRR) calculated?
(10 + 10 marks)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS – 2022

PUBLIC ADMINISTRATION

Time Allowed: 03 Hours

Maximum Marks: 100

NOTE: Attempt Any Five Questions, All Questions Carry Equal Marks.

- 1) Define the notion of good governance. Discuss the scope and functions of public administration within the framework of governance.
 - 2) It has been said that "Administration is the most obvious part of the government in action; it is the executive, the operative, the most visible side of government and is of course as old as government itself". Discuss the above statement in light of the theory and practice of Public Administration.
 - 3) Analyze McGregor's Theory X and Theory Y. Do you agree with the view that with every passing year, McGregor's message has become more relevant and more important? Substantiate your answer.
 - 4) The Hawthorne studies played a significant role in changing the dominant view at the time the employees were no different from any other machines that the organization used." Discuss human relation movement with particular emphasis on the Hawthorne studies?
 - 5) What is Bureaucracy? Why is it so important to the effective functioning of organization? Explain in the light of Max Weber's theory of Bureaucracy.
 - 6) Explain the basic theme and theoretical bases of the 'New Public Management'. What are the different mechanisms, that have used in pursuing NPM goals by the governments in different parts of the world, especially in Pakistan?
 - 7) A fair, free and transparent system of accountability is a pre-requisite of public administration in a democratic state. Identify the causes and suggest remedies for the failure of system of accountability during the democratic regimes in Pakistan.
 - 8) Transactional and transformational leadership styles are suggested for political leader. Which one is better for Pakistan and why?
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Khyber Pakhtunkhwa Public Service Commission
Competitive Examination for the post of PMS-2022
Political Science Paper-I

Time allowed: 03 hours

Maximum Marks: 100

Note: Attempt five questions in all selecting at least two from each section. All questions carry equal marks

SECTION-A

1. How Aristotle classified states? Is his ideas relevant to modern state as well?
2. Social contract theories of Hobbes and Locke are imbedded in their concept of state of nature and the concept of human nature. Elaborate.
3. What is the role of Asabiyyah in Ibn Khaldun's theory of Social Change?
4. What is the contribution of Iqbal to the Muslim Political Thought?

SECTION-B

5. What is liberty and how it can be safeguarded in the modern times?
6. What are the essential conditions for federation and how it can be strengthened in Pakistan?
7. Discuss political parties and pressure groups and why it is important in the modern democratic states?
8. What is Fascism? Do you see any fascist tendencies in the present political movements/parties?

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POST OF PMS 2022

Political Science Paper-II

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt five questions in all selecting at least TWO from each section. All questions carry equal marks.

Section-A

- Q1. Describe the causes of survival of Monarchy in United Kingdom's Political System.
- Q2. The American Senate is more powerful than the House of Representative. Critically examine.
- Q3. Explain the powers and functions of French Parliament with reference to Fifth Republic.
- Q4. Point out the reasons of decline of USSR in the light of its Constitution.

Section-B

- Q5. National People's Congress is the most powerful institution of the Government Structure of China. Describe
- Q6. Critically examine the role of the Executive under the Constitution of 1973 of Pakistan.
- Q7. Turkish local government is a role model for the developing countries. Discuss
- Q8. How far do you agree that Quid-e- Azam Muhammad Ali Jinnah created a unique Socio-Political awareness among the Muslims of Subcontinent. Prove with his statements.

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

Agriculture

TIME ALLOWED: 03 HOURS

MAX.MARKS: 100

Note:

- i) Attempt any five (05) questions
- ii) Extra attempt of any question or any part will not be considered

Q.No.1. Pakistan has been facing energy crisis and with ever increasing cost of electricity production it has become pivotal to find some alternate sources of it. Comment on the statement and support your answer with concrete examples. (20)

Q.No.2. Role of forests in mitigating the climate changes is well known fact. Describe the strategies that are already been adopted by other countries to increase the area under forests. (20)

Q.No.3. Productivity of major crops is majorly dependent upon soil conditions besides other intrinsic factors. Discuss how the soil structure can be improved to increase the per unit production of different crops? (20)

Q.No.4. Biotechnology has revolutionized the science of genetics by overcoming the barriers for introduction of foreign genes. Explain how genetic manipulation has resulted in improving the important plant traits quoting suitable examples? (20)

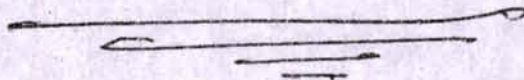
Q.No.5. Incidence of insects and disease attack on our major fruits like mango, apple and grapes is causing huge losses to farmers ultimately affecting our national exports. How modern breeding procedures can help farmers to overcome these issues? (20)

Q.No.6. Nitrogen fixing bacteria are key factors in helping the leguminous crops get higher yields besides enriching the soil. Explain the other new methods that have been employed by the scientists to help promote the nitrogen fixation. (20)

Q.No.7. Modern concept of precision agriculture has laid the foundation of major breakthrough in agricultural productivity. Suggest appropriate measures how these technologies can be used by resource poor farmers. (20)

Q.No.8. Write short notes on any four (04) of the followings: (20)

- i) Prospects of Crisper Case technology in Agriculture
- ii) Role of quality seed in crop production
- iii) Issues of hybrid seed production in wheat
- iv) Major threats to biodiversity
- v) Future of hydroponic system in Pakistan
- vi) Reasons for low cotton production in Pakistan



KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS OFFICERS (BPS-17)

PURE MATHEMATICS (PAPER-I)

TIME ALLOWED: THREE HOURS

Max. Marks: 100

Instructions: Attempt three questions from Section A and two questions from Section B.

SECTION A

Q1. (a) Let G be a group of non-zero complex numbers under multiplication and let $N = \{a + ib \in G : a^2 + b^2 = 1\}$ be a subset of G . (10)

- (i) Show that N is a subgroup of G .
 (ii) Show that $G/N \cong \mathbb{R}^+$, where \mathbb{R}^+ is the group of positive real numbers under multiplication.

(b) Let $C_{12} = \{1, b, b^2, \dots, b^{11} : b^{12} = 1\}$ be a cyclic group of order 12 generated by b . Then, find all the generators of C_{12} other than b . (10)

Q2. (a) Let $S = \{a + ib : a, b \in \mathbb{Z}, b \text{ is even}\}$. Show that S is a subring of $\mathbb{Z}[i] = \{r + is : r, s \in \mathbb{Z}\}$ but not an ideal of $\mathbb{Z}[i]$. (10)

(b) Find all $k \in \mathbb{Z}_3$ such that $\mathbb{Z}_3[x] / (x^3 + kx^2 + 1)$ is a field. (10)

Q3. (a) Let V be a vector space with $\dim(V) = 6$. Suppose U and W are two different vector subspaces of V with $\dim(U) = 4 = \dim(W)$. Find the possible dimensions of $U \cap W$. (10)

(b) Find the eigenvalues and eigen vectors of the following matrix and diagonalize it if possible (10)

$$\begin{bmatrix} 1 & 2 & 3 \\ 0 & -1 & 2 \\ 0 & 0 & 2 \end{bmatrix}$$

Q4. (a) For what values of λ the following homogeneous system of linear equations has non-trivial solution. (10)

$$\begin{aligned} (\lambda + 2)x_1 - 2x_2 + x_3 &= 0 \\ -2x_1 + (\lambda - 1)x_2 + 6x_3 &= 0 \\ x_1 + 2x_2 + \lambda x_3 &= 0 \end{aligned}$$

(b) Find the rank and nullity of $T: \mathbb{R}^3 \rightarrow \mathbb{R}^3$ defined by $T(x_1, x_2, x_3) = (x_1 + 2x_2 + 3x_3, 2x_1 + 3x_2 + 4x_3, 3x_1 + 5x_2 + 7x_3)$. (10)

SECTION B

Q5. (a) Find the center, vertices, foci, and asymptotes of the hyperbola $4x^2 - y^2 - 8x - 4y - 4 = 0$. (10)

(b) Find a Cartesian equation for the hyperbola centered at the origin that has a focus at $(3, 0)$ and the line $x = 1$ as the corresponding directrix. (10)

Q6. (a) Find the parametric equations for the lines in which the planes $3x - 6y - 2z = 15$ and $2x + y - 2z = 5$ intersect and find the angle between these two planes. (10)

(b) Write the cartesian equation of $r^2 = 4r \sin(\theta)$ and then graph it. (10)

Q7. (a) Define principal tangent vector $T(t)$, principal normal vector $N(t)$, binormal vector $B(t)$ and curvature $\kappa(t)$. (8)

(b) Let $r(t) = 2\cos t \mathbf{i} + 2\sin t \mathbf{j} + 3t \mathbf{k}$ be a vector function. Find $T(t)$, $N(t)$, $B(t)$ and $\kappa(t)$. (6)

(c) Using vector function given in part (b), find an equation of the osculating plane, the normal plane and the rectifying plane at the point corresponding to $t = \pi/2$. (6)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS OFFICERS (BPS-17)

PURE MATHEMATICS PAPER-II

Time Allowed: 03 Hours

Maximum Marks: 100

Instructions: Attempt three questions from Section A and two questions from Section B.

SECTION A

Q1. (a) Find (i) $\lim_{x \rightarrow 0^+} x^x$ (ii) $\lim_{x \rightarrow \pi/2} (\tan x)^{\cos x}$ (10)

(b) Is there a value of k that will make $f(x) = \begin{cases} x + k, & x < 0 \\ \cos x, & x \geq 0 \end{cases}$ continuous at $x = 0$? Differentiable at $x = 0$? Justify your answer. (10)

Q2. (a) Find the extreme values of the function $f(x, y) = x^3 y^2 (1 - x - y)$. (10)

(b) Evaluate the $\int \frac{dx}{(x^2 - 2x + 1)\sqrt{x^2 - 1}}$. (10)

Q3. (a) Test the convergence of (i) $\sum_{n=1}^{\infty} \frac{n \ln(n)}{2^n}$ (ii) $\sum_{n=1}^{\infty} \frac{(-1)^n \sin(n)}{n^2}$ (10)

(b) Find the value of $\int_0^1 \left(\sum_{n=1}^{\infty} \frac{x^n}{n(n+2)} \right) dx$. (10)

Q4. (a) Show that in a metric space (X, d) , every finite set is closed. (10)

(b) Let (X, d) be a metric space, $A \subseteq X$ and $a \in X$. Show that $a \in \bar{A}$ iff there exists a sequence $\{x_n\}$ in A such that $x_n \rightarrow a$, where \bar{A} stands for closure of set A . (10)

SECTION B

Q5. (a) Find the solution of $\cos(z) = 1/2$. (10)

(b) Show that $\tanh^{-1} z = \frac{1}{2} \log \left(\frac{1+z}{1-z} \right)$. (10)

Q6. (a) Verify that $U(x, y) = \tan^{-1} \left(\frac{y}{x} \right)$ is harmonic in \mathbb{C} and find its conjugate harmonic function. (10)

(b) Find the Laurent series of the function $f(z) = \frac{1}{(z-1)(2-z)}$ in $|z| > 2$. (10)

Q7. (a) Using Residue theorem, find $\int_{|z|=2} \frac{e^z}{z(z-1)^3} dz$. (10)

(b) Let γ be the upper half of a unit circle, oriented counterclockwise. Show that $\left| \int_{\gamma} \frac{e^z}{z} dz \right| \leq \pi e$. (10)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS OFFICERS (BPS-17)

COMPUTER SCIENCE

Time Allowed: 03 Hours

Maximum Marks: 100

Attempt any five questions.

Attempt at least one question from each part.

Each question carries 20 marks. Draw diagrams where applicable.

Section-A

- Q1) a. What is the stored program concept in computer architecture? Explain with the help of a diagram.
b. Differentiate between SIMD and MIMD in the context of Computer Architecture
- Q2) a. Explain the concept of pages in paging technique in Operating Systems.
b. What are the main goals of process scheduling policies? Describe any two process scheduling policies in detail.
- Q3) a. If you have been assigned a task to set up a lab of 20 computers. What factors you should consider to set up a LAN and a WAN network.
b. Explain the TCP/IP reference model with the help of a labeled diagram

Section-B

- Q4) a. Write a program to input marks (out of 100) of five subjects of a student from the keyboard. Calculate the percentage of marks. Make use of the switch statement to show grades (A, B, C, D) according to the percentage obtained.
b. What is the difference between virtual functions and pure virtual functions in C++?
- Q5) a. How time complexity of an algorithm is analyzed?
b. Describe little-O and big-O notations in detail.
- Q6) a. What is Software Engineering? What is the difference between Software Engineering and Computer Science?
b. Discuss any two classic software development life cycle models in detail.

Section- C

- Q7) a. What is an ER Model and what does it represent? Identify the entities involved in an accounts section of a school system and represent it using ER Model.
b. Describe the concept and role of normalization. Why 1NF, 2NF, and 3NF are important in a Relational database?
- Q8) a. Write HTML code for designing a "sign in and sign up" web page using form including text boxes of email address and password with respective captions
b. What is CGI? Explain the concept of CGI in Perl programming. Demonstrate with a suitable code example
- Q9) a. Differentiate between clipping and windowing in Computer Graphics.
b. How a 3D model works? Explain with a suitable example

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

GEOLOGY (PAPER-I)

Time Allowed: 03 Hours

Maximum Marks: 100

- Q-1: What causes mass wasting? Discuss different types of mass wasting processes. (20)
- Q-2: Differentiate between transpression and transtention, discuss different types of folds associated with faults. (20)
- Q-3: List different Lithostratigraphic groups of Pakistan, write a detail account of stratigraphic succession exposed in Pishin Basin of Pakistan (20)
- Q-4: Discuss evolution of various plankton in response to the Cretaceous Oceanic Anoxic Events (COAEs). (20)
- Q-5: What causes glaciation? Describe ^{depositional} Landforms of glaciers. (20)
- Q-6: Discuss the types and distribution of Ultramafic igneous rocks in Pakistan. (20)
- Q-7: How would you classify different types of basalts based on geochemistry? (20)
- Q-8: Differentiate between Chemostratigraphy and magnetostratigraphy. Discuss different types of biozones. (20)

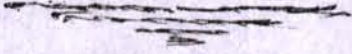
**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PMS (BPS-17) 2022**

GEOLOGY, PAPER-II

Time Allowed:03 Hours

Total marks:100

NOTE: Attempt any FIVE question. All questions carry equal marks.

- Q-1:** Describe in detail the metallic minerals of Pakistan.
- Q-2:** What are 'Ophiolites'? Explain with reference to Pakistan.
- Q-3:** Explain the process of Coalification. Describe the coal producing rocks of Kohat-Potowar and Hazara area.
- Q-4:** Describe the potential of Hydrocarbons exploration in KPK.
- Q-5:** Explain the Geophysical techniques used for the prospecting of solid minerals.
- Q-6:** What is an aquifer? Give its types and water resources of Pakistan.
- Q-7:** Describe the different steps in detail for the site investigation to construct a dam.
- Q-8:** Write a detailed note on the use of "Remote sensing" in geological investigations.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

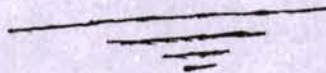
GEOGRAPHY PAPER-I

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any Five Questions. All Questions carry equal marks.

1. Discuss various Processes of Physical and Chemical Weathering. Support your answer by sketches and diagrams.
2. Give a detail account of Sedimentary Rock and explain the most Workable Classification of Sedimentary Rock.
3. Discuss the distribution of Pressure Belts over the Globe and explain the Planetary Circulations.
4. What do you know about the Air Mass and Front? Classify Air Masses and elaborate your answer with the help of sketches.
5. Illustrate and Describe the Composition and Structure of the Atmosphere.
6. Write an analytical discussion on the Valley Glacier and the resultant Erosional Landforms produced by the Valley Glacier.
7. Discuss the major causes of Salinity Variation in the oceans.
8. Write Short notes on any **TWO** of the following:
 - a. Maps and Types of Maps
 - b. Merits and Demerits of Cylindrical Projection
 - c. Map Projection and its Classification
 - d. Ocean Currents



KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

GEOGRAPHY PAPER-II

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any Five Questions. All Questions carry equal marks.

1. Discuss the major Factors Responsible for the Distribution of World Population. Quote Examples.
2. What is the difference between Rural and Urban settlements? Discuss major Urban Problems and Challenges in Less Developed Countries.
3. What do you know about the Man's Economic Activities? Classify and explain the Man's Economic Activities.
4. What are various Agricultural Systems? Discuss with reference to Extensive versus Intensive Subsistence and Mixed Farming.
5. What is the importance of Fishing as an Economic Activity? Give a Geographical account of major Fishing Grounds in the World.
6. Analyse the Spatial Distribution of Equatorial Rain Forest and its Economic Significance.
7. What do you know about Power Resources? Give a detail account of Coal in Pakistan.
8. Write Short notes on any **TWO** of the following:
 - a. "CPEC" a game changer
 - b. Indus Plain: Important Physiographic Unit
 - c. Textile Industry in Pakistan
 - d. Environmentalism and Possibilism

Khyber Pakhtunkhwa Public Service Commission
Competitive Examination for the Post of Provincial Management Service
(BPS-17)

CHEMISTRY PAPER-I

- Q. 1 What is your opinion how Schrodinger wave equation can helps in determining the position of an electron in an atom? Derive Schrodinger equation and also comment on the significance of Ψ (psi) and Ψ^2 ? (20)
- Q. 2 (a) What is equivalent and molar conductance? Describe how degree of dissociation of a weak electrolyte can be determined. (10)
- (b) Explain with suitable examples that how a Galvanic cell is different from electrolytic? (05)
- (c) How you will measure EMF of a Cell? Using Nernst equation (05)
- Q.3 What are the characteristics of 2nd order reaction? and how they are different from 1st order reaction. Derive expression for a 2nd order reaction using similar concentration of reactants. (20)
- Q.4 Describe the extraction of pure Aluminum from bauxite ore. Please give chemical reactions, flow diagram and other related details. (20)
- Q.5 How Cement is prepared at industrial scale? Describe separately Dry and Wet process. (20)
- Q. 6 Describe Valance Bond theory and explain the structure of Acetylene on its basis. (10)
- What is inductive effect and how it effects the strength of an acid.? (10)
- Q.7 (a) Describe chemical equilibrium and how it is influenced? (10)
- (b) Describe Gibbs phase rules and its applications to two component system. (10)
- Q.8 Write notes on any **TWO** of the following (20)
- (a) Debye – Huckel theory
- (b) Nitrogen fixation
- (c) Ozone layer depletion
- *****



KHYBER PAKHTUNKHWA, PUBLIC SERVICE COMMISSION
COMPITITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL MANAGEMENT
SERVICES (BPS-17)

CHEMISTRY PAPER-II

Time Allowed: 03 Hours

Max. Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q. No. 1 a)** Explain geometries of the following molecules on the bases of VBT. (15)
i) ICl_2^- ii) SbF_5^{2-} iii) $[\text{PF}_6]^-$ iv) H_2O v) IF_7
- b)** Justify this statement on the basis of Molecular Orbital Theory, (05)
“ O_2 is a paramagnetic molecule”
- Q. No. 2 a)** How will you differentiate between Order and Molecularity? What are the factors which affect the Reaction Rate Constant? (10)
- b)** What is meant by the Second Order reaction? Derive the kinetic equation for Second Order reaction. What are the units of k for a second order reaction? (10)
- Q. No. 3 a)** Describe the mechanism of Enzyme Catalysis. What are important features of Enzyme Catalysis? (15)
- b)** How will you compare physical adsorption and chemisorption? (05)
- Q. No. 4 a)** What is meant by Conformational Analysis? Discuss the conformational analysis for ethane. (10)
- b)** Explain the mechanism, kinetics and stereochemistry of $\text{S}_\text{N}1$ and $\text{S}_\text{N}2$ reactions with examples. (10)
- Q. No. 5 a)** What is Aldol condensation? Discuss its mechanism with suitable examples. (10)
- b)** How are aldehydes synthesized? Discuss various methods for the preparation of aldehydes. (10)
- Q. No. 6 a)** What are Electrophilic Substitution Reactions? Discuss their mechanism with suitable examples. (12)
- b)** Benzene has a hexagonal planar structure. Justify this statement. (08)
- Q. No. 7 a)** What are Amines? How are they classified? Describe five methods for the synthesis of aromatic amines. (12)
- b)** What are Azo dyes? How are they prepared. Discuss their uses. (08)
- Q. No. 8 a)** What are Petrochemicals? Explain their importance. What is the future of Petrochemical industry? (10)
- b)** What are Vitamins? How are they classified? Discuss their role in human body. (10)


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COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

BOTANY-I

Time Allowed: 03 Hours

Maximum Marks: 100

- Q. 1. Explain the various methods used to control plant diseases. Discuss which methods could be the most effective and economical.
- Q. 2. Explore the economic importance of fungi with major examples.
- Q. 3. What are the salient features of Phaeophyta and Rhodophyta in algae.
- Q. 4. Write a detailed note on the economic importance of algae.
- Q. 5. Discuss inter-relationships of Bryophytes with Pteridophytes and algae.
- Q. 6. Explain the development of Embryo and Endosperm with diagrams -
- Q. 7. Describe the structure and functions of xylem, phloem, cambium and meristematic tissues with its diagrams.
- Q. 8. Explain any two of the following.
- (i) Concepts of speciation.
 - (ii) Pollination mechanism.
 - (iii) Economic importance of Chlorophyceae.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

BOTANY PAPER-II

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any five questions. Each question carries 20 marks.

Q 1	What is transpiration? Why it is important for plants? Describe the different types and mechanisms of transpiration.	20
Q 2	Describe different plant hormones (plant growth regulators) along with their functions in plants, and applications in agriculture and horticulture.	20
Q 3	Define and describe photoperiodism, vernalization, dormancy, and seed germination.	20
Q 4	Differentiate between the terms "food chain", "food web" with clear examples as well as explain trophic levels with focus on energy flow in the ecosystem.	20
Q 5	Describe salinity and water logging, their causes and consequences with special reference to Pakistan.	20
Q 6	Describe the ultra-structures and functions of five most important cell organelles.	20
Q 7	Write a comprehensive note on Mendel's findings in genetics. Also describe crossing over, genetic code and biochemical structure of hereditary material.	20
Q 8	Write a detailed note on the journey of Darwin that led to his theory of natural selection with remarks on the challenges faced by Neo-Darwinism.	20

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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

ZOOLOGY (PAPER 1)

Maximum Marks: 100

Time Allowed: 3 hours

Note: Attempt Five (05) questions in all selecting THREE questions from Part A and TWO questions from Part B. Draw neat and well-labeled diagrams where required.

Q No	Questions	Allocated Marks
	PART - A	
1(a)	Discuss osmoregulation and the nervous system in planaria.	10
(b)	Explain the life cycle of <i>Fasciola hepatica</i> .	10
2	Explain the complete structure of class Gastropoda along with torsion.	20
3	Discuss digestion, nervous system, and excretion in polychaetes.	20
4	Explain the exoskeleton of arthropods and the process of ecdysis.	20
	PART - B	
5	Compare the circulatory system of five classes of vertebrates.	20
6	How the endothermy of birds and mammals is associated with the structure of the heart. Compare it with amphibians.	20
7	Discuss at least seven adaptations of birds that enable them to flights as compared to reptiles.	20



KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS(BPS-17)-2022

ZOOLOGY (PAPER 11)

Maximum Marks: 100

Time Allowed: 3 hours

Note: Attempt Five (05) questions in all selecting ONE question from each Part. Draw neat and well-labeled diagrams where required.

Q No	Questions	Allocated Marks
	PART - A	
1	Discuss the structural and functional unit of DNA and how DNA is controlling the characteristics of a cell, an organism, and generations.	20
2	How does a eukaryotic cell get energy from glucose?	20
	PART - B	
3	How the resting membrane potential of nerves is maintained and action potential is attained?	20
4	Discuss the mechanism of self-excitation of fibers of the sinus node and how it is different from ventricular contraction of the heart?	20
	PART - C	
5	What is gene mapping and how it is used to measure the distance between genes?	20
6	What are multiple alleles and how these are related to erythroblastosis foetalis?	20
	PART - D	
7	What is organic evolution? Explain its mechanism by Darwin along with evidence of evolution.	20
8	Do you think that evolution is happening all the time? If so then explain it by Hardy Weinberg's theorem.	20
	PART - E	
9	Explain osmotic adaptations of organisms in marine water, freshwater, and estuaries.	20
10	Do you think that overpopulation is a root cause of all types of pollution, urbanization, deforestation, and industrialization? Explain.	20

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

ISLAMIC HISTORY & CULTURE PAPER-I

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** "Islam spread through dissemination, propagation, discourse and dialogue alongwith great values and morals", do you agree or disagree? Give arguments.
- Q2:** Assess the overall state of affairs prevailing in Arabia and around it on the eve of emergence of Islam.
- Q3:** Why did Rightly-Guided caliphate end so soon?
- Q4:** Critically evaluate the cultural and civilisational dimensions of the state and society at the time of Umayyads.
- Q5:** The Abbaside Era has been called as "Glorious Age" of the Muslims due to intellectual advancement, consolidation of the empire, material prosperity and being at the zenith of glory. Explain.
- Q6:** The Crusades, one of the most significant major development of Islamic History in the mediaeval epoch, whose far-reaching after-effects can be felt upto till day. Comment.
- Q7:** Analyze the historical, theological and juristic importance of Sihah-e-Sitta (Six Canonical Books of the Traditions of the Holy Prophet).
- Q8:** Write short notes on any two of the following:
- a. Diwan-ul-Umar.
 - b. Tragedy of Kerbala.
 - c. Harun-ur-Rashid.
 - d. Ikhwan-us-Saffa.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

ISLAMIC HISTORY & CULTURE PAPER-II

Max Marks: 100

Time Allowed: 03 Hours

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** How did Spain fall to the Muslims? Make a comparative analysis of the Pre-Islam and Post-Islam Spain.
- Q2:** Why Abd-ur-Rahman ad-Dakhil is called, "the Falcon of Quraish"? What are his contributions?
- Q3:** Uqba Bin Nafi is considered as the Muslim Alexander by the Historians. Make an impartial appraisal.
- Q4:** The universities of Cordova and Granada, in addition to Baghdad being unmatched centre of learning, played pivotal role in awakening the West from deep slumber. Justify it.
- Q5:** Elaborate the progress of Muslims in the Fine Arts.
- Q6:** Africa got advancement in Economic Prosperity and in the field of knowledge and wisdom under the Muslim regime. Comment.
- Q7:** Shed light on the contributions of Al-Azhar University of Egypt.
- Q8:** Write short notes on any two of the following:
- a. Omar al-Mukhtar.
 - b. Hisham I.
 - c. Al-Hakam II.
 - d. Abdur-Rahman V.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL
MANAGEMENT SERVICES (BPS-17), 2022

HISTORY OF PAKISTAN AND INDIA, PAPER-I

TIME ALLOWED: 03 HOURS

MAXIMUM MARKS: 100

- NOTE: 1- Any FIVE Questions are Compulsory to Attempt.
2- All of the Questions are Equal by Marks

Q-1: After having been kept the widely divergent distinctiveness of the requisite diagonals and poles apart historical depths in view it has been witnessing to see that the unrestrained go-getting strategies and diplomacies of Mohammad bin Tughlaq coxswained and spearheaded to the collapse of the Sultanate of Delhi. Present a critical and thought-provoking investigation of this heedfulness.

Q-2: Present an influenced, spellbound, and comprehensive (excluding the inappropriate tales, anecdotes and descriptions) a comparative analysis of the fact that both of the well-organized directorial structures during the time in power of Sultan Alaud-Dīn Khaljī in medieval India and the administrative pattern of the Mughals were the zenith of the capability gained for the duration of epoch of the Muslim rule in India".

Q-3: Ghiyas-ud-Din Balban productively brought about the defense of the country alongside the foreign aggression and internal dangers and he suppressed the uprisings within and outwardly that provided immovability to the time when he was in power. However, despite all of this he made it indispensable to get the administrative structure modified so that the identical might be made more functioning". How do you outstandingly opionate.

Q-4: Sultan Mahmood of Ghazni's real aim was to establish a Turko- Persian Empire and the Indian expeditions were a mean to that finale. Comment and examine (by keeping in mind the fact that to some extent, historians consider him a Mujahid and somehow he is considered as a war-monger and assailant) the effects of his invasion on the history of Indo-Pak subcontinent. Let your answer be supported with strong arguments.

Q-5: By means of homogeneous inclinations and heterogeneous heights, conscientiously talk over the relations of the Muslim Rule with the rest of the world outside of the Indian Globe from the very time of Mamluk dynasty to the end of the 14th century era.

Q-6: The great Mughal ruler Nur- ud- Din Muhammad Jahangir believed in acquiring any scientific knowledge through experiments and practical applications. How do you give an in-depth comparative analysis of his scientific contributions with his precursors and successors?

Q-7: "The establishment of a kingdom within the precincts of Hindustan is a sign of its staying power, strength and an extension into the Deccan, its splitting off and devastation." Is this true of Muhi-ud-Din Muhammad Aurangzeb's time in power? Critically discuss.

Q-8: Give a detailed account of the social, cultural, and economic conditions of India as depicted by Zahir-ud-Din Muhammad Babar in his autobiographies subsequent to that he stood triumphant here in the land of the unfamiliar persons but failed over there in Central Asia which was his native soil. Why? Give a meticulous analysis.

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL
MANAGEMENT SERVICES (BPS-17), 2022

HISTORY OF PAKISTAN AND INDIA, PAPER-II

TIME ALLOWED: 03 HOURS

MAXIMUM MARKS: 100

NOTE: 1- Any FIVE Questions are Compulsory to Attempt.

2- All of the Questions are Equal by Marks

Q- 1: The diversified corner to corner and diametrically opposed historical depths have been witnessing the fact that the movement of Qutb-ud-Din Ahmad Waliullah, the first of its kind in the sub-continent, like parallel movements in the other parts of the planet generally and in the globe of the Muslims specifically, had as its objective to apprehend the inner-more and intramural worsening state of the Muslim society and shielding it against the outermost far-flung infringement and intrusion." Historically explore and critically analyze.

Q- 2: "What have no right to seize Sindh yet we shall do so, and a very advantageous, useful, human piece of rascality it will be," wrote General Charles Napier in his diary. Subsequent to having been drawn a dichotomic streak in between the zone of realities and the fairy-tale region, write a comprehensive account of the fall of Sindh and bring out causes which inspired the English East India Company to violently behaved and commit aggression against Sindh.

Q- 3: Suppose you are asked to deliver a lecture on "Various Approaches, Strategies, Policies, and Missions for the partition of Sub-Continent". What would you influentially, and spellboundly discuss?

Q- 4: Give an account of the Anglo-French struggle for supremacy in the Sub-continent during the 18th Century AD and bring out the causes for the success of the British and French letdown. Besides, analyze the environments how a simple trading company became one of the major challenges the subcontinent had ever dealt with, moreover it is beyond belief a fact that the very spirited diversities of the then power-structure have still perpetually been practicing over here in Pakistan like a beacon-house, despite the fact that its designers have already been disappeared from the sky of this zone and no such structure they have with them over there.

Q- 5: Do you agree with Sir Reginald Coupland's understanding that Congress' totalitarian mentality' and the endeavor to intimidate and coerce the Muslim League failed and the reaction of Jinnah and his followers constituted an historic turning point in the course of Indian Politics?

Q- 6: How does the Non-Violence philosophy of Khan Abdul Ghaffar Khan leave pluridimensional footmarks and influences on the Freedom Movement in NWFP, 1929-1947? By giving an historical account of different patterns and pitches, how do you strikingly opionate?

Q- 7: Give details & illustrate why, despite being target of terrorism, Pakistan's international allies time and again publicly express displeasure with Pakistan's counter terrorism policy and actions? How do you think? Is this a failure of Pakistani Politics or diplomacy or Achilles' heel in its Foreign policy? Pinpoint the blameworthiness and put forward corrective measures, if required. Upkeep your answer with long-lasting arguments.

Q- 8: Not excluding the degree of their accomplishments and fiascos, how do you comparatively examine the Pakistan's Relations with the Global Powers, during the Regimes of both Mr. Zulfikar Ali Bhutto and General Muhammad Zia Ul Haq?



KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

BRITISH HISTORY PAPER-I

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** Compare the political thoughts of THOMAS HOBBS and JOHN LOCKE with special reference to the idea of SOCIAL CONTRACT proposed by both of them. How their ideas affected the British history?
- Q2:** Trace the genesis of WHIG and TORY parties in British Parliament during and after the Glorious Revolution.
- Q3:** Under what conditions the BILL OF RIGHTS (1689) was passed by the British Parliament and how it impacted the subsequent politics?
- Q4:** Critically analyzing BRITISH COLONIAL POLICY discuss the major reasons for their loss of AMERICAN COLONIES in the second half of the 18th Century.
- Q5:** Evaluate the British policies adopted to counter Napoleon Bonaparte's aggression in ECONOMIC and WAR FRONTS.
- Q6:** What were the British reservations regarding the CONGRESS SYSTEM which eventually led to the collapse of the system?
- Q7:** What were the major demands of the CHARTIST MOVEMENT and how far those demands were fulfilled?
- Q8:** Contrary to the revolutionary zeal of 18th Century, the British policy makers promoted democracy through a step-by-step evolution. Which of the two strategies is more appropriate in your opinion and why?

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COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

BRITISH HISTORY PAPER-II

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1: Why the British Government got involved in the Turko-Russian conflict which led to the CRIMEAN WAR? Do you agree that it was "a futile war" and a "senseless carnage"?
- Q2: What were DISRAELI'S expectations, with the REFORM BILL of 1867 and how far those expectations were fulfilled?
- Q3: In the process of democratic evolution, the HOUSE OF LORDS gradually lost powers through reforms adopted between 1909 and 1949. Elucidate.
- Q4: What were the British interests in supporting the Ottoman Turkey in the Eastern Question? How those interests were served in the CONGRESS OF BERLIN?
- Q5: Write a comprehensive essay on the struggle of BRITISH WOMEN for the RIGHT TO VOTE.
- Q6: Critically analyze WINSTON CHURCHILL'S war policy during the World War-II.
- Q7: The British Empire enjoyed a predominant position in the world for over 200 years. Enumerate the conditions that eventually brought the decline of this Empire in the 20th Century.
- Q8: Assess the major causes of BREXIT and its impacts on the European Union.

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**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022**

EUROPEAN HISTORY PAPER-I

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** "Revolutions often start from the streets but eventually get completed in legislatures". In the light of this statement assess the role of National Assembly in France between 1789 and 1791.
- Q2:** In the light of his internal reforms, discuss whether NAPOLEON BONAPARTE promoted or halted the French Revolution.
- Q3:** What were the principles adopted at the Congress of Vienna (1814-1815)? How those principles were implemented in the decisions of the Congress?
- Q4:** Critically analyze the role of COUNT CAVOR in the UNIFICATION OF ITALY.
- Q5:** Highlight the causes and consequences of the CRIMEAN WAR (1853-1856). Do you agree that it was a "futile and unnecessary carnage"?
- Q6:** How BISMARCK used war, diplomacy and propaganda to unify Germany?
- Q7:** Discuss the role of ALLIANCE SYSTEM and ARMS RACE as two major causes of World War I.
- Q8:** Assess the contribution of the following philosophers in changing the political thought of Europe:
- a. John Locke.
 - b. Rousseau.

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**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022**

EUROPEAN HISTORY PAPER-II

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** Highlighting the role of OTTOMAN TURKEY in the World War-I, critically analyze the treatment of Turkey by the Allied Powers in the Treaties of Sevres and Loussane.
- Q2:** "Woodrow Wilson's Fourteen Points" promised an ideal world which never materialized. Elucidate.
- Q3:** Compare the League of Nations with the UNO with special reference to the weaknesses and the strengths of the two organizations.
- Q4:** Elucidate basic ideas that shaped Mussolini's Fascist Doctrine and discuss the major factors which led to the rise of Fascism in Italy.
- Q5:** How far economics impact the world politics? Discuss with special reference to the Great Depression of 1929.
- Q6:** Critically analyze Joseph Stalin's policies to impose a communist dictatorship in the Soviet Union.
- Q7:** Discuss the factors shaping the fate of Germany after the World War-II.
- Q8:** Trace the genesis of Cold War from 1945 to 1960.

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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

HISTORY OF USA

Time Allowed: 03 Hours

Maximum Marks: 100

NOTE: Attempt any five questions. All questions carry equal marks.

- Q. 1. Discuss at length the English colonization in those parts of North American Continent which now form part of the United States of America.
 - Q. 2. What were the major causes of the American War of Independence or the American Revolution?
 - Q. 3. Discuss in details different aspects of the process of constitution making and the salient features of the present constitution of the United States of America.
 - Q. 4. Give an account of the important events and developments in the history of the United States during the Federalist era.
 - Q. 5. Write note on the factors leading to the Monroe Doctrine and its importance in the diplomatic history of the United States.
 - Q. 6. The American Civil War was the result of the sectional rivalry between the North and the South that mainly revolved around the question of slavery. Discuss.
 - Q. 7. Discuss the contribution and role of Woodrow Wilson in the Paris Peace Conference and the Treaty of Versailles at the end of the First World War.
 - Q. 8. Write a comprehensive note on the African American Civil Rights Movement and the subsequent amendments in the US constitution and the Civil Rights Acts that finally gave African Americans their equal rights as citizens of the United States of America.
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**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION COMPETITIVE EXAMINATION FOR
THE POST OF PROVINCIAL MANAGEMENT OFFICERS**

Law Paper I

2028

Attempt five questions from the following by choosing at least one question from each part. All questions carry equal marks.

Part -A The Code of Civil Procedure 1908

1. What does mean by Ex-party decree? What are the grounds and procedure for setting aside Ex-party decree? (6+7+7)
2. Differentiate among judgment, decree, appeal and review?(5+5+5+5)
3. Define the doctrine of Res-judicata and Res- Sub-judice? How they are different from each other? What conditions are necessary for the application of Res-judicata in the civil justice system? (6+7+7)

Part -B The Contract Act 1872

4. What is meant by "Contract"? Explain the ingredients of a valid contract. In which situation a contract is considered to be void? (6+7+7)
5. Define Bailment. Discuss its essentials and kinds in detail.(4+8+8)
6. Define the following terms
 - a) Fraud (5)
 - b) Undue influence (5)
 - c) Coercion (5)
 - d) Misrepresentation (5)

Part- C Law of Torts

7. Define tort. Explain its constituent elements. Elaborate the discharge of tort. (5+5+10)
8. Write short note on the following
 - a) Negligence (5)
 - b) Remedies (5)
 - c) Assault (5)
 - d) Battery (5)

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**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION COMPETITIVE EXAMINATION FOR
THE POST OF PROVINCIAL MANAGEMENT OFFICERS**

Law Paper 2

2082

Attempt five questions from the following by choosing at least one question from each part. All questions carry equal marks.

Part- A Criminal Procedure Code

1. What is meant by FIR? In which type of offences FIR can be registered? Differentiate between FIR and complaint. (5+5+10)
2. Differentiate between pre-trial and trial proceedings. What are the different stages of pre-trial and trial proceedings? (10+10)
3. Explain the procedure of granting of bail in bailable and non-bailable offences. (20)

Part- B Pakistan Penal Code

4. Discuss and explain Robbery, Dacoity and Extortion. Distinguish between theft and criminal breach of trust. (10+10)
5. Define unlawful assembly and rioting. Differentiate between unlawful assembly and rioting. (10+10)
6. Define and explain common intention and common object. Is there any Difference between two? Explain with examples. (6+14)

Part- C Qanun-e- Shahadat Ordinance

7. What is meant by "Privileged Communication"? Explain different types of "Privileged Communication". (5+15)
8. Differentiate between confession and admission. Explain Judicial and Extra judicial Confession in detail. (10+10)

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KHYBERPUKHTUNKHWA PUBLIC SERVICE COMMISSION

Competitive Examination for the Post of PMS-2022.

CONSTITUTIONAL LAW

Time Allowed: 03 Hours

Max Marks: 100

NOTE: ATTEMPT ANY FIVE QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q.1 Explain fundamental Rights? What are its enforcement mechanisms under the Constitution of Pakistan, 1973?

Q.2 How the president is appointed under the Constitution of 1973 and write down the executive powers of the president of Pakistan.

Q.3 what do you know about the current British Judicial System?

Q.4 Explain the role of Supreme Court in making US a strong federation with special reference to the power of judicial review.

Q.5 American Senate is considered the strongest upper house of the world. Discuss the special powers of American Senate.

Q.6 what are the salient features of the Constitution of France?

Q.7 Briefly discuss the State Duma of Russian Federation.

Q.8 what are the powers and functions of Indian Prime Minister under the Constitution.

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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PMS-2022

INTERNATIONAL LAW

Time Allowed: 03Hours

Maximum Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q.1 Give any three comprehensive definitions of International Law by eminent jurists and in the light of those definitions discuss the major theories regarding the basis of International Law.
- Q.2 Draw distinction between Public International Law and Private International Law. Give examples.
- Q.3 Define POW's (Prisoners of War) and discuss in the deal the provisions of the Geneva Convention relating to the Treatment of Prisoners of War, 1949
- Q.4 What are the sources of International Law? Discuss in detail any two.
- Q.5 What is the definition of "International Dispute"? What are the pacific means of settlement of International Disputes"?
- Q.6 Describe "Human Rights" and its significance in detail under UN Charter.
- Q.7 Define the Immunities and Privileges of Diplomatic Agents according to the Vienna Convention of Diplomatic Relations 1961.
- Q.8 Explain the Soviet and Chinese Definition and approach to International Law and the importance of International Law by International Organizations.
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PMS - 2022

INTERNATIONAL RELATIONS

Time Allowed: 03 hours

Maximum Marks: 100

NOTE: Attempt any **FIVE** questions; all questions carry equal marks. Be original, objective and analytical.

- Q. 1 Critically examine if the Ukraine War is a local affair or a competition between the two superpowers, and how it is to impact the European unity. Give arguments and examples to justify your answer.
- Q. 2 Discuss the salient features of US Indo-Pacific Strategy enunciated in February 2022. Analyze its implications for the South Asian Security Environment with particular reference to Pakistan.
- Q. 3 The trade war between the US and China has jeopardized the global economic order impacting all regions and states; Pakistan caught between these two global powers is likely to be affected the most. Analyze Pakistan's predicament and suggest policy options to safeguard its national security objectives.
- Q. 4 In the Realist prism 'State' is the legitimate actor in the international system but the emergence of Non-State Actor (NSA) has greatly impacted the global order; Taliban are governing Afghanistan without recognition and Hezbollah is a major stakeholder in Lebanon. Analyze the impact of NSA on global strategic environment with solid arguments and valid examples.
- Q. 5 The Chinese Belt and Road Initiative (BRI) has global outreach in Asia, Africa and Europe at the cost of US hegemony. Discuss its main objectives and analyze challenges and prospects of its success.
- Q. 6 Abraham Accords was designed to normalize relations between Israel and the Arab World; however, except for few Arab States the idea has not received popular support among the public and leaders. Critically examine the implications of this Accord on Palestinian issue.
- Q. 7 The Covid pandemic has introduced the concept of 'New Normal' in the psycho-social attitudes of public across the globe. Discuss the impact of this concept on the individuals and society with special reference to Pakistan.
- Q. 8 Climate Change has assumed alarming situation to impact the entire globe, but many states are least concerned to this security threat. Analyze this non-traditional security issue and its possible impact on global warming.
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**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022**

PHILOSOPHY (PAPER-I)

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1:** Briefly trace the development of logic from Aristotle to Modern Times. What salient features do you find?
- Q2:** What is the Nature of Scientific Explanation? How will you evaluate an explanation?
- Q3:** What is a hypothesis? How can we validate a hypothesis?
- Q4:** What is the nature of syllogism? How can you express syllogism in symbols?
- Q5:** Differentiate between Form and Matter of Thought. What is meant by Logical / Formal Validity?
- Q6:** What is symbolic logic? How does it differ from Aristotelian logic?
- Q7:** Write a detail note on Muslim contribution to logic.
- Q8:** What is the relationship between Ambiguity and Vagueness? Discuss.



**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022**

PHILOSOPHY (PAPER-II)

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

- Q1: How does Asharism synthesize tradition with rationalism? Discuss.
- Q2: Explain al-Ghazali's refutation of the philosopher's contention that God does not possess the knowledge of the Particulars.
- Q3: Critically examine the Socio-Economic and political thought of Shah Wali Ullah.
- Q4: Write a detail note on the reforms and religious ideas of Sir Sayyed Ahmed Khan.
- Q5: State and explain Iqbal's thought of concrete and Religious experience.
- Q6: State as clearly as you can the "Philosophy of History" set forth by Ibn-Khuldoon.
- Q7: What is Existentialism? Discuss the connections between existence, freedom and morality in Existentialism.
- Q8: What is meant by Dialectical Method? Discuss it with reference to Hegel and K.Marx.

examination

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022
PSYCHOLOGY PAPER-I

Time Allowed: 03 Hours

Maximum Marks: 100

NOTE: Attempt only five questions. All questions carry equal marks.

1. Critically evaluate the interplay of unconscious psychological process in shaping human personality in the context of psychodynamic approach.
2. Discuss the contribution of various schools of thoughts in making psychology a scientific discipline.
3. Discuss four hormones that influence human behavior.
4. Classical conditioning focuses more on involuntary behaviors. How does this technique help in learning our everyday behaviors?
5. How can motivational theories help with improving organizational performance?
6. How do sensation and perception go together? Discuss with the help of everyday life example.
7. Discuss familial and social factors of prejudice. How can we minimize prejudice in our societies?

close cover and answer

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022
PSYCHOLOGY PAPER-11

Time Allowed: 03 Hours

Maximum Marks: 100

NOTE: Attempt only five questions. All questions carry equal marks.

1. How development is different from growth and maturation? Discuss various biological factors which influence human development.
2. Discuss the types and causes of chromosomal abnormalities in prenatal phase.
3. Discuss physical and psychological characteristics of an infant.
4. How does Piaget's theory of cognitive development apply to the classroom?
5. Differentiate between learning and intellectual disabilities. What are the main causes of intellectual disabilities?
6. Discuss Juvenile delinquency as a psychosocial problem. Also discuss the characteristics and treatment for juvenile delinquents.
7. Which therapies and treatments have been found effective for psychoneurotic disorder? Discuss in detail.
8. Discuss the effect of work environment on employee's productivity and job-related attitudes.

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KPK PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PMS, 2022
ENGLISH LITERATURE, PAPER – I

TIME ALLOWED: 03 HOURS

MAX. MARKS: 100

NOTE: Attempt any **FIVE** questions. Each question carries 20 marks.

1. Write a comprehensive note on the poetic vision of William Blake. (20 marks)
2. How did William Wordsworth respond to the age of industrialization through his poetry? (20 marks)
3. John Keats' Hellenism was his way of dealing with Western modernity. Discuss. (20 marks)
4. Nature is often the protagonist of Thomas Hardy's novels. Discuss. (20 marks)
5. George Elliot wanted to be judged by her writing not her gender. Discuss. (20 marks)
6. How did Oscar Wilde popularize the use of witty, paradoxical expressions? Write a detailed note with appropriate examples from his works. (20 marks)
7. How did Charles Dickens use the prevailing class divisions in his fiction? (20 marks)

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KPK PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF PMS, 2022
ENGLISH LITERATURE, PAPER – II

TIME ALLOWED: 03 HOURS

MAX. MARKS: 100

NOTE: Attempt any **FIVE** questions. Each question carries 20 marks.

1. Write a note on Hamlet discussing his character whether he is a procrastinator or a philosopher. **(20 marks)**
2. Jane Austen's characters in *Pride and Prejudice* depict a pragmatic approach towards love. Discuss. **(20 marks)**
3. Samuel Beckett, in *Waiting for Godot*, dramatizes the fragmented psyche of modern human beings. Discuss. **(20 marks)**
4. *Gulliver's Travels* is a skillful blend of fantasy and realism. Comment. **(20 marks)**
5. "*West-Running Brook*" by Robert Frost depicts human resistance and self-realization against the challenges of the universe. Explain. **(20 marks)**
6. In *Old Man and the Sea* by Ernest Hemingway, corporeal failure metamorphoses into spiritual and moral triumph. Discuss. **(20 marks)**
7. What is George Bernard Shaw's contribution to the genre of comedic drama? **(20 marks)**
8. *The Second Coming* by William Butler Yeats is a response to the aftermath of World War I. Discuss. **(20 marks)**

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يادگيرنه: ورومې سوال لازمي دے. نوروکښي دڅلورو سوالونو جوابونه وليکني.

سوال 1: د درست جواب انتخاب اوکني. (20)

۱. پټه خزانه د چا کتاب دے. (د محمد هوتک/ دامير کروړ / رخمان بابا)
۲. دتوري او قلم خاوند چا ته ونيلى شي. (شير شاه سوري / خوشحال خان خټک / احمد شاه ابدالي)
۳. درخمان بابا د پلار نوم څه و. (عبدالله / عبدالستار / عبدالغني)
۴. پښتو کښي موشگاف شاعر چاته ونيلى شي. (حميد / علي خان / کامگار خان)
۵. پښتو کښي د نثر ورومې کتاب دے. (خير البيان / مخزن الاسلام / دستار نامه)
۶. "دېنجري چغار" نچا کتاب دے. (اجمل خټک / غني خان / اشرف مفتون)
۷. د حمزه بابا د ورومې شعري کتاب نوم دے. (د زره اواز / غزوني / يون)
۸. ملک الشعراء د چا خطاب دے. (عبدالله استاد / حمزه بابا / سمندر خان سمندر)
۹. "مات بنگري" کوم صنف دے. (ناول / ډرامه / افسانه)
۱۰. د اجمل خټک کتاب "دا زه پاگل وم" څه شے دے. (سفر نامه / رپورتاژ / ډرامه)
۱۱. فوالکلور څه ته وائي. (کلاسيکي ادب / رومانوي ادب / اولسي ادب)
۱۲. جرس مجله د کوم ځاي نه چاپيږي. (پېښور / کوئټه / کراچي)
۱۳. د خوشحال بابا نثري کتاب کوم يو دے. (طب نامه / فراق نامه / دستار نامه)
۱۴. دري پټيمان ډرامه چا ليکلي ده. (عبدالخالق خلیق / عبدالاکبر خان / عبدالودود)
۱۵. هائيکو د کوم ځاي نه راغلي صنف دے. (چين / جاپان / يونان)
۱۶. "ميخانه" د چا ناول دے. (سيد رسول رسا / شير زمان غمزن / رشيد علي دهستان)
۱۷. د پښتو ورومې ناول "نتيجه عشق" کله ليکلي شوي دے. (1910ء / 1911ء / 1912ء)
۱۸. "لاله زار" د چا کتاب دے. (يونس خليل / هميشه خليل / خنيف خليل)
۱۹. "پښتو ادب کښي کردارنگاري" د چا د پي ايچ ډي مقاله ده. (راج ولي شاه خټک/ محمد اعظم/ اقبال نسيم)
۲۰. د حمزه بابا ډرامه ژرنده گرے اردو کښي چا ترجمه کړي ده. (فارغ بخاري/ رضا همداني/ خاطر غزنوي)

سوال 2: دغه لاندینې عبارت د انگریزي نه پښتو کښي ترجمه کړئ او په متلونو (proverbs) کښي دري د انگریزي نه پښتو ته واورئ.

(A) It has already been stated that the Afghans claim descent from Afghana, who, they say was grandson of saul, the first king of Israel, and this tradition coupled with one or two accidental coincidents in vocabulary, led people at one time to maintain that the Pashto language was derived from or closely connected with Hebrew. It has now long been admitted that the language belongs to the Aryan stock. (14)

- (B) i. Leave tomorrow till tomorrow. ii. Man proposes, God disposes. (06)
 iii. Long hair, little wit. iv. Love and cough cannot be hidden.
 v. Modest dogs miss much meat.

سوال 3: ورکړے شوي عبارت په انگریزي کښي ترجمه وکړئ او په ورکړے شوو متلونو کښي دري انگریزي ته واورئ.

(الف) د بنی اسرائیل نظرني سره په څنگ څنگ کښي چي کور ~~د~~ مه بله نظريه د پښتنو د اصل نسل په لړکښي روانه ده، هغه د پښتنو د اريائي کيدو نظريه ده او نظرني د تائيد د پاره هغه پکارو لے شي زيات تري د فارسي يا زرتشتي مذهب سره تعلق لري. په دغه اسنادو کښي اول خو د اويستا مقام راځي بيا ورپسي د فردوسي شاه نامه او يو نا معلوم کتاب خدائي نامه اسناد دي. ظاهره ده چي په دي لړکښي هم بيا ورپسي دخپلي نظرني د ثابتولو د پاره ډير مستشرقين او روسي عالمان هم راځي. (14)

- (ب) ۱. بنده حيران خدائي پري مهربان. ۲. نیک عمل د لاري مل دے. (06)
 ۳. د هندوانو مال وو باميرانو و خورو. ۴. پياز دي وي په نياز دي وي.
 ۵. په هر چا خپل وطن کشمير دے.

سوال 4: خوشحال خان خټک ته د توري او قلم خاوند ونيلى شي. د هغه د افکارو، شاعري او تعليماتو نه نې څرگنده کړي. (20)

سوال 5: د رحمان بابا د ميني، امن او انسان دوستي تعليمات او شاعري په موجوده دور کښي څومره اهميت لري او اطلاق نې کيدے شي؟ (20)

سوال 6: پښتو ټپه د پښتني کلتور گڼ رنگونه لري. تاسوني د رزميه او جنگي تصوراتو عکس د ټپي په رنر کښي څرگند کړني. (20)

سوال 7: پښتو ادب کښي د افساني په اغاز، وده او ارتقاء تبصره وکړني. (20)

سوال 8: په لاندینيو جديد شاعرانو کښي په يو تفصيلي بحث او تبصره وکړني. (20)

۱. امير حمزه شنواری. ۲. غني خان. ۳. يونس خليل

KHYBER PAKHTUNKHWA, PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL MANAGEMENT SERVICES (BPS-17).

ARABIC, PAPER-I

TIME ALLOWED: 03 HOURS

MAX MARKS:100

NOTE: Attempt Only five questions in all. Question No. 8 is compulsory.

Q. No.1: Q.No.5: Write a comprehensive note on the Art of Address (KHUTBA) in classical Arabic Literature. (20)

Q.No.2 : Define Criticism. What are the main SCHOOLS OF THOUGHT in the field of Criticism (النقد) ? Elaborate. (20)

Q.No.3: Who was Al-JAHIZ (الجاحظ)? Justify his place among his contemporary writers in Arabic Literature. (20)

Q.No.4: Write an Essay in detail on characteristics of "Arabic Literature in Indo-Pak subcontinent" with special focus on religious literature and its scholars? (20)

Q.No.5: Who was HAFIZ IBRAHIM? What do you know about role of his poetical works in Egypt? (20)

Q.No.6: How Ghazal (غزل) in Umayyad period was different from that in Abbasside regime? Discuss with special reference of poetical works produced in both periods. (20)

Q.No.7: Write an essay on the importance of Arabic Language in the light of initiative taken by Government of Pakistan for compulsory teaching of Holy Quran with translation? (20)

Q.No.8: (20)

السؤال الثامن : أجب عن الأسئلة باللغة العربية.

(i) ماذا كانت مكانة الشاعر في المجتمع الجاهلي؟

(ii) من كان ابن مسكويه و لماذا اشتهر؟

(iii) اذكر اسماء أسواق العرب؟

(iv) ماذا تعرف في لسان العرب؟

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KHYBER PAKHTUNKHWA, PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POSTS OF PROVINCIAL MANAGEMENT SERVICES (BPS-17).

2022

ARABIC, PAPER-II

TIME ALLOWED: 03 HOURS

MAX: MARKS: 100

NOTE: Attempt Only five questions in all. Question No.3 & 8 are compulsory.

Q. No.1: Write a note on poetry of Iqbal and also write down the salient features of his poetry. (20)

Q.No.2: What were the main characteristics of Arabic Poetry in pre - Islamic Era? (20)

Q.No.3: Translate following verses in Urdu /English and explain in your own words: (20)

أرى العيش كنزا ناقصا كل ليلة
وما تنقص الأيام والدهر ينقذ
لعمرك إن الموت ما أخطأ الفتى
لكالطول المرخي و ثنياء باليد
و ظلم ذوي القربى أشد مضاضة
على المرء من وقع الحسام المهند
ستبدى لك الأيام ما كنت جاهلا
ويأتيك بالأخبار من لم تزود

أو

و مهما تكن عند امرئ من خليفة
وان خالها تخفى على الناس تعلم
وكان ترى من صامت لك معجب
زيادته أو نقصه في التكلم
لسان الفتى نصف و نصف فؤاده
فلم يبق إلا صورة اللحم والدم
و إن سفاه الشيخ لا حلم بعده
و إن الفتى بعد السفاهة يحلم

Q.No.4: Introduce Al-Adab Ul Mahjer (الأدب المهجر) briefly and also describe the contribution of Jubran Khalil Jubran in Al-Adab Ul Mahjer. (20)

Q.No.5: Write a comprehensive note on the influence of Holy Quran on Arabic Literature. (20)

Q.No.6: Describe in detail life and works of Dr. Taha Hussain, mentioning his books mainly in the field of literary Criticism. (20)

Q.No.7: Write a note on prominent features of Arabic Literature in Muslim Spain. (20)

Q.No.8: (20)

السؤال الثامن : اكتب الإجابات بإعراب كامل.

(i) عرف النقائض واكتب أسماء أصحابها.

(ii) اذكر أسماء الثلاثة من مسرحيات توفيق الحكيم -

(iii) اكتب بيتين من شعر كعب بن زهير في مدح النبي ﷺ؟

(iv) اذكر العصور الأدبية الستة للأدب العربي؟

**KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022**

URDU (PAPER-I)

Time Allowed: 03 Hours

Max Marks: 100

حصہ اول

سوال نمبر 1: درج ذیل عنوانات میں سے کسی ایک پر جامع مضمون قلمبند کیجئے:

(25)

- i. اردو زبان کا ارتقا
- ii. انٹرنیٹ اور تعلیمی ترقی
- iii. ہمارے سیاحتی مقامات

سوال نمبر 2: درج ذیل میں سے کسی دو پر مفصل نوٹ لکھئے۔

(20)

- i. اردو کی صوفیانہ شاعری
- ii. اقبال اور مسلم تشخص
- iii. ترقی پسند تحریک

سوال نمبر 3: موزوں عنوان کے ساتھ درج ذیل عبارت کی تلخیص کیجئے جو ایک تہائی سے زائد نہ ہو۔

(15)

زبان دریا کی طرح ہوتی ہے۔ یہ اپنے راستے خود بناتی ہے۔ کس زبان سے کون سا لفظ لے کر اپنے اندر جذب کرنا ہے، کون سا لفظ باہر اگل دینا ہے، اس کا فیصلہ زبان خود کرتی ہے۔ عام آدمی کو بھی معلوم ہے کہ اردو کا خمیر آمیزش اور امتزاج سے اٹھا ہے۔ انگریزی کے سیکڑوں الفاظ گاؤں گاؤں اور قصبے قصبے میں بولے اور سمجھے جاتے ہیں۔ اردو کے چند نادان دوست لاکھوں کروڑوں لوگوں کا مقابلہ نہیں کر سکتے۔ کروڑوں لوگ اگر عام زندگی میں ہسپتال کا لفظ استعمال کر رہے ہیں تو کوئی بھی انہیں شفا خانہ بولنے پر مجبور نہیں کر سکتا۔ اسی طرح ننانائی کو "گردن باندھ"، فیس بک (FACEBOOK) کو "کتاب چہرہ" وغیرہ کہنا اردو زبان کی ترقی اور وسعت کا ذریعہ نہیں بن سکتا۔ ایجادات سب جن کی ہیں، نام اور اصطلاحات بھی انہی کی استعمال ہو گئی۔

حصہ دوم

نوٹ: کوئی سے دو سوالوں کے جوابات لکھئے۔

سوال نمبر 4: فورٹ ولیم کالج کے اہم مصنفین کی ادبی کاوشوں کا جائزہ لیجئے۔

(20)

سوال نمبر 5: سرسید نے ادب کو زندگی کی ترجمانی کا ذریعہ بنایا، اپنا موقف پیش کیجئے۔

(20)

سوال نمبر 6: خطوط غالب کی نمایاں خصوصیات بیان کیجئے۔

(20)

سوال نمبر 7: کیا اردو میں قومی شاعری کا آغاز "مسدس حالی" سے ہوتا ہے؟

(20)

سوال نمبر 8: کیا قومی وحدت کے لئے اردو کا پاکستان کی دیگر قومی زبانوں سے باہمی ربط ناگزیر ہے۔

(20)

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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS, 2022

URDU (PAPER-II)

Time Allowed: 03 Hours

Max Marks: 100

حصہ اول

سوال نمبر 1: حوالے کے ساتھ درج ذیل میں سے کسی ایک شعری اقتباس کی تشریح کیجئے۔ (20)

(الف) ہزاروں سال نرگس اپنی بے نوری پہ روتی ہے
بڑی مشکل سے ہوتا ہے چمن میں دیدہ و پر پیدا

نوا پیرا ہواے بلبل کہ ہو تیرے ترنم سے
کبو تر کے تن نازک میں شاہیں کا جگر پیدا

ترے سینے میں ہے پوشیدہ راز زندگی کہہ دے
مسلمان سے حدیث سوز و ساز زندگی کہہ دے

(ب) غم ہے یا خوشی ہے تو میری زندگی ہے تو
میں خزاں کی شام ہوں رست بہار کی ہے تو
میری ساری عمر میں ایک ہی کمی ہے تو

سوال نمبر 2: حوالہ متن اور سیاق و سباق کے ساتھ درج ذیل میں سے کسی ایک اقتباس کی تشریح کیجئے۔ (20)

(الف) اُس کے کوئی اولاد نہ تھی۔ وہ اپنے پودوں اور پیڑوں ہی کو اپنی اولاد سمجھتا تھا اور اولاد کی طرح اُن کی پرورش اور نگہداشت کرتا۔
ان کو سرسبز اور شاداب دیکھ کر ایسا ہی خوش ہوتا جیسے ماں اپنے بچوں کو دیکھ کر خوش ہوتی ہے۔ وہ ایک ایک پودے کے پاس بیٹھتا، ان کو پیار کرتا۔
جھک جھک کر دیکھتا اور ایسا معلوم ہوتا گویا اُن سے چپکے چپکے باتیں کر رہا ہے۔

(ب) اس گھوڑے پر انسان کے زانو تختی سے کسے ہوں تو وہ عرفان تک پہنچتا ہے، ڈھیلا بیٹھا ہو تو دیوانہ وار گرتا ہے اور پاگل کہلاتا ہے۔
دنیا کا عرفان ہو تو شاعری، مصوری، موسیقی، آرٹ جنم لیتا ہے۔ دنیا دار کا رنہ ہو اور قوت تیز ہو تو عرفان کی حدیں چھو لیتا ہے۔

حصہ دوم

نوٹ: مندرجہ ذیل میں سے صرف تین سوالوں کے جوابات تحریر کیجئے۔

سوال نمبر 3: میر کی شاعرانہ عظمت کا راز کیا ہے؟ (20)

سوال نمبر 4: اقبال کے افکار کا سرچشمہ قرآن حکیم ہے، اپنا نقطہ نظر پیش کیجئے۔ (20)

سوال نمبر 5: اردو سیرت نگاری کی روایت میں علامہ شبلی نعمانی کی "سیرت النبی ﷺ" کو کیا مقام حاصل ہے؟ (20)

سوال نمبر 6: "سردادی سینا" فیض کی فنی پختگی اور عصری شعور کا اعلیٰ نمونہ ہے، بحث کیجئے۔ (20)

سوال نمبر 7: عبد اللہ حسین کے فن کا ناقدانہ جائزہ لیجئے۔ (20)

سوال نمبر 8: مشتاق یوسفی کی مزاح نگاری کی نمایاں خصوصیات کی ہیں؟ (20)

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KHYBER PAKHTUNKHWA, PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POST OF PROVINCIAL MANAGEMENT SERVICES (BPS_17)

FORESTRY

2022

Time Allowed 3 Hours

Marks: 100

Note: Attempt any Five questions

- Q;NO 1** How much is the forest cover % in Khyber Pakhtunkhwa (KP) and which forest types are present in KP? Write in detail the description, distribution, flora and fauna of moist temperate forest of KP? (20)
- Q;NO 2** Name the instruments used for measuring Tree height, Tree diameter and Tree age? What is the difference between merchantable height and tree height? Explain the yield table and its contents. (20)
- Q;NO 3** What do you know about hydrological cycle? What is faith of a rain drop coming from the atmosphere to the earth surface? What is role of forest in influencing hydrological cycle? (20)
- Q;No 4** What are the rangelands? How range improvement is carried out? Explain in detail the process of determining carrying capacity of a rangeland. (20)
- Q;No 5** What is pain table survey? What are the principles of chain survey? Explain the difference between Engineer's and Gunter's chain. (20)
- Q;No 6** Why separate Forest Law is needed when Pakistan penal Code (PPC) is present? What is the legal process of declaring any forest as Reserve forest? (20)
- Q;No 7** What are the issues of forestry sector in Pakistan? How 1 Billion Tree Tsunami Afforestation Project has affected the forest cover in KP? Explain its impacts? (20)
- Q: No 8** What do you know about Miyawaki method of urban afforestation? How this method can be used to manage complex ecosystems, in balance with today's soil and climate conditions? (20)
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
Competitive Examination for the post of Provincial Management Service Officers

(SOCIOLOGY)

Time Allowed: 03 Hours

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

Q1: Conflict Perspective is based on the idea that society consists of different groups who struggle with one another to attain the scarce societal resources that are considered valuable, be they money, power, prestige, or cherished values. Evaluate your answer with the help of strong theoretical arguments of famous sociologists.

Q11: Individual is product of society and culture. Different methods of socialization lead to a variety of building norms and values in the personality of individuals. Discuss in detail with the relationship of individual, society and culture.

Q111: What role caste system is playing in decision making on political issues especially local bodies elections in rural areas of Pakistan? How this system based political organization influences the community development processes? Discuss in the light of conflicts arising from the situation and their impact on the individual, family and society. Discuss

Q1V: What do you understand by experimental method used in data collection? Explain why some researchers preferred it over other data collection methods in social sciences and for what kind of studies experimental method is used by researchers?

QV: Social Problems are abnormalities in social relationships which manifests themselves when people live in groups, which are considered dangerous and intolerable and which must be eliminated to safeguard the society. Discuss these arguments with examples from Pakistani society.

QV1: The high population growth rate is the main enemy of the poor and developing countries – do you agree? Why? Why not? Support your answer with concrete reasons from Pakistan. What steps should be taken to control it.

QV11: Technological Developments and Social changes in the form of Evolution and Progress of any rate exist there as the adjustment factors change them according to the environmental conditions. Support this statement with examples.

QV111: Rural-Urban migration is causing labour-drain from rural communities. What problems this situation is creating in the labour market of rural communities. As a sociologist, what do you suggest to minimize these problems? Discuss with examples from Pakistan.

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022
JOURNALISM

Attempt any five questions; at least two from each section.


Maximum Marks: 100

Time allowed: 03 hours

Section A

- I. Many scholars argue that 'communication is the sharing of meaning' instead of 'sharing information.' Make an argument whether you agree with this or not. (20)
- II. Comment on why so many definitions of 'communication' exist. (20)
- III. How do you think group membership affects cognitive dissonance and what role do you believe it plays in dissonance reduction? (20)

Section B

- IV. Comment on why so many definitions of 'news' exist. Give examples of the various definitions of 'news.' (20)
 - V. Media in Pakistan has become an industry, but it has failed to become an institution. Do you agree or not? In either case, make an academic argument. (20)
 - VI. How advertisement is different from propaganda? Give examples. (20)
 - VII. 'The medium is the message' phrase refers to the power and influence of the medium—not the content—on a society. Comment. (20)
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KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS -2022

MERCANTILE LAW

Time Allowed: 03 Hours

Maximum Marks: 100

Attempt Any Five Questions. All Questions carry equal marks.

1. Under what circumstances, a party under the provisions of the Contract Act, 1872, needs not to perform an original contract duly entered into?
2. Explain the difference between a "wagering contract" and "contingent Contract". Are they both enforceable at law?
3. What is registration of firm? Discuss its advantages. Is there any effect of non-registration of firm? If so, explain in detail.
4. What is the difference between a "condition" and a "warranty" in a contract of Sale? Do they have same legal effect on the contract? Discuss.
5. Define consent. What is it said that a consent has been obtained by unlawful means. Discuss fully.
6. What does *Holder in due course* means in Negotiable Instruments Act, 1881? State the rights and privileges of a Holder in due course.
7. What is agency? How it is created? Discuss the general rules of agency.
8. Write short note on any TWO of the Following:
 - a. Void Agreements
 - b. Caveat Emptor Rule
 - c. Arbitration Award

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

MUSLIM LAW

Time Allowed: 03 Hours

Maximum Marks: 100

Attempt any FIVE questions. All questions carry equal marks.

1. What is meant by *Ijtihad*? Who is competent to conduct *Ijtihad*? Discuss its legislative role in modern state system.
2. In your opinion which is the most important provision of Muslim Family Laws Ordinance 1961 and why? Give sound arguments to prove your point.
3. 'Dower is a debt'. Explain this in the light of rights of a woman in case her dower is not paid as provided by the fiqh and state law.
4. *Sunnah* plays two fold functions when it comes to its legislative role. Explain with relevant examples.
5. How *Shias* and *Sunnis* divide legal heirs into different categories? Discuss in the light of their respective shares.
6. Define marriage and explain in detail impediments to a valid marriage.
7. Does Islamic law impose any restrictions on the testamentary disposition of property? If yes, how and why?
8. Define and explain the concept of *Iddat* (waiting period). Is *Iddat* necessary in all kinds of separations?

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KHYBER PAKHTOON KHWA, PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF
PROVINCIAL MANAGEMENT SERVICE (BPS-17)

2022

STATISTICS

Time Allowed: 3 Hours

Maximum Marks: 100

NOTE: (i) Attempt any **FIVE** questions in all. All the questions carry equal marks.

(ii) Statistical table may be provided on request.

(iii) The use of calculator is **ALLOWED**.

Q-1 (a) Write the applications of statistics in daily life with examples.

(b) A study of credit card fraud was conducted by a crime researcher. According to collected data, it was found that 243 cases were of stolen cards, 85 of counterfeit card, 52 of mail orders and 46 of both stolen card and mail orders. Find the probability that a randomly selected case

(i) belongs to counterfeit card.

(ii) belongs to stolen card or mail order fraud.

(c) Suppose that the probability of success in an oral interview for the civil services is 0.32. If 10 candidates are being interviewed,

(i) What is the probability that none of these will be succeeded?

(ii) What is the probability that at least half of the candidates will be succeeded?

(07+06+07=20)

Q-2 (a) Define the term "probability", using different approaches.

(b) It has been studied that the average number of road accidents occurring at night on the G.T. road is 5. If the number of accidents follows a Poisson distribution, then find out the probability that last night

(i) one accident occurred, (ii) no accident occurred.

(c) A drug supplied by a pharmaceutical company is administered to 3 patients, and the random variable X represents the number of cures that occur. The following table lists the probability distribution of X .

X	0	1	2	3
$P(X=x)$	0.10	0.20	0.40	0.30

Find the expected value of X and its variance.

(05+07+08 = 20)

Q-3 (a) What is Statistical Inference? Explain its importance with examples.

(b) Suppose that average marks (out of 10) of 35 randomly selected candidates appeared in an interview for civil services, are 6.6. The marks are normally distributed with a standard deviation of 2. Calculate 95% confidence interval for mean marks of all the candidates.

(c) Let X denote the time taken to run a road race. Suppose X is approximately normally distributed with a mean of 190 minutes and a standard deviation of 21 minutes. If one runner is selected at random, what is the probability that this runner will complete this road race

(i) in less than 160 minutes? (ii) in 215 to 245 minutes?

(05+05+10=20)

Q-4 (a) Differentiate between

(i) Null hypothesis and alternative hypothesis

(ii) One-tailed and Two-tailed tests

(b) The manufacturer of a certain brand of auto batteries claims that the mean life of these batteries is 45 months. A consumer protection agency took a random sample of 24 such batteries and found that the mean life for this sample is 43.05 months and standard deviation 4.3 months. Should the agency reject the claim of the manufacturer at 5% level of significance?

(P.T.O.)

Principal
ZAB PGPI
Peshawar

- (c) An exercise physiologist wants to decide whether a certain type of running program will reduce heart rates. He measures the heart rates of 10 randomly selected people who are then placed on the running program. One month later the exercise physiologist again measures the heart rates of the 10 people. The heart rates, both before and after the running program, are displayed as below:

Before Program: 68, 76, 74, 71, 71, 72, 75, 83, 75, 74;

After Program: 67, 77, 71, 70, 69, 70, 71, 77, 71, 74.

Do the data provide sufficient evidence to conclude that the running program will reduce heart rates? (Use 5% level of significance.) (04+06+10=20)

- Q-5** (a) Suppose we want to compare the mean protein intake of all people with income below the poverty level to that of all people with incomes above the poverty level. The data given below display the protein intakes, in grams, of a 24-hours period for independent random samples of 10 people with income below the poverty level and 8 people with income above the poverty level.

Below poverty level: 51.4, 76.7, 73.7, 66.2, 65.5, 49.7, 65.8, 62.1, 75.8, 62.0

Above poverty level: 86.0, 59.7, 68.6, 98.6, 87.7, 69.0, 80.2, 78.1

Do the data provide sufficient evidence to conclude that the mean protein intake of the people with above poverty level is higher than those with below poverty level? (Use 5% level of significance.)

- (b) For randomly selected homes recently sold in a county, the living areas (in 100 square feet: X) are listed along with the annual taxes (in 1000 USD: Y). Find out how the living area affects the annual taxes with fitting a regression line.

X: 15 38 23 16 16 13 20 24

Y: 1.9 3 1.4 1.4 1.5 1.8 2.4 4

(10+10=20)

- Q-6** (a) Suppose we take a sample of seven households from a small city and collect information on their incomes (X) and food expenditures (Y) for the last month. The information obtained (in hundreds of dollars) is given below:

X: 55 83 38 61 33 49 67

Y: 14 24 13 16 9 15 17

Compute the coefficient of correlation between income and food expenditure and interpret it.

- (b) The following table gives information on the amount of sugar (in grams) and the calorie count in one serving of a sample of 10 varieties of Kellogg's cereal.

X(Sugar): 4 15 12 11 8 6 7 2 7 14

Y(Calories): 120 200 140 110 120 80 190 100 120 190

Fit a regression line to predict calories counts. What will be the number of calories if sugar in the cereal is 10 grams? (10+10=20)

- Q-7** (a) What are the advantages and disadvantages of sampling?
 (b) Where do we use the stratified random sampling? Write a general procedure to draw a stratified random sample.
 (c) What do you understand by sampling distribution? For a population of with elements 2, 4, 6, 8, 10, draw all possible random sample of size 2 without replacement and compute the sample means and compare the results with the population mean.

(05+05+10=20)

- Q-8** Write note on any FOUR of the following

- Independent events and conditional probability
- Applications of the normal distribution
- Interval estimation
- Use of Analysis of Variance (ANOVA)
- Partial and multiple correlation
- Systematic sampling
- Applications of Statistics in Public Health

(05+05+05+05=20)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
Competitive Examination for the Posts of Provincial Management Sciences 2022
PERSIAN, PAPER-II

Time Allowed: 03 Hours

Max Marks: 100

NOTE: Attempt all FIVE questions. All questions carry equal marks.

سوال ۱- از اجزای زیر فقط دو جز را به زبان اردو یا انگلیسی ترجمه کنید. (۲۰)

(الف)

نیاز نیم شبی دفع صد بلا بکند	دلا بسوز که سوز تو کارها بکند
که یک کرشمه تلافی صد جفا بکند	عتاب یار پری چهره عاشقانه بکش
هر آن که خدمت جام جهان نما بکند	ز ملک تا ملکوتش حجاب بردارند
چو درد در تو نبیند که را دوا بکند	طیب عشق مسیحا دم است و مشفق لیک

(ب)

شهان شراب زده بر کناره‌های شمر	تو بر کناره دریای شور خیمه زدی
شهان دیگر عود و مثلث و عنبر	تو سومات همی سوختی به یهمن ماه
تو در شتاب سفر بوده‌ای و رنج سهر	به وقت آنکه همه خلق گرم خواب شوند
به سومات رود گاه و گاه به کالنجر	تو آن شهی که ز بهر غزات رایت تو

(ج)

این همه آفاق، آفاق دل است	گرچه دل زندانی آب و گل است
قفر را از کف، مده، از کف مده	گرچه بلشی از خداوندان ده
این کهن می از نیلگان تو هست	سوز او خوابیده در جان تو هست
نعمت از حق خواه و از سلطان مخواه	در جهان جز درد دل سامان مخواه

سوال ۲- از اجزای زیر فقط دو جز را به زبان اردو یا انگلیسی توضیح بدهید. (۲۰)

(الف)

نشوی زان پس ز بلبل سر گذشت	چون که گل رفت و گلستان در گذشت
زنده معشوق است و عاشق مرده‌ای	جمله معشوق است و عاشق پرده‌ای
آینه غماز نبود چون بود	عشق خواهد کاین سخن بیرون بود
زان که زنگار از رخس ممتاز نیست	آینه ات دانی چرا غماز نیست

(ب)

بی ادب مجروح گشت از لطف رب	از خدا جویم توفیق ادب
بلک آتش در همه آفاق زد	بی ادب تنها نه خود را داشت بد
ربزن مردان شد و نامرد اوست	هر که بی بلکی کند در راه دوست
وز ادب معصوم و پاک آمد ملک	از ادب پر نور گشته ست این فلک

می شود از جبر پیدا اختیار
آتش از باشد ز طغیان خس شود
خویش را زنجیری آئین کند
قید بو را نافه ی آهو کند

در اطاعت کوش ای غفلت شعار
ناکس از فرمان پییری کس شود
هر که تسخیر مه و پروین کند
باد را زندان گل خوشبو کند

سوال ۳- از اجزای زیر فقط دو جز را به زبان اردو یا انگلیسی ترجمه کنید:

الف) هرمز را گفتند: وزیران پدر را چه خطا دیدی که بند فرمودی. گفت: خطایی معلوم نکردم و لیکن دیدم که مهابت من در دل ایشان بی کران است و بر عهد من اعتماد کلی ندارند. ترسیدم از بیم گزند خویش آهنگ هلاک من کنند. پسر قول حکما را کار بستم که گفته اند:

از آن کز تو ترسد بترس ای حکیم ، وگر با چنو صد بر آیی به جنگ

ب) بازرگانی را هزار دینار خسارت افتاد. پسر را گفت: نباید که این سخن با کسی در میان نهی. گفت: ای پدر! فرمان تو راست، نگویم، ولیکن خواهم مرا بر فایده این مطلع گردانی که مصلحت در نهان داشتن چیست؟ گفت: تا مصیبت دو نشود: یکی نقصان مایه و دیگر شمتت همسایه.

مگوی انده خویش با دشمنان که لاجول گویند شادی کنان

ج) مردکی را چشم درد خلست، پیش بیطار رفت که دوا کن. بیطار از آنچه در چشم چارپای می کند، در دیده او کشید و کور شد. حکومت به داور بررند، گفت: بر او هیچ تاوان نیست. اگر این خر نبودی، پیش بیطار نرفتی. مقصود از این سخن آن است تا بدانی که هر آن که نالاز موده را کار بزرگ فرماید با آن که ندامت برد به نزدیک خردمندان، به خفت رای منسوب گردد.

ندهد هوشمند روشن رای به فرومایه کارهای خطیر

سوال ۳: درباره یکی از موضوعات زیر به زبان فارسی مقاله ای بنویسید: (۲۰)

الف) اهمیت کشف المحجوب در کتاب های تصوف

ب) علامه اقبال و نظریه انسان کامل

ج) اهمیت قابوس نامه در تعمیر اخلاق و شخصیت سازی

سوال ۵: درباره یکی از موضوعات زیر به زبان فارسی مقاله ای بنویسید: (۲۰)

الف) جایگاه حافظ شیرازی در غزل سرایی

ب) اهمیت رباعیات خیام در تاریخ شعر فارسی

ج) بررسی مثنوی جاوید نامه و سیر افلاک علامه اقبال

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

PERSIAN-I

Time Allowed: 03 Hours

Max; Marks: 100

NOTE: Attempt any **FIVE** questions, question No.1 is compulsory.

Q.1 Translate any one of the following passages into Persian. (20)

(a) We are now citizens of a free nation; but we regret to say that we have not developed the characteristics of a free nation. We the youth of Pakistan, should work hard and do our duty with utmost honesty. We should do such good work that our countrymen would have nothing but admiration for us. We should spend our all for our country when the occasion demands. We must ready to make sacrifice and defeat the evil designs of the enemy. We must prove to the World that we are a responsible living nation.

(b) اوستائی زبان مشرقی ایران کی ایک زبان تھی لیکن اس کا مکمل طور پر تعین نہیں کیا جاسکتا کہ یہ کس مخصوص علاقے کی زبان تھی۔ (b) اس زبان میں تحریر کردہ نمونہ زر تشت مذہب کی کتاب "اوستا" ہے۔ اوستا کے ایک حصے "گاہان" کی زبان اس کے باقی حصوں سے قدرے مختلف ہے۔ گاہان میں بیان شدہ باتیں پارسی مذہب کے بانی زر تشت کی اپنی ہیں۔ جبکہ اوستا کے باقی حصے مختلف ادوار میں لکھے گئے جن کی تاریخ چھٹی صدی قبل مسیح سے تیسری صدی عیسوی کے درمیان ہے۔ اوستائی زبان خط اوستائی میں تحریر کی گئی ہے۔

Q.2 During the Mongolian (Changiz Khan) period what type of Poetry was in vogue? QASIDA or MYSTICISM. (10)

Q.3 Describe the importance of Sadi Sherazi's book " Gulistan".(10)

Q.4 Write short notes on any TWO of the following topics: (10-10)

- a. "Dari" as a Persian Dialect.
- b. "AVESTA" as a religious book of Zoroastrians.
- c. Ameer Khusro as a Lyric Poet.

Q.5 Write a comprehensive note on the Origin of Persian language during the Safari and Taheri Period. (10)

Q.6 Write a note on the history of CUNEIFORM in Achaemenid era. (10)

Q.7 Write an essay on any ONE of the following: (10)

(ا) شعر رزمی و محتوای داستان های شاهنامه

(ب) موضوعات رباعیات عمر خیام نیشاپوری

(ج) اهمیت زبان فارسی در منطقه

Q.8 Translate the following Persian Sentences into English with proper tense. (10)

(1) آیا شما سیب خورده اید؟ (فعل نهی پرسشی)

(2) شما نزد من آمده اید. (فعل آینده)

(3) من کارم را تمام خواهم کرد. (ماضی قریب)

(4) تو هیچ وقت دروغ نمی گویی. (فعل امر)

(5) من هر روز فلم می بینم. (فعل مضارع جاری)

(6) دوست شما اینجا است. (جمله پرسشی)

(7) در بهار سبزه و گل می دمید. (فعل حال)

(8) او به خارج رفته است. (فعل گذشته)

(9) تو به دانشگاه نرو. (فعل امر)

(10) تو پول داری. (پرسشی)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMIN FOR THE POST OF PMS-2022

PHYSICS (PAPER-II)

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any FIVE complete questions

1. (a) What is meant by "Point Charge"? Can earth, being a charged sphere, be considered a point charge? (08)
(b) Define the term "flux" technically and scientifically. (05)
(c) A uniformly charged conducting sphere 1.22m radius has surface charge density of $8.31 \times 10^{-6} \text{ C/m}^2$. What is the total electric flux leaving the surface of the sphere? (07)
2. (a) Give physical interpretation of Maxwell's equations. (07)
(b) Briefly describe applications of Maxwell's equations (07)
(c) Derive integral form of Maxwell's equations
$$\nabla \cdot \vec{D} = \rho \text{ and } \nabla \cdot \vec{B} = 0$$
 (06)
3. (a) Describe limitations of Coulomb's law. (05)
(b) Consider the radioactive decay process $U_{92}^{238} \rightarrow He_2^4 + Th_{90}^{234}$. Calculate the force on α -particle if its distance from the center of Th_{90}^{234} nucleus is $12 \times 10^{-15} \text{ m}$. (08)
(c) A proton is revolving around a negatively charged sphere with a speed $v = 294 \text{ km/s}$. If the radius of the sphere is 1.13 cm , calculate the magnitude of charge on the sphere. (07)
4. (a) What physical quantity oscillates in de Broglie wave? Discuss the importance of this periodic quantity. (06)
(b) Without mentioning the terms "electrons" and "atom", give a general statement of Pauli's Exclusion Principle. Elaborate its importance. (08)
(c) The location of an electron is approximated to an accuracy of 0.0100 nm . Figure out: (i) the uncertainty in velocity? (ii) the corresponding kinetic energy in eV? (06)
5. (a) Describe the process of formation of depletion region in a pn-junction. (06)
(b) Discuss the position and role of Fermi energy level in intrinsic, n-type and p-type semiconductors. (07)
(c) A 5Ω resistor and a diode are connected in series with a 15 V power supply as shown in Fig. 1 below. If the diode is ideal, determine the current that flows through it. (07)

P.T.O

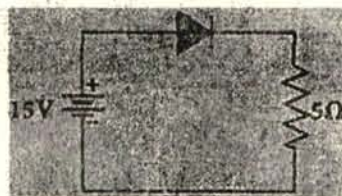


Fig. 1. Series combination of a 5Ω resistor and an ideal diode

6. (a) Define thermionic emission. Also discuss its importance in science. (06)
- (b) Discuss the functioning of two basic rectifier circuits. (07)
- (c) Calculate the corresponding peak voltage V_{peak} of a domestic AC voltage. (07)
7. (a) What are limitations of Bohr's atomic model? (07)
- (b) Give physical interpretation of the four quantum numbers, n , l , m_l and m_s . (08)
- (c) The general expression of the radiation of wavelength λ in the Bohr's model is

$$\lambda = \frac{n_1^2 n_2^2}{(n_2^2 - n_1^2)R}$$

Calculate the expression for the λ_{min} by taking $n_1 = 1$ and $n_2 = \infty$. (05)

8. (a) What is a mass spectrometer? How can it be exploited in Nuclear Physics. (06)
- (b) Give a brief account of Nuclear Shell Model. (07)
- (b) Consider two nuclei, $(Nucleus)_A$ and $(Nucleus)_B$, with similar charge number and mass number but different binding energies. If $(BE)_A > (BE)_B$, which nucleus will have more mass and why? (07)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

PAPER PHYSICS-I

Time allowed: 03 hours

Maximum marks: 100

NOTE: Attempt any FIVE questions

- Q. No. 1 (a) Show that for any three vectors A , B & C :
 $A \times B \times C = B(A \cdot C) - C(A \cdot B)$ & $A \cdot B \times C = -B \cdot A \times C$ 10
- (b) Show that the vectors: $A=2i-j+k$, $B=i-3j-5k$, $C=3i-4j-4k$, form the sides of a right triangle. 06
- (c) Explain in what sense a vector equation contains more information than a scalar equation. 04
- Q. No. 2 (a) Consider a system of n -particles, each having its own mass, velocity and linear momentum. Find its linear momentum and show that it is conserved. 10
- (b) A cannon whose mass $M=1300$ kg fires a ball whose mass $m=72$ kg in a horizontal direction with a velocity $v = 55$ m/s relative to cannon, which recoils (freely) with a velocity V relative to earth. Find V . 06
- (c) A football is thrown across the field. What can you say about conservation of its vertical and horizontal linear momentum. 04
- Q. No. 3 (a) State and explain the Keplers law of orbits, -areas and -periods. Do they hold for satellites orbiting earth or any massive central body. 10
- (b) A playful astronaut puts a bowling ball whose mass m is 7.20 kg into a circular orbit about the earth at an altitude h of 350 km. Find the kinetic and potential energy of the ball and its mechanical energy on the launching pad. 06
- (c) If the gravitational force acts on all bodies in proportion to their masses, why doesn't a heavy body fall correspondingly faster than a light body? 04
- Q. No.4 (a) Consider a wave moving along a stretched string. Find the average rate at which kinetic energy and power is transmitted by the wave. 10
- (b) A sinusoidal wave travelling along a string is described by:
 $y(x,t) = 0.00327 \sin(72.1x-2.72t)$ in which the numerical constants are in SI units (0.0032 m, 72.1 rad/m and 2.72 rad/s). Find the amplitude, wavelength, period and wave number of this wave. 06
- (c) What is the basic difference between a mechanical wave and an electromagnetic wave? Give examples of each type of waves. 04
- Q. No. 5 (a) Explain diffraction of light from a single slit by using phasors and hence determine the intensity of light. 10

- (b) A converging lens, 32 mm in diameter and with a focal length of 24 cm, is used to form images of objects. What angular separation must two distant objects have to satisfy Rayleigh's criterion? How far apart are the centers of diffraction patterns due to point objects in the focal plane of the lens? 06
- (c) Why is the diffraction of sound waves more evident in daily life than that of light waves? 04
- Q. No. 6 (a) Explain how diffraction occurs from a diffraction grating. Determine the diffraction equation, dispersion and resolving power of a grating. 10
- (b) How many rulings must a 4.0 cm wide diffraction grating have to resolve the wavelengths 415.496 nm and 415.487 nm in the second order? At what angle are maxima found? 06
- (c) Why do radio waves diffract around buildings, although light waves do not? 04
- Q. No. 7 (a) Use first law of thermodynamics to explain adiabatic-, constant volume- and cyclic-processes. 10
- (b) How much heat is needed to take ice of mass $m = 720$ g at -10°C to a liquid at 15°C ? 06
- (c) Why must heat be supplied to melt ice when, after all the temperature does not change? 04
- Q. No. 8 (a) State Maxwell's distribution law for distribution of speed of gas molecules. Use it to explain the speed distribution of water molecules in the case of rain. 10
- (b) A container is filled with oxygen gas maintained at 300 K. What fraction of molecules have speed in the range 599-601 m/s? The molar mass of oxygen is 0.0320 kg/mol. 06
- (c) List effective ways of increasing the number of molecular collisions per unit time in a gas. 04



12

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

APPLIED MATHEMATICS PAPER-II

Time Allowed: 03 Hours

Maximum Marks: 100

Instructions: Attempt total **FIVE** questions, **TWO** questions from Section-A, **ONE** question from Section-B and **TWO** questions from Section-C

Section-A

1. (a) By using the method of undetermined coefficients, solve the following differential equation: $y'' + 4y = xe^x + x \sin 2x$ (10)
- (b) By the method of variation of parameters find the general solution of $x^2 \frac{d^2y}{dx^2} - x(x+2) \frac{dy}{dx} + (x+2)y = x^3$ given that $y = xe^x$ is a solution of the associated homogeneous equation $x^2 \frac{d^2y}{dx^2} - x(x+2) \frac{dy}{dx} + (x+2)y = 0$. (10)
2. (a) Solve $r = a^2 t$, (where $r = \frac{\partial^2 z}{\partial x^2}$, and $t = \frac{\partial^2 z}{\partial y^2}$) by using Monge's method. (10)
- (b) Find a partial differential equation by eliminating a, b, c from $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$. (10)
3. (a) Apply the method of separation of variables to find the solution of the two-dimensional Laplace equation $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$, along with the boundary conditions $u(0, y) = 0, \quad 0 \leq y \leq b, \quad u(a, y) = 0, \quad 0 \leq y \leq b$
 $u(x, 0) = 0, \quad 0 \leq x \leq a, \quad u(x, b) = f(x), \quad 0 \leq x \leq a$ where a, b are positive constants and f is a specified function of x . (10)
- (b) An insulated rod of length l has its ends A and B kept at a° celsius and b° celsius respectively until steady state conditions prevail. The temperature at each end is suddenly reduced to zero degree celsius and kept so. Find the resulting temperature at any point of the rod taking the end A as origin. (10)

Section-B

4. (a) Prove that the alternating symbol ϵ_{ijk} is a Cartesian tensor of rank 3. (10)
- (b) If A_{ijk} and B_{mn} are two Cartesian tensors of rank 3 and 2 respectively, prove that $C_{ijkmn} = A_{ijk}B_{mn}$ is also a tensor of rank 5. (10)
5. (a) Prove that the form of a tensor equation remains the same in every rectangular coordinate system. (10)
- (b) Prove by using tensor method $[\nabla \times (\nabla \times \vec{A})]_i = [\nabla(\nabla \cdot \vec{A})]_i - (\nabla^2 \vec{A})_i$ for $i = 1, 2, 3$. (10)

P.T.O

Section-C

6. (a) Use Newton Raphson's method to approximate the solution of the following equation
 $x^{\frac{1}{5}} - 3.23x^4 - 5.54x + 9.84 = 0 ; x_0 = 0.1.$ (10)

- (b) The solid of revolution obtained by rotating the region under the curve $y = f(x)$, $a \leq x \leq b$, about the x -axis has surface area given by
 $area = 2\pi \int_a^b f(x) \sqrt{1 + [f'(x)]^2} dx$. Find the area of the function
 $f(x) = x^3$, $0 \leq x \leq 1$, using Simpson's $\frac{1}{3}$ rd rule. Take $n = 10$
 (Number of intervals). (10)

7. (a) The following table gives the coordinates of points on a certain polynomial

x	0	0.5	1	1.5	2
y	2.0286	2.4043	2.7637	3.1072	2.4350

Calculate the radius of curvature ρ (roh) using the following formula

$$\rho = \frac{[1+(y')^2]^{1.5}}{y''}, \text{ at the point } x = 0.25. \quad (10)$$

- (b) The following table gives the values of density of saturated water for various temperatures of saturated steam.

Temp°C (= T)	100	150	200	250	300
Density hg/m^3 (= d)	958	917	865	799	712

Find by interpolation, the densities when the temperatures are 130°C and 275°C respectively. (10)

8. (a) Solve the system of equations

$$28x + 4y - z = 32$$

$$x + 3y + 10z = 24$$

$$2x + 17y + 4z = 35$$

By using Guass-Seidel method. Take $(x_0, y_0, z_0)^T = (0, 0, 0)^T$, using 5 significant digits in computation. (10)

- (b) Interpolate the missing values in the following table:

x	1911	1912	1913	1914	1915	1916	1917	1918	1919
y	76.6	78.2	-----	77.7	78.7	-----	80.6	77.6	78.6

(10)

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POSTS OF PMS-2022

APPLIED MATHEMATICS PAPER-I

Time Allowed: 03 Hours

Maximum Marks: 100

Instructions: Attempt total **FIVE** questions, **TWO** questions from Section-A and **THREE** questions from Section-B.

Section-A

1. (a) Describe the geometrical interpretation of magnitude of $\vec{A} \cdot \vec{B} \times \vec{C}$ (10)
- (b) Prove that $(\vec{A} + \vec{B}) \cdot (\vec{B} + \vec{C}) \times (\vec{C} + \vec{A}) = 2[\vec{A} \cdot (\vec{B} \times \vec{C})]$ (10)
2. (a) Find the normal derivative (i.e. $\frac{\partial \phi}{\partial n} = \Delta \phi \cdot \hat{n}$) of $\phi = xy^2 + yz^3$ at $(-1, 2, 1)$, where \hat{n} is a unit normal vector to the surface $x \log z - y^3 + 4 = 0$ at $(-1, 2, 1)$. (10)
- (b) Find constants a, b, c so that $\vec{V} = (x + 2y + az)\hat{i} + (bx - 3y - z)\hat{j} + (4x + cy + 2z)\hat{k}$ is irrotational. Also show that \vec{V} can be expressed as the gradient of a scalar function. (10)
3. (a) State and prove Lami's theorem. Also if three forces P, Q, R acting at a point are in equilibrium and the angle between P and Q is double of the angle between P and R then prove $R^2 = Q(Q - P)$. (10)
- (b) OAB is an equilateral triangle of side a ; C is the mid point of OA . Forces $4P, P$ and P act along the sides OB, BA and AO respectively. If OA and OY (parallel to CB) are taken as x-axis and y-axis, prove that the resultant of the forces is $3P$ and the equation of its line of action is $3y = \sqrt{3}(3x + a)$. (10)
4. (a) A rod, 4ft. long, rests on a rough floor against the smooth edge of a table of height 3ft. If the rod is on the point of slipping when inclined at an angle of 60° to the horizontal, find the coefficient of friction. (10)
- (b) Two bodies with weights W_1 and W_2 are placed on an inclined plane and are connected by a light string which coincides with a line of greatest slope of the plane; if the coefficient of friction between the bodies and the plane be respectively μ_1 and μ_2 , find the inclination of the plane to the horizon when both bodies are on the point of motion, it being assumed that the smoother body is below the other. (10)

Section-B

5. (a) The force acting on a particle of mass at time t is given by $\vec{F} = a \cos \omega t \vec{i} + b \sin \omega t \vec{j}$. If the particle is initially at rest at the origin, show that its position and velocity at any time are given by $\vec{r} = \frac{a}{m\omega^2} (1 - \cos \omega t) \vec{i} + \frac{b}{m\omega^2} (\omega t - \sin \omega t) \vec{j}$,
 $\vec{v} = \frac{a}{m\omega} (\sin \omega t) \vec{i} + \frac{b}{m\omega} (1 - \cos \omega t) \vec{j}$ (10)
- (b) A particle starts from rest at the highest point of a smooth vertical circle and moves down along the outside of the arc. Discuss the motion and show that the particle leaves contact with the circle after descending a vertical distance equal to one-third of the radius. (10)

P.T.O

6. (a) A point moving in a straight line with uniform acceleration f describes distance a, b metres in successive intervals of time t_1, t_2 seconds. Prove that the acceleration is of magnitude $\frac{2(bt_1 - at_2)}{t_1 t_2 (t_1 + t_2)}$. Also prove that if the point describes successive equal distances in times t_1, t_2, t_3 then $\frac{1}{t_1} - \frac{1}{t_2} + \frac{1}{t_3} = \frac{3}{t_1 + t_2 + t_3}$. (10)
- (b) A particle is projected upward with velocity u and the resistance of air produces retardation kv^2 , when v is the velocity, k being a constant. Show that the particle will return to the point of projection with velocity $\frac{1}{\sqrt{\frac{1}{u^2} + \frac{k}{g}}}$. (10)
7. (a) A particle is projected downward with a speed 80 ms^{-1} , and just penetrates a uniform horizontal board of thickness 1 metre whose upper surface is 16 metre below the point of projection. If the same particle were projected vertically upward with a speed of 80 ms^{-1} from a point 16 metre below the lower surface of the board, find how far it would penetrate assuming the resistance offered by the board is constant. (10)
- (b) The components of velocity along and perpendicular to the radius vector from a fixed origin are respectively λr^2 and $\mu \theta^2$. Find the polar equation of the path in terms of r and θ . (10)
8. (a) A projectile of mass m is launched from a point O with velocity u making angle α with the horizontal line OX . α will be called the angle of projection. Discuss its motion and the equation of its trajectory. (10)
- (b) A gun is firing from the sea level out to sea. It is then mounted in a battery h feet higher up and fired at the same elevation α . Show that the range is increased by $\frac{1}{2} \left\{ \left(1 + \frac{2gh}{v^2 \sin^2 \alpha} \right)^{1/2} - 1 \right\}$. (10)
9. (a) Show that the law of force towards the pole of a particle describing the curve $r^n = a^n \cos n\theta$ is given by $f = \frac{(n+1)h^2 a^{2n}}{r^{2n+3}}$. (10)
- (b) $r^n = A \cos n\theta + B \sin n\theta$, prove F varies as $\frac{1}{r^{2n+3}}$. (10)
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KHYBER PUKHTUNKHWA PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR THE POST OF PROVINCIAL MANAGEMENT SERVICE (BPS-17) 2022

ECONOMICS PAPER-I

Time Allowed: 03 Hours

Maximum Marks: 100

Note: Attempt any FIVE questions. All questions carry equal marks.

- Q1:** What is the relationship between the State Bank's monetary policy and long-term interest rates?
- Q2:** Suppose that two goods are perfect complements. If the price of good 1 changes what part of the change in demand is due to the substitution effect and what is due to income effect?
- Q3:** Suppose that the government decides to issue tradeable permits for a certain form of pollution.
a) Does it matter for efficiency whether the government distributes or auctions the permits? Does it matter in other ways?
b) If the government chooses to distribute the permits, does the allocation of permits among firms matter for efficiency? Does it matter in other ways?
- Q4:** 'Whenever a good or service is good – that is, it is valued by consumers – a government rule that mandates an increase in the quantity traded of the good increases total surplus.' Assess this statement.
- Q5:** Discuss the reasons why the use of fiscal policy to stabilize the economy is more complicated than suggested by the basic Keynesian model.
- Q6:** Please select the correct answer.
1. The State Bank's strategy of lowering interest rates in order to increase real GDP is called:
a) Reactionary monetary policy.
b) Contractionary monetary policy.
c) Expansionary monetary policy.
d) Contractionary fiscal policy.
e) none of the above
 2. Which statement is true?
a) The unemployment rate falls to account for underemployment.
b) Structural unemployment falls and rises with economic activity.

- c) Cyclical unemployment is caused by a mismatch of worker skills and the labor requirements of employers.
- d) Frictional unemployment is unemployment that changes with the seasons.
- e) none of the above.

3. Which statement is true?

- a) Given the consumer basket adjusts regularly, the CPI accounts for changes in product quality.
- b) The substitution bias in the CPI tends to underestimate inflation.
- c) Given frequent updating of the representative consumer basket, the inclusion of new products tends to moderate inflation.
- d) Changes in prices, when they reflect an improvement in product quality, tend to cause an overestimation in changes in the cost of living.
- e) None of the above

Q7: For each of the following scenarios, state whether the unemployment is frictional, structural, or cyclical. Justify your answer.

- a) Nadeem lost his job when the steel mill closed down. He lacks the skills to work in another industry and so has been unemployed over a year.
- b) Aliya was laid off from her job at the auto plant because the recession reduced the demand for cars. She expects to get her job back when the economy picks up.
- c) Waqar is an unskilled worker who works for local moving companies during their busy seasons. The rest of the year he is unemployed.
- d) Tauqeer looked for a job for six weeks after finishing college. He turned down a couple of offers because they didn't let him use the skills he had acquired in university, but now he has a job in the area that he trained for.
- e) Qandeel, a software engineer, lost her job when the start-up company she was working for went bankrupt. She interviewed at five companies before accepting a new job in another firm in the same industry.

Q8: What are the key assumptions of the Keynesian model? Explain why this assumption is needed if one is to accept the view that aggregate spending is a driving force behind short-term fluctuations.

Q9: The government is considering two alternative policies, one involving increased government purchases of 50 units, the other involving tax cuts of 50 units. Which policy will stimulate planned aggregate expenditure more? Why?

*****GOOD LUCK*****

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

Time Allowed: 03 Hours

ACCOUNTING AND AUDITING PAPER-II Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

Q1: Answer each of the following questions concerning an audit of the financial statements of a publicly owned company.

- What is the basic purpose of this type of audit?
- Who performs the audit?
- Why is the concept of independence important in a financial audit?
- What consideration do these auditors give to the company's system of internal control?
- Briefly distinguish between a financial audit and a review of financial statements by an auditing firm.

Q2: At the beginning of September, certain ledger accounts in the books and records of Ambler Products Company had the following balances:

	<u>Dr</u> \$	<u>Cr</u> \$
Work in process-----	2,020	
Materials -----	7380	
Accrued Payroll-----		1436

The balance in the work in process account is supported by these details appearing in the job order cost sheets:

	\$
Direct Materials -----	640
Direct Labor (150 hrs) -----	900
Applied Factory overhead -----	480
	<u>\$ 2,020</u>

Certain columnar totals in the accounts payable register at the end of September show:

	<u>Dr</u>	<u>Cr</u>
Accounts payable-----		13820
Discounts lost-----	108	
Materials -----	10600	
Accrued payroll-----	8704	
Employees Income tax payable -----		956

Materials requisitions indicate:

For production	\$ 8540
For Repair & Maintenance	500
For Factory Supplies	1200

The Labour distribution sheet shows:

	\$
i. Direct Labor (For Job orders), 2000 hrs	12,000
ii. Factory overhead:	
Supervisor's Salary -----	1600
Repair & Maintenance -----	360
Indirect Labour -----	1200
Total -----	<u>31,60</u>
	<u>15,160</u>

The finished orders for the month consist of:

	\$
Direct Materials -----	8060
Director Labour (1910 hrs)-----	11,460
Applied Factory over head -----	6112
Total -----	<u>25,632</u>

The following subsidiary accounts and their balances controlled by the factory overhead control account appear in the ledger as of September, 30:

	\$		\$
Supervisory Salary -----	1600	Factory Insurance -----	300
Repair & Maintenance -----	860	Light & Power -----	320
Indirect Labour -----	1200	Water & Heat -----	300
Factory Supplies -----	1200	Payroll Taxes -----	1500
Depreciation (Factory Equip) -----	240	Rent-Factory -----	400

At the end of month, the 3-incomplete productions (job) orders can be summarized as follows:

Materials	\$ 1120
Direct Labour (240 hrs)	1440
Applied Factory Overhead	768
Total -----	<u>\$ 3,328</u>

- Instructions:**
- Prepare a statement of cost of Goods manufactured for September.
 - A calculation of the over or under applied factory overhead for September.

- Q3: During February, the Assembly Department received 60,000 units from the cutting Department at a unit cost of \$5. Costs added in the Assembly Department were:

	\$
Material -----	41,650
Labour -----	101,700
Factory overhead -----	56,500

There was no beginning inventory of the 60,000 units received, 50,000 units were transferred out; 9,000 units were in process at the end of month (all materials, 2/3 converted); 1,000 lost units were 1/2 complete as to materials and conversion costs. The entire loss is considered abnormal and is to be charged to factory overhead.

Instructions: Prepare Cost of production Report.

- Q4: Write a detailed comprehensive note on an "Audit Program" explaining its design, advantages and effects to all stake holders having all liabilities fulfilled by the Auditors.
- Q5: The monthly compensation plan of MR. ABC is as follow:

	Rs.
Basic Salary -----	80,000 per month
Entertainment allowance -----	90,000
House rent allowance -----	15,000
Conveyance allowance -----	60,000
Tax paid by employer -----	25,000
Encashment against un-availed leave -----	20,000
Medical allowance -----	80,000
Telephone bills paid by MR. ABC -----	12,000 (500 tax paid with bills)
Tax paid on cash with drawl from bank -----	2,500
Accommodation paid by employer for official duties -----	30,000

Instructions: Calculate Income Tax payable by MR. ABC for the Tax year ending 30th June 20xx.

- Q6: A perpetual inventory system is used by Black Hawk Inc; and an inventory record card is maintained for each type of product in stock. The following transactions show beginning inventory, purchases and sales of product KR9 for the month of May:

	\$
May 1. Balance on hand, 20 units, cost \$40 each -----	800
May 2. Sale, 8 units, sales price \$60 each -----	480
May 6. Purchase, 20 units, cost \$45 each -----	900
May 20. Sale, 10 units, sales price \$60 each -----	600
May 31. Sale, 15 units, sales price \$65 each -----	975

Instructions:

- Record beginning inventory, purchases, the cost of goods sold and the running balance on an inventory card using Last-In First-Out (LIFO) method.
- Prepare general entire for purchases & sales in May assuming all transactions on Account.

- Q7: The balance sheet of xyz Inc; as on 31-12-20xx was as follow:

Assets	Rs.
Plant & Machinery -----	24,000
Land & Building -----	40,000
Furniture & Fixtures -----	16,000
Stock -----	12,000
Debtors -----	12,000
Investments (Short-term) -----	4,000
Cash in hand -----	12,000
	<u>1,20,000</u>

Liabilities & Equity:

Equity Share Capital -----	40,000
Capital Reserve -----	8,000
8% Loan on Mortgage -----	32,000
Creditors -----	16,000
Bank overdraft -----	4,000

Taxation:

Current -----	4,000
Future -----	4,000
Profit & Less a/c -----	12,000
	<u>1,20,000</u>

Instructions:

Compute (a) Current Ratio. (b) Quick Ratio. (c) Debt to Equity Ratio. (d) Proprietary Ratio.

- Q8: Explain in detail the concept and the role of all the ratios used during Ratio Analysis of the financial statements. The explanation must include formula, and decision criterion of each ratio.

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

Time Allowed: 03 Hours

ACCOUNTING AND AUDITING PAPER-I

Max Marks: 100

Note: Attempt any five questions. All questions carry equal marks.

Q1: Elucidate any five of the following accounting concepts, principles and conventions with the help of logical examples:

- | | |
|----------------------------|--------------------------------|
| a. Going concern | e. Fair value |
| b. Separate entity | f. Consistency of presentation |
| c. Periodicity | g. Materiality |
| d. Faithful representation | h. Net realizable value |

Q2: On 1st January 2013, the written-down value of some machinery was Rs. 320,000 after charging depreciation at the rate 20% p.a. for two years using reducing balance method. At the time of acquisition, the machinery had expected salvage value of Rs. 50,000 and useful life of 8 years. But at the time of disposal, the machinery was actually sold for Rs. 80,000.

Required:

- Cost of machinery at the time of acquisition?
- Depreciable amount in the first year of operation?
- Depreciable amount as on 1st January 2011 and on 1st January 2014?
- Depreciation expense as on (i) 31st December 2013 and (ii) 31st December 2020?
- Prepare accumulated depreciation account from 1st January 2013 to 31st December 2020?
- Prepare machinery disposal account as at 31st December 2020, and determine gain or loss at the time of disposal?

Q3: Maritha Enterprises presents before you some estimated data pertaining to its upcoming months:

Months (2020-21)	Sales (Rupees)	Material Purchases (Rupees)	Labour Cost (Rupees)	FOH Cost (Rupees)
October	2,500,000	500,000	150,000	120,000
November	3,500,000	350,000	250,000	160,000
December	3,500,000	400,000	150,000	180,000
January	4,200,000	600,000	200,000	100,000
February	4,800,000	300,000	250,000	150,000
March	4,000,000	450,000	200,000	100,000

Other Information:

- Credit Terms for Purchases: 40% payment is made in the same month, 30% in the next month, and the rest in the 3rd month;
- Credit Terms for Sales: 70% receipt is made in the same month, and the rest in the next month;
- Labour is paid 80% in the same month, and the rest in the following month;
- FOH is paid 3/5th in the same month, and the rest in the succeeding month; and
- Opening Balance of Cash for the month of December is assumed to be Rs. 800,000.

Required: Prepare the Cash Budget for the quarter starting from December 2020?

Q4: Messer Alpha and Beta Enterprises, a sole Trader, presents before you the following Trial Balance (Unadjusted) for the year ending 30 November 2020:

Debit Balances		Credit Balances	
	Rupees		Rupees
Land	8,000	Sales	85,000
Building	25,000	Creditors	3,000
Plant and Machinery	15,000	Loan	5,000
Furniture and Fittings	5,000	Capital	30,000
Debtors	3,000		
Opening Inventory	500		
Cash at Hand	5,000		
Cash at Bank	12,000		
Salaries (50:50)	10,000		
Trade Expenses	1,000		
Bad Debts	500		
Stationery Items (50:50)	1,000		
Other Expenses (50:50)	1,000		
Purchases	32,000		
Carriage Outward	2,000		
Carriage Inward	2,000		
Total	123,000	Total	123,000

Adjustments:

- Depreciate Building, Plant and Machinery, and Furniture and Fittings @10%, 20% and 25% respectively on straight-line basis;
- Salaries amounting to Rs. 600,000 were payable;
- Closing inventory is of worth Rs. 1,500,000;

- d. Trade expenses worth Rs. 100,000 were unpaid;
- e. Sales worth Rs. 2 million were accrued;
- f. Provision for taxation is to be made @ 30% p.a.;
- g. Interest is to be charged @ 5% p.a.;
- h. Loan is repayable in five equal annual installments; and
- i. The ratio of distribution between administrative expenses and marketing expenses is given within table for certain expenses only.

Required:

- a. Pass journal entries for the given adjustments?
- b. Prepare the Adjusted Trial Balance as on 30th November 2020?
- c. Prepare the Profit and Loss Account for the year ended 30th November 2020?
- d. Prepare the Balance Sheet as on 30th November 2020?

Q5: In September 2017, Hassan Medicos of Peshawar sent 350 cases of medicine costing Rs. 1,000 per case to Hamza Pharmacy of Lahore on consignment basis. Hassan Medicos incurred packing expenses at the rate of Rs. 20 per case paid in cash; insurance premium of Rs. 10,000 paid by cheque; freight of Rs. 20,000 paid in cash, and forwarding agent's charges of Rs. 5,000 due. In December 2017, Hamza Pharmacy forwarded an Account Sales showing that 200 cases were sold @ Rs. 2,500 per case while 130 cases were sold @ Rs. 1,500 per case but 20 cases remained unsold. Hamza Medicos incurred expenses including cartage of Rs. 10,000; unloading charges of Rs. 8,000; and godown rent of Rs. 7,000. Hamza Pharmacy received 5% commission on sales. The remaining amount was paid to Hassan Medical by cheque.

Required:

- a. Pass Journal Entries in the books of Hassan Medicos of Peshawar?
- b. Prepare Consignment Account?
- c. Pass Journal Entries in the books of Hamza Pharmacy of Lahore?

Q6: Mr. X (Creditor) sold some goods worth Rs. 580,000 on credit to Mr. Y (Debtor) on 1st January 2018. Mr. y promised to pay the outstanding amount after two weeks but right after that he found himself to pay the outstanding amount. However, he requested Mr. X to draw a bill of exchange upon him for the outstanding amount on 20th January 2018, and Mr. X acceded to his request and drew a bill of exchange upon him for two months on the same date. 15 days before the due date, Mr. Y requested to receive Rs. 380,000 and drew another Bill upon him for the rest of the amount for another one month. Mr. X again acceded to the request and drew another bill of exchange for the rest of the amount. On maturity, Mr. Y met his obligation for the other Bill.

Required: Pass Journal Entries in the Books of Mr. X and Mr. Y respectively for all the transactions?

Q7: The following is the Receipts and Payments Account of a Club for the year ending 31st December 2020:

Receipts	Rupees	Payments	Rupees
Balance b/d	1,600,000	Salaries	600,000
Subscriptions:		Stationery	600,000
2019	100,000	Rates	600,000
2020	2,000,000	Communication charges	200,000
2021	400,000	Investments on 4% Govt. Securities (Acquired on 30 th June 2020)	2,000,000
Admission Fees	800,000	Miscellaneous expenses	300,000
Dividends from Investments	400,000	Balance c/d	1,000,000
Total	5,300	Total	5,300

The additional information is given below:

- a. There were 300 members who pay Rs. 200 per head as annual subscription, and Rs. 180,000 as arrears from the previous year;
- b. Inventory of stationery was Rs.200,000 at the start of 2020 and Rs. 100,000 at the end of 2020;
- c. The rates were paid for fifteen months starting from 1st January 2020;
- d. Outstanding Miscellaneous Expenses were Rs. 50,000 on 31st December 2019;
- e. Communication Charges Rs. 40,000 were due for three months;
- f. On 31st December 2019, the building stood at Rs. 5,000,000, which is to be appreciated @ 5% p.a.; and Investments were at Rs. 4,000,000.

Required: Prepare the Income and Expenditure Account for the year ending 31st December 2020, and the Balance Sheet as at that due?

Q8: Messer Petiwala, a sole trader, is quite anxious in rectifying the errors after identifying those errors in the books of accounts of his business:

- a. Rs. 5,000 paid to Mohit were debited to his A/c as Rs. 50,000;
- b. Sales Book was overcast by Rs. 20,000;
- c. Rs. 45,000 were paid for the repairs of a Van but were debited to Van Account;
- d. Salary paid Rs. 3,500 to Mr. Hamraat were posted to the Salary A/c as Rs. 2,500;
- e. The purchase of a machine was acquired during the year but was entered in the purchases account;
- f. A cheque received from a debtor worth Rs. 50,000 was dishonored but entry was not made in the book;
- g. The sale of a chair worth Rs. 4,000 has been passed through Sales Book. However, the customer's account has been correctly credited;
- h. A cash discount of Rs. 2,000 received was entered in the Cash Book but was not posted to Ledger;
- i. Purchases Book is undercast by Rs. 3,000;
- j. Goods worth Rs. 5,000 withdrawn by owner has not been recorded.

Required: Pass Journal Entries to rectify the errors, and prepare Suspense Account?

KHYBER PAKHTUNKHWA PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION FOR THE POST OF
PROVINCIAL MANAGEMENT SERVICES OFFICERS (BPS-17), 2022

ENGLISH (PRÉCIS AND COMPOSITION)

Time Allowed: 03 Hours

Max Marks: 100

- Note:** (i) Attempt ALL questions. Marks will be deducted for incorrect use of language and faulty expression. Extra attempt of any question will not be considered.
(ii) Candidate must draw two straight lines "=====" at end to separate each question in answer book.

Q.1: Read the following passage carefully and answer the question that follow in your own words. No credit will be given for exact reproduction of sentences from the given passage. (20)

There is a confusion in the minds of many persons, that the gathering of the property of the poor into the hands of the rich does no ultimate harm, since, it must be spent at last, and thus, they think, return to the poor again. This fallacy has been again and again exposed; but granting the plea true, the same apology may, of course, be made for blackmail, or any other form of robbery. It might be (though practically it never is) as advantageous for the nation that the robber should have the spending of the money he extorts, as that person robbed should have spent it. But this is no excuse for theft. If I were to put a turnpike on the road where it passes my own gate, and endeavor to exact a shilling from every passenger, the public would soon do away with my gate, without listening to any pleas on my part that it was advantageous to them, in the end, that I should spend their shillings, as that they themselves should. But if, instead of outfacing them with a turnpike, I can only persuade them to come in and buy stones, or an old iron, or any other useless thing, out of my ground, I may rob them to the same extent, and be, moreover, thanked as a public benefactor and promoter of commercial property. And this main question for the poor of all countries is wholly omitted in every treatise on the subject of wealth. Even by the labourers themselves, the operation of capital is regarded only on its effect on their immediate interests, never in the far more terrific power of its appointment of the kind and the object of labour. It matters little, ultimately, how much a labourer is paid for making anything; but it matters fearfully what the thing is, which he is compelled to make. If his labour is so ordered as to produce food, and fresh air, and fresh water, no matter that his wages are low; --- the food and the fresh air and water will be at least there, and he will at last get them. But if he is paid to destroy food and fresh air, or to produce iron bars instead of them, to his great and final inconvenience. So that, conclusively, in political as in household economy, the great question is, not so much what money you have in your pocket, as what you will buy with it and do with it.

Questions:

- i. What argument is presented in the beginning of the passage? Which fallacy has been indicated?
- ii. Does the passage favour capitalism or socialism? Give reasons for your answer.
- iii. According to the passage, what should be the concern of an individual?
- iv. What are the views of the author with regard to accumulation of wealth?

Q.2: Make a précis of the following passage in your own words reducing it to one third of its length (about 105 words). No credit will be given for exact reproduction of sentences from the given passage. Provide a relevant title. (20)

Neither misery nor folly seems to me any part of the inevitable lot of man. And I am convinced that intelligence, patience, and eloquence can, sooner or later, lead the human race out of its self-imposed tortures provided it does not exterminate itself meanwhile. On the basis of this belief, I have had always a certain degree of optimism, although, as I have grown older, the optimism has grown more sober and the happy issue more distant. But I remain completely incapable of agreeing with those who accept fatalistically the view that man is born to trouble. The causes of unhappiness in the past and, in the present are not difficult to ascertain. There have been poverty, pestilence, and famine, which were due to man's inadequate mastery of nature. There have been wars, oppressions and tortures which have

(P.T.O.)

been due to men's hostility to their fellow men. And there have been morbid miseries fostered by gloomy creeds, which have led men into profound inner discords that made all outward prosperity of no avail. All these are unnecessary. In regard to all of them, means are known by which they can be overcome. In the modern world, if communities are unhappy, it is because they choose to be so. Or, to speak more precisely, because they have ignorances, habits, beliefs, and passions, which are dearer to them than happiness or even life. I find many men in our dangerous age who seem to be in love with misery and death, and who grow angry when hopes are suggested to them. They think that hope is irrational and that, in sitting down to lazy despair, they are merely facing facts. I cannot agree with these men. To preserve hope in our world makes calls upon our intelligence and our energy. In those who despair it is very frequently the energy that is lacking.

Q.3: Explain the meaning of any Five of the following in not more than 4 sentences. (Any extra attempt will not be considered). (10)

- | | | |
|------------------------|-------------------------|------------------------|
| (a) Loaded narrative. | (b) Economic sanctions. | (c) Impending doom. |
| (d) Rugged grandeur. | (e) Perpetual puzzle. | (f) Strong propensity. |
| (g) Planted personnel. | (h) Narcissist pride. | |

Q.4: Use any Five of the following idioms / expressions into sentences of your own words clearly bringing out their meaning. (Any extra attempt will not be considered). (10)

- | | | |
|----------------------------|----------------------------------|----------------------|
| (a) As the crow flies. | (b) Besetting sin. | (c) A blue stocking. |
| (d) The loaves and fishes. | (e) The salt of the earth. | (f) On the sly. |
| (g) A red letter day. | (h) Hoist with one's own petard. | |

Q.5: Do as directed:

(A) Write one word having the same meaning as each of the underlined phrases. (05)

- The object was shaped like an eight-sided figure.
- On the arrival of the President, the town was decorated with lights.
- His voice could not be heard.
- The statement made by the witness was not in accordance with facts.
- All fruit are not fit to be eaten.

(B) Correct the word order in the following sentences. (05)

- He turned quickly the pages of the book.
- He gave the other day a book to me.
- The man opened slowly the door.
- Are you this evening going to visit him?
- She finished very quickly her work.

(C) Rewrite the following sentences as indicated in brackets. (10)

- You can use my knife to cut it _____. (Provide appropriate preposition)
- He is accustomed _____ living in hostels. (Provide appropriate preposition)
- It (rain) in winter. it is (rain) now. (Put the verbs in brackets in their correct form)
- I remember the clown. He fell over. (Combine the two sentences into one)
- You go away and I will miss you. (Rewrite the sentence beginning with 'if')
- I had to go out _____ of bad weather. (Fill in the blank with correct expression)
- Immense damage _____ caused by the storm last night. (Provide correct verb form)
- I was struck by her singular appearance. (Change the voice)
- I said to my friend, "Please lend me your book". (Change the narration)
- He asked her to go with him. (Change the narration)

Q.6: Write about 250 words on any ONE of the following: (20)

- The importance of sports in national profile.
- Webinar: a good replacement of seminar?
- Journalism in modern world.
- Peshawar Bus Rapid Transit: a success story or a grand failure?

***** THE END *****