FEDERAL PUBLIC SERVICE COMMISSION
(Curriculum & Research Wing)

Schemes and Syllabi for Screening/Professional Tests as well as Descriptive Examination
Relating to Posts Advertised under Consolidated Advertisement No. 06/2024

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
1.	97/2024	**Lecturer (Male) (BS-17)**, Directorate of Federal Government Educational Institutions (Cantts / Garrisons), Ministry of Defence. A. Chemistry B. Computer Science	Second Class or Grade 'C' Master's degree or equivalent qualification in the relevant subject.	Objective Type Test (MCQ) **Part-I** English = 20 marks **Part-II** Subject Test = 50 marks **Part-III** Professional Test = 30 marks	**For (A) Chemistry** **Part-I** Vocabulary, Grammar Usage, Sentence Structuring. **Part-II (Masters Level)** • Nature, Properties & States of Matter, • Electronic Structure, • Bonding, • Chemical Kinetics & Radioactivity, • Synthetic Chemistry • Polymers, • Reaction Mechanism (electrophilic & nucleophilic substitution and addition reaction) • Inorganic Chemistry, • Thermodynamics, • Electrochemistry, **Part-III** • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Knowledge of Bloom's Taxonomy **For (B) Computer Science** **Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II (Masters Level)** • Computer Hardware/Software, • Data Communication & Networking, • C/C++ Language, • Visual Basic, • Operating System Unix/Linux • Windows 10/11, • Oracle/PLSQL, • System Analysis & Design. • Web Programming,

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					Part-III • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation • Knowledge of Bloom's Taxonomy
2.	99/2024	**Physical Training Instructor (Male) (BS-16)**, Federal Government Educational Institutions (FGEI) (Cantts/Garrisons), Ministry of Defence.	Second Class or Grade 'C' Master's degree in Health & Physical Education or equivalent qualification from a University / Institution recognized by HEC. **OR** Second Class or Grade 'C' Bachelor's degree with Diploma in Physical Education or equivalent qualification from a University / Institution recognized by HEC.	Objective Type Test (MCQ) **Part-I** English =20 marks **Part-II** Professional Test=80 marks	**Part-I** Grammar Usage, Sentence Structuring **Part-II (Masters Level)** • Curriculum Development in Physical Education, • Rules of games (Hockey, Volley Ball) • Basics of Human Anatomy • Administrative and Management in Sports, • Sports Nutrition, • Trauma and Rehabilitation, • Test, Measurement and Evaluation in Physical Education & Sports • Athletic Injuries, • Handicap Sports Organization
3.	100/2024	**Research Associate / Officer (BS-17),** Ministry of Federal Education and Professional Training.	i. Second Class or Grade 'C' Master's degree in Finance/ Business Administration/ Public Administration/ Economics or equivalent qualification from a University recognized by the HEC. ii. Two (2) years post qualification experience of research related activities in PSDP projects.	Objective Type Test (MCQ) **Part-I** English = 20 marks **Part-II** Professional Test=80 marks	**Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II** ▪ PSDP Cycle ▪ Project Management and Evaluation tools ▪ Methods of Data Analysis, ▪ Research Methods in Education, ▪ Significance of Budgeting, ▪ Role of Human Resource Management in Organization Performance ▪ Major issues in Pakistan Economy

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4.	101/2024	**Appraising / Valuation Officer (BS-16)**, Revenue Division, Federal Board of Revenue.	i. Second Class or Grade 'C' Bachelor's degree from a recognized University with Economics, Commerce, Statistics, Accounting, Computer Science, Law, Pharmacy, Chemistry or Physics as one of the subjects or B.Sc. Engineering in any specialty.
			ii. Computer literacy up to the level of MS Word, MS Power Point and MS Excel.
			Note: At first stage MCQs Screening Test shall be held, then on the basis of its result top merit position holders @ ten candidates per vacancy from respective quotas would be called for Descriptive Test.
				Objective Type Test (MCQ)
				
				Part-I
				
				English = 20 marks
				
				Part-II
				
				General Intelligence=80 marks
					Part-I
					Grammar Usage, Sentence Structuring
					Part-II
					▪ Basic Arithmetic
					  − Algebra
					  − Ratios
					  − Percentages
					  − Arithmetic Means
					▪ Current Affairs.
					  − Issues/Challenges at National and International Level during the last 5 years
					  − Basic Economic facts related to Pakistan.
					▪ Pakistan Affairs & Islamic Studies
					  − Basic Level knowledge
					▪ Basic Computer Operation in MS Office
					Note : (Equal weightage for each topic at Part-II)
					
					Note: For Pre-selected candidate, syllabus for Descriptive Test is at Page-5 below

5.	102/2024	**Computer Operator (BS-16)**, National Highways & Motorway Police, Ministry of Communications.	Second Class or Grade 'C' Bachelor's degree in Computer Science.	Objective Type Test (MCQ) **Part-I** English = 20 marks **Part-II** Professional Test=80 marks	**Part-I** Grammar Usage, Sentence Structuring **Part-II** ▪ Operating Systems ▪ Algorithm Design ▪ Database Management System (DBMS) ▪ Hardware & Software ▪ Implementation & Security of LAN & WAN ▪ Software Development Techniques ▪ Computer Networks and Internet,
6.	103/2024	**Agriculture Officer (BS-17)**, Agriculture, Livestock & Fisheries Department Gilgit Baltistan, Ministry of Kashmir Affairs & Gilgit Baltistan.	Second Class or Grade 'C' B.Sc. (Hons.) Agriculture degree form a University recognized by the HEC.	Objective Type Test (MCQ) **Part-I** English =20 marks **Part-II** Professional Test =80 marks	**Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II** ▪ Introduction to Agriculture ▪ Agricultural Survey ▪ Plant Pathology ▪ Agricultural Planning ▪ Agriculture Machinery ▪ Agricultural Policy & Development ▪ Agricultural Statistics about Pakistan ▪ Issues and Challenges confronting Pakistan in the Agricultural Field ▪ Techniques and Process of Research in Agriculture

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7.	104/2024	**Medical Officer (BS-17),** Airports Security Force, Ministry of Aviation.	i. MBBS. ii. Registration with PMDC is mandatory before closing date.	Objective Type Test (MCQ) **Part-I** English =20 marks **Part-II** Professional Test=80 marks	**Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II** ▪ Core courses of **MBBS** Degree Program. ▪ Health Policies of the Government of Pakistan. ▪ Care vs Cure for Health Management. ▪ Major Challenges being faced by the Health Sector in Pakistan.
8.	105/2024	**Assistant Manager (Inventory) (BS-17)**, Directorate General Immigration & Passports, Ministry of Interior.	Second class or Grade 'C' Master's degree in Business Administration / Accounting / Commerce / Finance / Economics / Statistics or equivalent qualification from a University recognized by HEC.	Objective Type Test (MCQ) **Part-I** English =20 marks **Part-II** Professional Test =80 marks	**Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II** ▪ Public Procurement Rules, 2004 ▪ The Passport Act, 1974 ▪ The Passport Rules, 2021 ▪ Immigration, Prevention & Control Human Trafficking Ordinance, 2002 ▪ The Citizenship Act, 1951 ▪ The Exit from Pakistan (Control) Ordinance 1981
9.	106/2024	**Laboratory Officer (BS-17)**, Army Services Corps School, Nowshera Cantt, Ministry Of Defence.	i. Second Class or Grade 'C' Master's or Bachelor's (4-years duration) degree in Chemistry or equivalent qualification from a University recognized by the HEC. ii. Two (2) years post qualification working experience in laboratory affairs.	Objective Type Test (MCQ) **Part-I** English =20 marks **Part-II** Professional Test =80 marks	**Part-I** Vocabulary, Grammar Usage, Sentence Structuring **Part-II** ▪ Nature, Properties & States of Matter, ▪ Electronic Structure, ▪ Bonding, ▪ Chemical Kinetics & Radioactivity, ▪ Synthetic Chemistry ▪ Polymers, ▪ Reaction Mechanism (electrophilic & nucleophilic substitution and addition reaction) ▪ Inorganic Chemistry, ▪ Thermodynamics, ▪ Electrochemistry

Syllabus for Descriptive Test of

F.4-101/2024-R (Appraising/Valuation Officer (BS-16))

<u>Max Marks: 100</u>   <u>Qualifying Standard 40%</u>   <u>Time Allowed: 3 Hours</u>

Part-I (English Essay): 40 Marks

Candidates will be required to write an Essay in English comprising **1000 words** from a set of **four given topics.** Candidates are expected to reflect comprehensive knowledge on a selected topic. Candidate's articulation, expression and technical approach to the style of English Essay writing will be examined.

Part-II (Current Affairs): 30 Marks

Candidates will be expected to demonstrate knowledge on current affairs related to the following:

- CPEC and Pakistan,
- Kashmir Issue,
- Pak US relations
- Afghanistan Crisis
- Basic Economic facts related to Pakistan

Part-III (Islamic Studies/Pakistan Studies): 30 Marks

I. Islamic Studies

Introduction to Islam, Seerah of the Prophet Muhammad (PBUH) as Role Model, Status of Woman in Islam, Articles of Faith, Islamic Code of Life, Islamic Concept of Human Rights

II. Pakistan Studies

Parliamentary democracy in Pakistan under 1973 Constitution, Salient features of the Constitution of Pakistan 1973, Economic Challenges for Pakistan, Major social problems of Pakistan.

SUGGESTED READINGS

S.No.	Title	Author
1.	Pakistan and World Affairs	Shamshad Ahmad (Edition-2015)
2.	Constitution of Pakistan 1973	
3.	Kashmir in Conflict: India, Pakistan and the Unending War.	Schofield, Victoria. New York: I.B.Tauria, 2003.
4.	Modern South Asia: History, Culture, Political Economy.	Jalal, Aisha and Bose, Sugata. New York: Routledge, 1998.
5.	Federalism and Ethnic Conflict Regulation in India and Pakistan.	Adeney, Katharine. , New York: Palgrave Macmillan, 2007.
6.	Issues in Pakistan's Economy	S. Akbar Zaidi
7.	Economic Survey of Pakistan	Government Publication
For Islamic Studies		
8.	Introduction to Islam	Dr. Hamidullah
9.	Islam: its meaning and Message	Khurshid Ahmad
10.	Insan e Kamil	Dr Khalid Alvi
11.	Islami Tehzeeb Kay Chund Darakhshan Pehloo	Mustafa Sabali

Schemes and Syllabi for Written Examination (Descriptive) for All Posts in BS-18 & BS-19 (other than Doctors) included in Consolidated Advertisement No. 06/2024

PAPER-I: ENGLISH

<u>Max Marks: 100</u>   <u>Time Allowed: 3 Hours</u>

(i) **English Essay-50 Marks:**   Candidates will be required to write an Essay in English comprising **1500 words** from a set of **six given topics.** Candidates are expected to reflect comprehensive and research based knowledge on a selected topic. Candidate's articulation, expression and technical approach to the style of English Essay writing will be examined.

(ii) **English (Composition and Précis)-50 Marks:**

The examination will test the candidate's abilities to handle Précis Writing, Reading Comprehension, Sentence Structuring, Translation, Grammar and Vocabulary, etc.

Précis Writing (10 marks): A selected passage with an orientation of generic understanding and enough flexibility for compression shall be given for précising and suggesting an appropriate title.

Reading Comprehension (10 marks): A selected passage that is rich in substance but not very technical or discipline-specific shall be given, followed by five questions, each carrying 2 marks.

Grammar and Vocabulary (10 marks): Correct usage of Tense, Articles, Prepositions, Conjunctions, Punctuation, Phrasal Verbs, Synonyms and Antonyms etc.

Sentence Correction (5 marks):   Ten sentences shall be given each having a clear structural flaw in terms of grammar or punctuation. The candidates shall be asked to rewrite them with really needed correction only, without marking unnecessary alterations. No two or more sentences should have exactly the same problem, and 2-3 sentences shall be based on correction of punctuation marks.

Grouping of Words (5 marks):   A random list of ten words of moderate standard (neither very easy nor utterly unfamiliar) shall be given, to be grouped by the candidates in pairs of those having similar or opposite meaning, as may be clearly directed in the question.

Pairs of Words (5 marks): Five pairs shall be given of seemingly similar words with different meanings, generally confused in communication, for bringing out the difference in meaning of any five of them by first explaining them in parenthesis and then using them in sentences.

Translation (5 marks): Ten short Urdu sentences involving structural composition, significant terms and figurative/idiomatic expressions shall be given, to be accurately translated in English.

SUGGESTED READINGS

Sr. No.	Title	Author
1.	English Grammar in Use	Raymond Murphy
2.	Practical English Usage	M. Swan
3.	Practical English Grammar and Composition	S.C. Gupta
4.	Improve your Punctuation & Grammar	Marion Field
5.	The Little, Brown Handbook	H. Ramsey Flower & Jane Aaron
6.	A University English Grammar	R. Quirk & S. Greenbaum
7.	Write Better, Speak Better	Readers Digest Association
8.	Modern English in Action	Henry Christ
9.	Exploring the World of English	Syed Saadat Ali Shah

PAPER-II: PROFESSIONAL

<u>Max Marks: 100</u>   <u>Time Allowed: 3 Hours</u>

Case No.	F.4-98/2024-R
Particulars of post	**Assistant Professor (Male) (Mathematics) (BS-18)**, Federal Government Educational Institutions (FGEI) (Cantts / Garrisons), Ministry of Defence.
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with one (1) year post qualification teaching experience at College/ University level OR M.Phil Degree in the relevant subject with three (3) years post qualification teaching experience at College/ University level OR Second Class or Grade 'C' Master's Degree in the relevant subject with five (5) years post qualification teaching experience at College/ University level.

Part-I: 25 Marks (MCQ)

- 25 MCQ Questions on Part-II & III.

Part-II: (Mathematics) (Subjective)   50 Marks

I. Vector Calculus

Vector algebra; scalar and vector products of vectors; gradient divergence and curl of a vector; line, surface and volume integrals; Green's, Stokes' and Gauss theorems.

II. Statics

Composition and resolution of forces; parallel forces and couples; equilibrium of a system of coplanar forces; centre of mass of a system of particles and rigid bodies; equilibrium of forces in three dimensions.

III. Dynamics

- Motion in a straight line with constant and variable acceleration; simple harmonic motion; conservative forces and principles of energy.
- Tangential, normal, radial and transverse components of velocity and acceleration; motion under central forces; planetary orbits; Kepler laws;

IV. Ordinary differential equations

- Equations of first order; separable equations, exact equations; first order linear equations; orthogonal trajectories; nonlinear equations reducible to linear equations, Bernoulli and Riccati equations.
- Equations with constant coefficients; homogeneous and inhomogeneous equations; Cauchy-Euler equations; variation of parameters.
- Ordinary and singular points of a differential equation; solution in series; Bessel and Legendre equations; properties of the Bessel functions and Legendre polynomials.

V. Fourier series and partial differential equations

- Trigonometric Fourier series; sine and cosine series; Bessel inequality; summation of infinite series; convergence of the Fourier series.
- Partial differential equations of first order; classification of partial differential equations of second order; boundary value problems; solution by the method of separation of variables; problems associated with Laplace equation, wave equation and the heat equation in Cartesian coordinates.

VI. Numerical Methods

- Solution of nonlinear equations by bisection, secant and Newton-Raphson methods; the fixed- point iterative method; order of convergence of a method.
- Solution of a system of linear equations; diagonally dominant systems; the Jacobi and Gauss-Seidel methods.

- Numerical solution of an ordinary differential equation; Euler and modified Euler methods; Runge- Kutta methods.

Part-III (Professional) (Subjective)   : 25 Marks

I. Development of Curriculum and Instructional Material

- Elements of Curriculum.
- Curriculum Development Process: Need Assessment, Formulation of Aims and Objectives, Taxonomies of Educational Objectives, Selection of Content, Development of Curricular Materials.

II. Process of Teaching and Teaching Strategies

- Process of Classroom Communication
- Factors affecting Classroom Communication
- Barriers to Classroom Communications
- Use of Instructional Materials and Media

III. Educational Assessment and Evaluation

- Concept of Classroom Assessment and Evaluation
- Distinction between Assessment, Evaluation and Measurement
- Approaches to Evaluation: Formative Evaluation; Summative Evaluation
- Types of Test: Essay Type; Objective Type: Multiple Choice, True-False Items, Matching Type; Principles of Construction of these Test
- Characteristics of a Good Test: Validity, Reliability, Objectivity, Usability

IV. Research Methods in Education

- Research Instruments: Questionnaire: Interview; Test; Observation; Rating Scale
- Research Proposal and Report Writing.

SUGGESTED READINGS

S. No.	Title	Author
1.	An Introduction to Vector Analysis	Khalid Latif,
2.	Introduction to Mechanics	Q.K. Ghori
3.	An Intermediate Course in Theoretical Mechanics	Khalid Latif,
4.	Differential Equations with Boundary Value Problems	D. G. Zill and M. R. Cullen
5.	Elementary Differential Equations	E.D. Rainville, P.E. Bedient and R.E. Bedient
6.	Elements of Numerical Analysis	F. Ahmad and M.A Rana
7.	Mathematical Methods	S. M. Yousaf, Abdul Majeed and Muhammad Amin
8.	Research in Education	JW Best
9.	Integrating Education Technology into Teaching	Roblyer
10.	Curriculum Development	S.M. Shahid
11.	Educational Measurement and Evaluation	S.M. Shahid
12.	Educational Administration	S.M. Shahid