

**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. 07/2024**

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
1.	108/2024	<p><b>Assistant Manager IT (BS-17),</b> Federal Government Organization.</p> <p><b>NOTE:</b> To short list the candidates at first stage MCQs Screening Test shall be held. Thereafter subjective type IT Proficiency test of 100 marks will be conducted for shortlisted candidates at the ratio of 1:8 (eight candidates per post) with qualifying standard of 50% marks.</p>	<p>i. Second Class or Grade 'C' Master's degree or equivalent in Computer Science. OR Second Class or Grade 'C' Bachelor's degree in Software Engineering or System Engineering / Computer Engineering.</p> <p>ii. Certification in MTA (Microsoft Technology Associate) OR CCNA (CISCO Certified Network Associate) OR RHCSA (Red Hat Certified System Administrator) OR The officer will be required to qualify certification in either of the above during probation period.</p>	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b> English = 20 marks</p> <p><b>Part-II</b> Professional Test = 80 marks</p>	<p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Computer Hardware &amp; Software, ,</li> <li>▪ Data Communication &amp; Networking,</li> <li>▪ C/C++ Language,</li> <li>▪ Visual Basic,</li> <li>▪ Relational Database Management System (RDBMS),</li> <li>▪ Operating System Unix/Linux</li> <li>▪ Oracle/PLSQL,</li> </ul> <p><b>Note:</b> For Pre-selected candidate, syllabus for Descriptive Test is at Page-8 below</p>
2.	110/2024	<p><b>Medical Officer (BS-17),</b> Airports Security Force, Ministry of Aviation.</p>	MBBS.	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b> English =20 marks</p> <p><b>Part-II</b> Professional Test=80 marks</p>	<p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Core courses of MBBS Degree Program.</li> <li>▪ Health Policies of the Government of Pakistan.</li> <li>▪ Care vs Cure for Health Management.</li> <li>▪ Major Challenges being faced by the Health Sector in Pakistan.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
3.	111/2024	<b>Inspector (BS-16)</b> , Airports Security Force, Ministry of Aviation.	Bachelor's Degree. <b>Physical Standard of Fitness</b> (i) Minimum Height: For male 5'-6" or 168 cm and for female 5'-2" or 157 cm. (ii) Minimum Weight: For male 106 Lbs or 48.1 Kg and for female 45 Kg or 99.2 Lbs. (iii) Minimum Chest Measurement: For male 32¾" or 83 cm, Expanded 34¾" or 88 cm.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> General Intelligence/ Professional Test = 80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring. <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Basic Arithmetic <ul style="list-style-type: none"> <li>– Algebra</li> <li>– Ratios</li> <li>– Percentages</li> <li>– Arithmetic Means</li> </ul> </li> <li>▪ Current Affairs. <ul style="list-style-type: none"> <li>– Issues/Challenges at National and International Level during the last 5 years</li> </ul> </li> <li>▪ Pakistan Affairs &amp; Islamic Studies <ul style="list-style-type: none"> <li>– Basic Level knowledge</li> </ul> </li> <li>▪ Security Measures to Maintain Law &amp; Order</li> </ul>
4.	114/2024	<b>Secondary School Teacher (SST) (Male) (BS-17)</b> , Directorate of Federal Government Educational Institutions (Cantts / Garrisons), Ministry of Defence.	Second Class or Grade 'C' Master's degree with B.Ed. or equivalent qualification from a University recognized by HEC. OR M.A. (Education) / M.A. (EPM) from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Perspectives of Education in Pakistan</li> <li>▪ School Administration &amp; Supervision</li> <li>▪ Planning &amp; Management in Education</li> <li>▪ Educational Psychology</li> <li>▪ Curriculum Development &amp; Assessment</li> <li>▪ Teaching Methodology</li> <li>▪ Classroom Management</li> <li>▪ Educational Measurement &amp; Evaluation</li> <li>▪ Research Techniques in Education</li> <li>▪ Educational System in Pakistan</li> <li>▪ Educational Guidance &amp; Counselling</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
5.	115/2024	<b>Nurse (BS-16)</b> , AFIRI, Ministry of Defence.	i. Second Class or Grade 'C' Bachelor's degree in Nursing or equivalent qualification from a College/ University/ Institute recognized by Pakistan Nursing Council (PNC). OR Three (3) years diploma in General Nursing or equivalent qualification from a College/ University/ Institute recognized by Pakistan Nursing Council (PNC) with one year diploma in Midwifery for female/ one year course in Nursing related field in lieu of Midwifery for male. ii. Valid registration with PNC.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Basic Medical Sciences</li> <li>▪ General Nursing</li> <li>▪ Ward Administration</li> <li>▪ Hospitality of the Patients</li> <li>▪ Care vs. Cure for Health Management</li> </ul>
6.	116/2024	<b>Assistant Director (MIS) (BS-17)</b> , Federal Board of Revenue, Revenue Division. <b>NOTE:</b> 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 quota would be called for Descriptive Test.	Second Class or Grade 'C' Master's degree in Computer Science / Information Technology or equivalent from a University recognized by HEC. OR Second Class or Grade 'C' Bachelor's degree in Computer Science / BIT (4 years duration) or equivalent from a University recognized by HEC.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Professional Test = 80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring. <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Computer Hardware &amp; Software, ,</li> <li>▪ Data Communication &amp; Networking,</li> <li>▪ C/C++ Language,</li> <li>▪ Visual Basic,</li> <li>▪ Relational Database Management System (RDBMS),</li> <li>▪ Operating System Unix/Linux</li> <li>▪ Oracle/PLSQL,</li> </ul> <b>Note:</b> For Pre-selected candidate, syllabus for Descriptive Test is at Page-10 below
7.	118/2024	<b>Medical Officer (BS-17)</b> , National Institute of Rehabilitation Medicine, Islamabad, Ministry of National Health Services, Regulations & Coordination.	MBBS or equivalent qualification.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Core courses of <b>MBBS</b> Degree Program.</li> <li>▪ Health Policies of the Government of Pakistan.</li> <li>▪ Care vs Cure for Health Management.</li> <li>▪ Major Challenges being faced by the Health Sector in Pakistan.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
8.	119/2024	<b>Staff / Charge Nurse (BS-16)</b> , National Institute of Rehabilitation Medicine, Islamabad, Ministry of National Health Services, Regulations & Coordination.	i. Registered Nurse and Registered Midwife with PNC. ii. For male one year course / certificate in nursing related field in lieu of midwifery.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Basic Medical Sciences</li> <li>▪ General Nursing</li> <li>▪ Ward Administration</li> <li>▪ Hospitality of the Patients</li> <li>▪ Care vs. Cure for Health Management</li> </ul>
9.	120/2024	<b>Junior Librarian (BS-16)</b> , National Library of Pakistan, National Heritage & Culture Division.	Second Class or Grade 'C' Master's degree in Library Science or Library and Information Science or equivalent qualification from a University recognized by HEC. OR i. Second Class or Grade 'C' Bachelor's degree in Library Science or equivalent qualification from a University recognized by HEC. ii. Two (2) years post qualification experience in the relevant filed.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Professional Test= 80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Introduction to Library &amp; Information Science</li> <li>▪ Information Sources and Services</li> <li>▪ Classification: Theory and Practice</li> <li>▪ Cataloguing: Theory and Practice</li> <li>▪ Collection, maintenance and issuance of library books.</li> <li>▪ Library Automation/Information Storage &amp; Retrieval</li> <li>▪ Research Methods &amp; Techniques for Librarians</li> <li>▪ Management of Serials Publications</li> <li>▪ Rules &amp; Procedure for Write off of library material</li> </ul>
10.	121/2024	<b>Head Nurse (BS-17)</b> , Pakistan Institute of Medical Sciences (PIMS), Ministry of National Health Services, Regulations & Coordination.	Bachelor's degree in Nursing or equivalent qualification recognized by the Pakistan Nursing Council.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Professional Test= 80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Core Courses of <b>BSc.</b> Nursing Programme</li> <li>▪ Ward Administration</li> <li>▪ Hospitality of the Patients</li> <li>▪ Care vs. Cure for Health Management</li> </ul>
11.	122/2024	<b>Medical Officer (BS-17)</b> , Pakistan Institute of Medical Sciences (PIMS), Ministry of National Health Services, Regulations & Coordination.	MBBS or equivalent qualification recognized by Pakistan Medical and Dental Council.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Core courses of <b>MBBS</b> Degree Program.</li> <li>▪ Health Policies of the Government of Pakistan.</li> <li>▪ Care vs Cure for Health Management.</li> <li>▪ Major Challenges being faced by the Health Sector in Pakistan.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
12.	123/2024	<b>Assistant Anesthetist (BS-17)</b> , Pakistan Institute of Medical Sciences (PIMS), Ministry of National Health Services, Regulations & Coordination.	MBBS or equivalent qualification recognized by Pakistan Medical and Dental Council.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Core courses of <b>MBBS</b> Degree Program.</li> <li>▪ Health Policies of the Government of Pakistan.</li> <li>▪ Care vs Cure for Health Management.</li> <li>▪ Major Challenges being faced by the Health Sector in Pakistan.</li> </ul>
13.	124/2024	<b>Charge Nurse (BS-16)</b> , Pakistan Institute of Medical Sciences (PIMS), Ministry of National Health Services, Regulations & Coordination.	i. Registered Nurse and registered Midwife with PNC. ii. For male one year course / certificate in nursing related field in lieu of Midwifery.	Objective Type Test (MCQ)  <b>Part-I</b> English =20 marks  <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Basic Medical Sciences</li> <li>▪ General Nursing</li> <li>▪ Ward Administration</li> <li>▪ Hospitality of the Patients</li> <li>▪ Care vs. Cure for Health Management</li> </ul>
14.	125/2024	<b>Chief Technician (BS-16)</b> , A. Anesthesia B. Cardiology C. Operation Theatre D. Pathology E. Pharmacy F. Physiotherapy G. Radiology H. Surgical. Pakistan Institute of Medical Sciences (PIMS), Ministry of National Health Services, Regulations & Coordination.	B.Sc. in the respective discipline with Five (5) years post qualification experience in the relevant field.  OR F.Sc, with diploma in respective discipline and seven (7) years post qualification experience in the relevant field.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Professional Test=80 marks  <b>Note:</b> Separate Paper for each category should be devised.	<b>Part-I</b> Grammar Usage, Sentence Structuring  <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Core Courses of Relevant Speciality</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
15.	126/2024	<b>Assistant Executive Engineer (E&amp;M) (BS-17)</b> , Water & Power Department, Gilgit Baltistan, Ministry of Kashmir Affairs & Gilgit Baltistan.	i. Second Class or Grade 'C' B.E in Electrical/ Mechanical / Electronics or equivalent qualification recognized by PEC. ii. Registration from PEC.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Professional Test = 80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Power Generation,</li> <li>• Power Distribution,</li> <li>• Power Transmission,</li> <li>• Power System Control,</li> <li>• Power &amp; Digital Electronics,</li> <li>• Electronic Devices and Structure,</li> <li>• Electric Circuits,</li> <li>• Electronic/ Electrical Instrumentation,</li> <li>• Thermodynamics</li> <li>• Mechanics of Machines</li> <li>• Production Management &amp; Quality Control</li> <li>• Workshop Technology</li> <li>• Hydraulic Machines</li> <li>• Principles of Planning,</li> <li>• Public Procurement Regulatory Authority (PPRA) Rules, 2004</li> </ul>
16.	129/2024	<b>Secondary School Teacher (SST) (Female) (BS-17)</b> , F.G Schools, Federal Government Educational Institutions (Cantt/ Garrison), Directorate, Ministry of Defence.	Second Class or Grade 'C' Master's degree with B.Ed. or equivalent qualification from a University recognized by HEC. OR M.A (Education)/ MA (EPM) from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Perspectives of Education in Pakistan</li> <li>▪ School Administration &amp; Supervision</li> <li>▪ Planning &amp; Management in Education</li> <li>▪ Educational Psychology</li> <li>▪ Curriculum Development &amp; Assessment</li> <li>▪ Teaching Methodology</li> <li>▪ Classroom Management</li> <li>▪ Educational Measurement &amp; Evaluation</li> <li>▪ Research Techniques in Education</li> <li>▪ Educational System in Pakistan</li> <li>▪ Educational Guidance &amp; Counselling</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/Experience for the Posts	Test Specification	Topics of Syllabi
17.	130/2024	<b>Programmer (BS-17)</b> , Naval Headquarters, Ministry of Defence.	i. Second Class or Grade 'C' Master's degree in Computer Science / Economics / Physics / Mathematics / Statistics or Bachelor's degree in Engineering. ii. Training in Computer Programming for Master's degree in Computer Science. iii. Two (2) years post qualification experience in Programming.	Objective Type Test (MCQ) <u><b>Part-I</b></u> English = 20 marks <u><b>Part-II</b></u> Professional Test = 80 marks	<u><b>Part-I</b></u> Vocabulary, Grammar usage, Sentence Structuring. <u><b>Part-II</b></u> <ul style="list-style-type: none"> <li>▪ Program Logic,</li> <li>▪ Visual Basic, C++, Java, JQUERY, Unix/Red Hat Linux Operating System,</li> <li>▪ Internet,</li> <li>▪ Algorithms Design,</li> <li>▪ Designing Solution &amp; Testing,</li> <li>▪ Data Structure,</li> <li>▪ Search Engine Optimization (SEO),</li> <li>▪ Hyper Text Markup Language (HTML), HTTP</li> <li>▪ Web Engineering</li> </ul>

**SUBJECTIVE TYPE IT PROFICIENCY TEST**Max Marks: 100Qualifying Standard 50%Time Allowed: 3 Hours

Case No.	F.4-108/2024-R
Particulars of post	<b>Assistant Manager IT (BS-17) Federal Government Organization.</b>
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's degree or equivalent in Computer Science. OR Second Class or Grade 'C' Bachelor's degree in Software Engineering or System Engineering/ Computer Engineering.</p> <p>ii. Certification in MTA (Microsoft Technology Associate) OR CCNA (CISCO Certified Network Associate) OR RHCSA (Red Hat Certified System Administrator) OR The officer will be required to qualify certification in either of the above during probation period.</p>

**I. Introduction to Computing**

Introduction to Information Technology and Computers, History of Computing, Computer HW and SW Details, Computer System Components and Communication System, Input & Output devices and their types, Storage Media and their types, Types of Computer Hardware, Information Security/Privacy, Computer Crimes and Ethical Challenges, Trees (Binary Trees, Binary Search trees, AVL Trees, Encryption Algorithms (DES, RSA), Design Concepts, Architectural Design, Design & Implementation, Project Management, Machine Instruction Characteristics, Instruction Processing, Processor Structure & Function, Control Unit Operation, Micro-programmed Control, Instruction-Level Parallelism And Superscalar Processors, Parallel Processing, Multi-Processor and Multi-core Systems.

**II. Computer Communications & Networks**

Basic Concepts and Classification of Networks, Circuit switching, Packet switching, Multiplexing (TDM, FDM), Layering: OSI and TCP/IP, Application Layer (Network application architectures, HTTP, FTP, Email, DNS, P2P applications), Transport Layer (Multiplexing in UDP and TCP, Connectionless Transport: UDP, Reliable data transfer and TCP, Congestion avoidance and control), Network Layer (The Internet Protocol, IPv4 Datagram, Internet Address Classes, Special IP Addresses ARP, IPv6, ICMP, Network Address Translation (NAT), Internet Routing Protocols and Algorithms, X.25, Frame relay and ATM, MPLS), Physical & Link Layer Functionalities (Error Detection & Control, ARQ, Link layer addressing, LAN Technologies, Bridges and Hubs, Multiple Access), Special topics (Security, Overlay networks, naming, Content distribution networks, Peer to peer systems, DHTs, Network Attacks).

**III. Database Systems**

Introduction to Database Systems, Relational Data Model & Relational Database Constraints, Relational Data Model, SQL, Relational Algebra & Calculus, ER Model, ER to Relational Mapping, PL/SQL Stored Procedures & Triggers, Functional Dependencies and Normalization, Storage & Indexing, Indexing Structure, XML documents & Web Services, Query Processing & Evaluation, Query Optimization, Transaction processing, Object-Oriented Databases, Distributed Databases, Database Security & Access Control

#### IV. Operating Systems & Web

Roles of an Operating System, Operating-System Evolution, Memory Management, File Systems (UNIX and Windows Systems), Web applications Issues (Accessibility, testing, performance, operation, maintenance, security).

#### SUGGESTED READINGS

S. No.	Title	Author
1.	Computer System Architecture	M. Morris Mano
2.	Software Engineering	Ian Sommerville
3.	Computer Networking: A Top Down approach featuring the Internet	James F. Kurose and Keith W. Ross
4.	Data and Computer Communications	William Stallings
5.	Database Systems Concepts	Silberchatz, Abraham & Korth, Sudarshan
6.	Computer Networks	Andrew Tanenbaum
7.	Web Services: Principles and Technology	Michael Papazoglu

## Syllabus for Descriptive Test of

### F.4-116/2024-R (Assistant Director MIS (BS-17))

Max Marks: 100

Qualifying Standard 40%

Time Allowed: 3 Hours

#### **I. Management Information System (MIS)**

Introduction to Information Systems in Organizations; Business Process and Decision Making; Productivity, Innovation and Strategy; Database and Content Management; Decision Making and Business Intelligence; Competitive Advantage and Business Processes; Networks and Collaboration; ERP and E-commerce, Social Networking, and Web 3.0; Acquiring Information Systems through Projects; Structure, Governance, and Ethics; Managing Information Security and Privacy.

#### **II. Software Development**

Basic programming elements and concepts, Problem Solving & Program Design, Components of a programming language, Program development and execution, Program structure, Data types and variable declarations, Standard I/O streams, and statements, Control structures, Standard library functions, User defined functions and parameter passing, Arrays, pointers, and strings, Structures, unions, and bit manipulation operators. Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors, operator and function overloading, virtual functions, derived classes, inheritance and polymorphism.

#### **III. Database Systems**

Introduction to Database Systems, Relational Data Model & Relational Database Constraints, Relational Data Model, SQL, Relational Algebra & Calculus, ER Model, ER to Relational Mapping, PL/SQL Stored Procedures & Triggers, Functional Dependencies and Normalization, Storage & Indexing, Indexing Structure, XML documents & Web Services, Query Processing & Evaluation, Query Optimization, Transaction processing, Object-Oriented Databases, Distributed Databases, Database Security & Access Control

#### **IV. Operating Systems & Web**

Roles of an Operating System, Operating-System Evolution, Memory Management, File Systems (UNIX and Windows Systems), Web applications Issues (Accessibility, testing, performance, operation, maintenance, security).

### **SUGGESTED READINGS**

<b>S. No.</b>	<b>Title</b>	<b>Author</b>
1.	Experiencing MIS,	D. M. Kroenke, A. Gemino and P. Tingling.
2.	Business driven information systems,	P. Baltzan, B. Detlor, and C. Welsh,
3.	C++ How to Program	Harvey M. Deitel and Paul J. Deitel
4.	Data Structures and Algorithm Analysis in C++	Mark Allen Weiss
5.	Data structures	Aaron M. Tanenbaum,
6.	Data and Computer Communications	William Stallings
7.	Database Systems Concepts	Silberchatz, Abraham & Korth, Sudarshan
8.	Web Services: Principles and Technology	Michael Papazoglu

## Schemes and Syllabi for Written Examination (Descriptive) for All Posts in BS-18 & BS-19 (other than Doctors) included in Consolidated Advertisement No. 07/2024

### PAPER-I: ENGLISH

Max Marks: 100

Time Allowed: 3 Hours

- (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**

Max Marks: 100

Time Allowed: 3 Hours

Case No.	F.4-107/2024-R
Particulars of post	<b>Assistant Chief</b> (BS-18), Agriculture Policy Institute, Ministry of National Food Security & Research.
Minimum Qualification & Experience:	<p>i. Ph.D. in Agriculture Economics/ Economics from a University recognized by the HEC.</p> <p>ii. One (1) year post qualification experience of Agriculture Policy Planning and Analysis.</p> <p style="text-align: center;"><b>OR</b></p> <p>i. M.Phil. in Agriculture Economics/ Economics from a University recognized by the HEC.</p> <p>ii. Three (3) years post qualification experience of Agriculture Policy Planning and Analysis.</p> <p style="text-align: center;"><b>OR</b></p> <p>i. Second Class or Grade 'C' Master's degree in Agriculture Economics/ Economics or equivalent qualification from a University recognized by the HEC.</p> <p>ii. Five (5) years post qualification experience of Agriculture Policy Planning and Analysis.</p>

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II.

**Part-II (Professional): 75 Marks (Descriptive)**

- I. Challenges in Pakistan's Agriculture:** Analytical overview: issues and strategies for improvement of crop management, livestock management, fisheries, resource management and rural development. Efficacy and strengthening of the R & D ecosystem in Agriculture. Issues in Agricultural Extension. Issues in Post-harvest management of Agriculture Product.
- II. Elements of Climate and Relationship with Crop Growth:** Farming Systems, biological nitrogen fixation, soil profile, structure and texture, soil fertility, soil erosion and conservation, water logging and salinity
- III. Agricultural Economics:** Definition, nature and scope of agricultural economics; Agriculture as an industry, its peculiarities & role in national economy; Organization and structure of the agricultural Sector; Factors of production and their rewards; Theory of Production; Laws of return, and its significance in agriculture; Land utilization and land use policy;
- IV. Agricultural Marketing:** Basic concepts and principles of Agricultural Marketing and its role in Agricultural development; Marketing Infrastructure, Marketing Approaches and problems; Standardization and grading, Storage, transportation, and management. Marketing margins and profitability; market functionaries, marketing channels, price variation and stabilization; Review of agricultural marketing systems in Pakistan. Current Legislation; emerging trends in regulation of agri-markets; empowering the farmers through ICT.

- V. Nutrition:** Ecological problems of food resource production, resources and quality of foods, solutions in food insecurity, sustainable agriculture and food systems, international programmes for improving malnutrition situation. Statistics on Nutrition in Pakistan.
- VI. Agricultural Policies (Provinces):** Agricultural policies of the provinces of Pakistan, Existing legislation and modern trends, Agri-Taxation and subsidies, trade policies for agricultural commodities, rural development policies.
- VII. National Food Security Policy.**

### SUGGESTED READINGS

S. No.	Titles	Author
1.	Agriculture in Pakistan	Khan M. H.
2.	Manual of Plant Production	Abdul Manan.
3.	Principles of Field Crop Production	Martin., J.H. & Leonard, W.H.
4.	Diseases of Field Crops	Dickson, J.G
5.	Irrigation Principles & Practices	Isrealson, O.W. Vaughn, E. Hansen
6.	The Principles of Agronomy.	Harris, Franklin Stewart
7.	Food, Agriculture and Nutrition,	FAO. 1997. Italy
8.	Introduction to Agricultural Economics.	Penson, J. B., Capps, O. Rossen C. P. & Woodward, R.
9.	Principle of Marketing	Kotler, P. and Armstrong, G.
10.	Agricultural Policies in Developing Countries	Ellise, F.
11.	Agricultural Policy Manual: A discussion of Agricultural Policies for Development	Eckert, J. B.
12.	National Food Security Policy	Govt. of Pakistan <a href="http://www.mnfsr.gov.pk">www.mnfsr.gov.pk</a>

**PAPER-II: PROFESSIONAL**

Max Marks: 100

Time Allowed: 3 Hours

Case No.	F.4-109/2024-R
Particulars of post	<b>Superintending Engineer (Floods) (BS-19)</b> , Office of the Chief Engineering Adviser/ Chairman Federal Flood Commission, Ministry Of Water Resources.
Minimum Qualification & Experience:	(i) Bachelor's Degree in Civil Engineering or an equivalent qualification from a recognized University/ Institution. (ii) Twelve (12) years post qualification experience in Planning, Design or construction or operation of Dams, Irrigation or Hydraulic Works in BS-17 and above or equivalent in a Government / Semi-Government / reputable private organization.

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II.

**Part-II (Engineering) (Subjective) : 75 Marks****I. Civil Engineering Fundamentals:**

Structures; stress, strain, shearing force and bending moment concepts, beams, columns, footing. Simply supported and Cantilever beams, Pulleys and gears.

**II. Environmental Engineering:**

Environmental impacts on water resources projects, transportation engineering projects, waste water treatment and management, water supply and distribution.

**III. Hydraulic Engineering:**

Properties of fluid mechanics, pressure measuring devices, flow measuring devices, losses in pipelines, open channels, barrages and dams. Prediction of sediment distribution; Estimation of life of a reservoir. Operation and Maintenance of small dams: Maintenance of spillways, outlet pipes, earth embankments and foundation, storage dams, diversion dams, flood detention reservoirs; emergency preparedness plan, periodic examination and evaluation, reservoirs problem, silting seepage control, toxic algae, reservoir safety, marine life, Spillways, undersluices.

**IV. Hydraulic Structures**

- Canal Falls, flumes, canal outlets
- Cross drainage works: types and functions

**V. National policies on Water and Power**

- Power Generation Policy 2015
- National Electricity Policy 2021
- National Water Policy 2018

**VI. Indus Waters Treaty 1960 and its implementation**

Historical background of Indus Water Treaty, 1960, Transitional Arrangements, Functions of Permanent Indus Commission, Challenges in implementation of the Treaty, Implications and limitations, Disputes resolution mechanism, Current water issues/disputes with India, Benefits or otherwise of the Treaty for Pakistan and India.

**VII. Global Warming and Climate Change**

The emerging scenario of global warming and its impact on riverain systems, aquifer and agricultural eco-systems (including cropping pattern)

**VIII. Water Accord, 1991**

Salient features of Water Accord, 1991 between the provinces of Pakistan, functioning of IRSA, Impact of IRSA on the water distribution for irrigation purposes and current water distribution issues.

**IX. Project Management:**

Project Management Techniques, Time lines, milestones, resources allocation, dependency, Gant Charts,

**X. Inventory Management:**

FIFO models, LIFI models, Identification Schemes, Inventory management systems.

**XI. Quality Management Systems:**

QA models. Deming, Juran Crosby, Quality circles, management responsibility, quality planning, purchasing, design process and design validation, quality audit, corrective and preventive measures.

**SUGGESTED READINGS**

<b>S.No.</b>	<b>Title</b>	<b>Author</b>
1.	Properties of Concrete	A.M. Neville.
2.	Plain and reinforced concrete	Nilson.
3.	Strength of material	Andrew Pytel and Singer.
4.	Transportation Engineering, Planning and design	Paul Wright.
5.	Civil Engineer's Reference Book	LS Blake
6.	Surveying and Leveling	T.P Kanetaker.
7.	Public Health Engineering	STEEL.
8.	Fluid mechanics with engineering applications	Finnemore/ Franzini.
9.	Handbook of Engineering Management	Dennis Lock.
10.	Conflict and cooperation on South Asia's International Rivers: A Legal Perspective	M.A. Salman
11.	Indus Water Treaty: Political and Legal Dimensions	Ijaz Hussain
12.	Pakistan's Water: in the line of Action for Global Warming	Dr. Raja Rizwan Hussain, Engr. Raazia Attique
13.	Irrigation and Hydraulic Structures, Theory, Design and Practice	Iqbal, A,
14.	Environmental Science: Earth as a living Planet	Botkin, D . Keller, E.
15.	Total Quality Management	Dale H. Besterfield, Carol Besterfield-Michna, Glen H. Besterfield, Mary Gesterfield-Sacre

**PAPER-II: PROFESSIONAL****Max Marks: 100****Time Allowed: 3 Hours**

Case No.	F.4-112/2024-R
Particulars of post	<b>2<sup>nd</sup> Engineer (Electronics) (System Engineer PCBRF) (BS-18),</b> Naval Headquarters, Ministry of Defence.
Minimum Qualification & Experience:	(i) Bachelor of Engineering in Electrical/ Electronics/ Computer or equivalent from the recognized University. (ii) Five (5) years post qualification experience in Govt./ Semi-Govt./ or a firm of repute in repairs of the multi-layer Printed Circuit Board/ use of Specialized Diagnostic Test Equipment/ handling of Programmable ICs.

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II.

**Part-II (Engineering) (Subjective) : 75 Marks****I. Electricity & Electronics:**

Electricity & Magnetism; Electrical potential, Resistance, Laws of resistance, Conductance, Conductivity, Impedance, Ohm law, Resistance in series and in parallel, practical resistors, work, power, Energy, Joule's law of electric field intensity, Gauss's Theorem, Capacitor, Capacitance, Capacitors in parallel and series. Force on a conductor in a magnetic field, electrical and magnetic circuits, leakage flux, Relation between magnetism and electricity, Induced emf, induced current and directions, Faraday's laws of electromagnetic inductions, Lenz's law, dynamically induced emf, Self inductance, mutual inductance and inductance in series/parallel, magnetic hysteresis, Energy stored in magnetic field, Generation of alternating currents and voltages.

**II. Electrical Machines:**

DC Motors: Shunt, Series and Compound Motors, Speed and Torque Relations. Transformers: Principle, Construction, Voltage transformation ratio, Step-up/step-down transformers, Copper & Iron Losses, Transformer connections; delta and star.

AC Motors: Induction motor, Synchronous motor, Performance, Efficiency. Single phase and three phase Motors.

Generators: Principle, Construction, Different components of generators. AC Generators, DC Generators.

**III. Electronics:**

Transistors: types, calculations of voltages and currents in simple transistor circuits.

Amplifier & Oscillators: Working and classification of amplifiers, Class A and Class B Amplifiers, Feedback Amplifiers, Types of Feedback, RC Oscillators.

Integrated Circuits: OP Amps, timers, flip flop, converters, filters.

Telecommunications: EM theory, antennas, antenna gain, free space loss, fading. Modulations (AM, FM, PM, PWM, Delta, FSK, ASK, PSK), Error correction, Demodulation, Detectors, Transmitter, Receivers.

DSP and Controls; filters, stability, Z-transform, Nyquist criteria, S domain, transfer functions.

Introduction to Computing: History and evolution of computers, central processing unit, data storage, input/output devices, multimedia, operating systems, programming languages, networking, the internet, system analyses and design, management information system, electronic commerce, security and privacy issues, ethical issues and the computing profession,

#### IV. **Power Systems:**

Power network analysis, Polyphase circuits, Transients, Transmission Lines, Losses.

#### V. **Costing, Accounting and Budgeting:**

Net present value, Net future value, cash flows, auditing, income statement, balance sheet, taxation, financial risk management, cost analysis.

#### VI. **Project Management:**

Time lines, milestones, resources allocation, dependency, Gant Charts,

#### VII. **Inventory Management:**

FIFO models, LIFO models, Identification Schemes, Inventory management systems.

#### VIII. **Quality Management Systems:**

QA models. Deming, Juran Crosby, Quality circles, management responsibility, quality planning, purchasing, design process and design validation, quality audit, corrective and preventive measures.

### SUGGESTED READINGS

S. No.	Title	Author
1.	Electrical Technology	B.L. Tharaja
2.	Electronic Devices and Circuits.	Bogart
3.	DC Machines	P.C. Sen
4.	Semiconductors	Manzar Saeed
5.	Modern Digital and Analog Communication	B.P.Lathi
6.	Computers, tools for an Information age,	H.L. Captron, Addison Wesley
7.	Handbook of Engineering Management	Dennis Lock.
8.	Total Quality Management	Dale H. Besterfield, Carol Besterfield-Michna, Glen H. Besterfield, Mary Gesterfield-Sacre

**PAPER-II: PROFESSIONAL****Max Marks: 100****Time Allowed: 3 Hours**

Case No.	F.4-113/2024-R
Particulars of post	<b>Deputy Armament Supply Officer (BS-18)</b> , Naval Headquarters, Ministry of Defence.
Minimum Qualification & Experience:	(i) Second Class or Grade 'C' Master's degree in Chemistry/Physics. (ii) Five (5) years post qualification experience in Explosives/ Dangerous Cargoes/ Petroleum/ Oils/ Lubricants.

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II & Part-III.

**Part-II: (Chemistry) 40 Marks (Descriptive)**

- I. Atomic structure.—Quantum theory, Schrodinger equation, Particle in box, hydrogen atom. Hydrogen moleculeion, hydrogen molecule. Theories of hydrogen and metallic bonding.
- II. Electrochemistry.—Ionic equilibria, theory of strong electrolytes; ebye-Huckel theory of activity coefficients, galvanic cells, membrane equilibria and fuel cells. Theories of Acids and Bases, glass electrode, measurement of pH. Electrolysis, overvoltage and corrosion.
- III. Thermodynamics.—First law of thermodynamics, internal energy, enthalpy functions. Thermochemistry, Entropy and second law of Thermodynamics, Free energy and chemical equilibrium.
- IV. Chemistry of Following Elements.—Oxygen, Carbon, Chlorine, Silicon, Nitrogen, Phosphorus.
- V. Inorganic Chemical Industries.—Sulphuric Acid, Fixation of Nitrogen, Chemical Fertilizers, Semi-conductivity devices. Cement, Glass and Ceramics.
- VI. Industrial Organic Chemistry.—Organic Polymers. Fermentation processes including preparation of Anti-Biotics. Petro-Chemical Industry.

**Part-III: (Physics) 35 Marks (Descriptive)****I. Mechanics**

- Vectors—Dots, Cross and triple products, Gradient, divergence and applications.
- Newtonian laws of motion; calculus based approach to kinematics, forces and dynamics, conservation law of energy; conservation of linear and angular momentum; Dynamics of rigid body; spin and precession; gyroscope; Gravitation; planetary motion and satellites; Kepler's laws; centripetal forces
- Special theory of relativity. Michelson—Morley experiment and Einstein's postulates; Lorentz transformation; time dilation and length contraction; equivalence of mass and energy.

**II. Fluid Mechanics**

Surface tension; Viscosity; Elasticity; fluid motion and Bernoulli's theorem.

**III. Heat and Thermodynamics**

Perfect gas and Vander Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; kinetic theory of gases; Maxwellian

distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application; Quantum Bose—Einstein and Fermi—Dirac Statistics.

#### IV. Electricity and Magnetism

Electric field due to point charges, Gauss' law Electric potential and Poisson and Laplace's equation Dielectric medium and Polarization; Capacitance; Moving charges and resulting magnetic field; Ampere's law; Vector potential; Magnetic properties of matter; Transient current; Faraday's law of electromagnetic induction; Alternating current and LRO circuit. Maxwell's equations; Poynting theorem and Poynting Vector. Maxwell's equations in integral and differential form.

#### V. Solid State Physics

Crystal lattice and structure, Bravais lattice, free electron model, Band theory and electron in a periodic potential, Fermi energy and density of states, n and p type semiconductors, physics of the transistor and MOSFET, dielectric properties, magnetic properties and origin of magnetism.

#### VI. Nuclear Physics

Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Mass Spectrometer. Accelerators. Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application, Elementary particles and their properties.

### SUGGESTED READINGS

S. No.	Title	Author
1.	Advanced Inorganic Chemistry 3 <sup>rd</sup> Ed.	Cotton. F.A. and Wilkinson Groffrey
2.	Inorganic Chemistry, 3 <sup>rd</sup> Ed. 1983	Hukeavy, James E.
3.	Physical Chemistry 5 <sup>th</sup> Ed.	Moore, Walter J.
4.	Mechanism & Structure in Organic Chemistry	Gould, Edwards
5.	Organic Chemistry 2 <sup>nd</sup> Ed.	Morrison, Robert Thornton & Boyd R.N.
6.	Perspectives of Modern Physics.	A. Beiser.
7.	Fundamentals of Physics.	Halliday & Resnick
8.	Introduction to Electromagnetic Fields and Waves.	D. Corson & P. Lorrain.
9.	Heat and Thermodynamics.	D. Zemansky
10.	Introduction to Quantum Mechanics	D. Griffiths
11.	Modern Physics	Serway, Moses, Moyer.
12.	Solid State Physics	C. Kittel

**PAPER-II: PROFESSIONAL**

Max Marks: 100

Time Allowed: 3 Hours

Case No.	F.4-127/2024-R
Particulars of post	<b>Deputy Director (BS-18)</b> , Directorate of Workers Education, Ministry of Overseas Pakistanis and Human Resource Development.
Minimum Qualification & Experience:	(i) Second Class or Grade 'C' Master's degree in Economics/ Sociology/ Business Administration/ Public Administration from a University recognized by HEC. (ii) Five (5) years post qualification experience in Human Resource Development or Workers Training/Workers Welfare in nationally recognized institutions in BS-17 and above or equivalent.

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II.

**Part-II: 50 Marks (Descriptive)**

(Public Administration, Office Management &amp; Professional)

- I. **Public Administration:** Nature and scope, Role of Public Administration in a modern Welfare State;
- II. **Bureaucracy:** Concept of Bureaucracy, Theories of Bureaucracy, Ecology of Bureaucracy; Bureaucracy; of Pakistan as a Change Agent;
- III. **Administrative Leadership:** Approaches to the study of Leadership, Forms of Leadership, Leadership qualities;
- IV. **Administrative Accountability:** Internal and External Controls; Executive Control, Legislative Control, Judicial Control, Ombudsman, Public Opinion and Pressure Groups; Problems of Administrative Accountability in Pakistan;
- V. **Controlling and Co-Ordination:** Forms of Controls, Control Mechanism, the process of Control, Principles of Controlling; Principles Coordination; Machinery for Coordination; Problems of Coordination in Public Administration in Pakistan.
- VI. Civil Servant Act 1973 and Rules made thereunder;
- VII. Rules of Business 1973;
- VIII. Secretariat Instructions and Office Procedures;
- IX. Public Procurement Ordinance and Rules 2004.
- X. International Migration Convention 2003
- XI. Emigration Ordinance and Rules, 1979
- XII. Impact of Illegal Migration/Human Trafficking
- XIII. Issues of Pakistani Migrant Workers
- XIV. Importance of pre-departure Orientation & Briefing for Intending Emigrants

**Part-III: 25 Marks (Descriptive)**

(Human Resource, Financial Management, Quality Management and Information Technology)

**I. Human Resource and Financial Management**

Definition, Significance and Scope of Human Resource Management; Organization—Types of Organization, Theory of Organization, Principles of Organization, Organization

of the Federal and Provincial Governments, Public Sector Enterprises; Approaches to Human Resource Management. Personnel Administration—Tools of Personnel Management: Selection, Training, Promotion, Compensation, Discipline; Communication, Communication Channels and Principles of Public Relations; Human Behaviour and Organizations Administration.—Elements of Financial Administration, Performance Programmed Budgeting, Capital Budget, Principles of Budgeting, Auditing and Accounting.

## II. Basic Concept of Quality Management

ISO-9000, ISO-13000, other certifications regarding quality measurement; management, management for Results, Setting Performance Goals and Targets; Job Analysis: Job Description, Job Specification, Performance Evaluation;

## III. Information Technology and MS Office

Fundamentals of Computer: CPU, Memory Devices, Types of Computers, Characteristics of Computer and related material; Application Software: Microsoft Word, Microsoft Power Point, Microsoft Excel; Search Engines, Web Design, Email, Internet Surfing, Social Networking (Facebook, Twitter, etc); General Introduction to Virus and Antivirus utilities; Programming Languages

### SUGGESTED READINGS

S. No.	Title	Author
1.	An Introduction to the Public Administration	E.N. Cladden
2.	Bureaucracy: Modern Society	Pebr, M. Blau.
3.	Public Administration for a Welfare State	Paul Ableby
4.	The Bureaucracy of Pakistan	Charles F. Kennedy
5.	Human Resource Management	H.T.Graham & Roger Bennett
6.	Management	James A.F.Stoner, R.Eward Freeman, Daniel R.Gilbert Jr.
7.	Understanding Computer: Today and Tomorrow	Deborah Morley, Charles Parker
8.	MS Office 365 Handbook: 2013 Edition	Kevin Wilson

**PAPER-II: PROFESSIONAL**

Max Marks: 100

Time Allowed: 3 Hours

Case No.	F.4-128/2024-R
Particulars of post	<b>Senior Teacher (Special Education) (BS-18)</b> , Sir Syed School & College of Special Education, Rawalpindi, Federal Government Educational Institutions (Cantt/ Garrison), Directorate, Ministry of Defence.
Minimum Qualification & Experience:	(i) Second Class or Grade 'C' Master's or Bachelor's (4 years duration) degree in Special Education or equivalent qualification from a University recognized by the HEC. (ii) Five (5) years post qualification teaching / administrative experience in Special Education from a recognized institute.

**Part-I: 25 Marks (MCQ)**

- 25 MCQ Questions on Part-II & Part-III.

**Part-II: (Special Education) 50 Marks (Descriptive)****I. Introduction to Special Education**

Basic Concepts and Terms, Basic Models of Rehabilitation, Special Education in Context, People, Concepts, and Perspectives Parents, Families and Exceptionality

**II. Human Growth and Development**

The Nature of Child Development, Biological Processes, Physical Development and Perceptual Development, Cognition and Language, Socio-emotional Development, **Social Contexts of Development**

**III. Introduction to Exceptionalities**

Classification System of Exceptionalities, Persons with IDD (Mental Retardation), Persons with Learning Disability, Persons with Emotional or Behavioral Disorders, Gifted Children, Persons with Speech and Language Disorders, Persons with Hearing Impairment, Persons with Visual Impairment, Persons with Physical Disabilities

**Part-III: (Professional) 25 Marks (Descriptive)****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**

<b>S. No.</b>	<b>Title</b>	<b>Author</b>
1.	Child Development.	Santrock, John W.
2.	Understanding Child Development.	Charles worth, R.
3.	Educating Special Children	Farrell, M.
4.	The Complete Guide to Special Education	Wilmshurst, L.
5.	Teaching Exceptional Children	Bayat, M.
6.	Research in Education	JW Best
7.	Integrating Education Technology into Teaching	Roblyer
8.	Curriculum Development	S. M. Shahid
9.	Educational Measurement and Evaluation	S. M. Shahid
10.	Educational Administration	S. M. Shahid

**Schemes and Syllabi for Written Examination (Descriptive) for  
All Posts of Doctors in BS-18 & BS-19 included in  
Consolidated Advertisement No. 07/2024**

**PAPER-I: MBBS (Common for all posts of Doctor in BS-18 & 19)**

Max Marks: 100

Time Allowed: 3 Hours

**Part-I: (MCQ)**

**25 Marks**

25 MCQ Questions on Part-II

**Part-II: (Qualification Based) (Descriptive)**

**75 Marks**

Core courses of **MBBS Degree**

**PAPER-II: PROFESSIONAL**

Max Marks: 100

Time Allowed: 3 Hours

Case No.	F.4-117/2024-R
Particulars of post	<b>ENT Specialist (BS-18)</b> , National Institute of Rehabilitation Medicine, Ministry of National Health Services, Regulations & Coordination.
Minimum Qualification & Experience:	i. MBBS or equivalent qualification recognized by PM&DC. ii. PM&DC Level-III qualification in the related speciality with 02 years post qualification experience in the relevant field. OR PM&DC Level II (a) or Level II (b) in the related speciality with four (4) years post qualification experience in the relevant field.

**Part-I: (MCQ)**

**25 Marks**

25 MCQ Questions on Part-II.

**Part-II: (Professional) (Descriptive)**

**75 Marks**

Core courses of specialization in **ENT**.