

**FEDERAL PUBLIC SERVICE COMMISSION**  
**(Curriculum & Research Wing)**

**Schemes and Syllabi of Objective Type Test (MCQ) relating to Posts in  
BS-16 & 17 under Advertisement No. 01/2026**

Max Marks: 100

Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
1.	01/2026	Fire Officer (BS-16), Naval Headquarters, Ministry of Defence.	B.E (Mechanical/ Electrical/ Chemical/ Civil) from a University recognized by the PEC.  <b>OR</b> BS (Physical Sciences/ Applied Sciences) from University recognized by the HEC.  <b>OR</b> i. DAE (Mechanical/ Electrical/ Construction/ Civil) from a recognized Institution with two (2) years post qualification experience in relevant field including Fire Fighting/ Management Services. ii. One year certificate in Fire Fighting.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> General Intelligence Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ General Knowledge,</li> <li>▪ Everyday Science</li> <li>▪ Basic Arithmetic <ul style="list-style-type: none"> <li>▪ Algebra</li> <li>▪ Ratios</li> <li>▪ Percentages</li> </ul> </li> <li>▪ Arithmetic Means</li> <li>▪ Current Affairs. <ul style="list-style-type: none"> <li>▪ Developments at National and International Levels in the last 5 years.</li> </ul> </li> <li>▪ Basic principles of Fire Fighting</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
2.	04/2026	Senior Teacher / Subject Specialist / Lecturer (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' M.A / M.Ed in Special Education or equivalent qualification from a recognized University of Pakistan / abroad. OR Second Class or Grade 'C' Master Degree or equivalent qualification from a recognized University of Pakistan / abroad with one year diploma in Special Education.	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>▪ Educational System in Pakistan</li> <li>▪ Educational Guidance &amp; Counselling</li> <li>▪ Basic Concepts in Special Education</li> <li>▪ Service Delivery Models in Special Education</li> <li>▪ Early Childhood Development of special persons</li> <li>▪ Disability Specific Teaching:               <ul style="list-style-type: none"> <li>a) Sensory Impairment                   <ul style="list-style-type: none"> <li>• Visual</li> <li>• Hearing</li> </ul> </li> <li>b) Physical                   <ul style="list-style-type: none"> <li>• Motor impairment</li> </ul> </li> <li>c) Autism and Pervasive Development Order</li> <li>d) Other Intellectual/Academic exceptionalities</li> </ul> </li> <li>▪ Assistive Devices for special education</li> <li>▪ Teaching strategies for special children</li> <li>▪ Class Room Assessment in Special Education</li> <li>▪ Management and Administration of Special Education</li> </ul>
3.	05/2026	Assistant Director (Admn) (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree in Public Administration / Business Administration.	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>• Human Resource Management</li> <li>• Civil Servants Act, 1973 and Rules made thereunder</li> <li>• Rules of Business, 1973</li> <li>• System of Financial Control and Budgeting</li> <li>• Public Procurement Rules, 2004</li> <li>• Basic Arithmetic &amp; Computer/IT.</li> <li>• Basic Concepts in Special Education</li> <li>• Service Delivery Models in Special Education</li> <li>• Early Childhood Development of special persons</li> <li>• Assistive Devices for special education</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
4.	06/2026	Occupational Therapist (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Bachelor's degree in Occupational Therapy with three 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>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Concept and functions of Occupational Therapy</li> <li>• Common Neurological Disorders</li> <li>• Role of Occupational Therapy while dealing with the patient with Neurological Conditions</li> <li>• Adopted devices and their functions</li> <li>• Role of Occupational Therapy in Rehabilitation of Cerebral Palsied Children</li> <li>• Role of Occupational Therapy in Daily Living</li> <li>• Occupational Therapy as Supportive Measures</li> <li>• Occupational Therapy for Blind and Visually Impaired</li> <li>• Occupational Therapy in Geriatrics</li> <li>• Occupational Therapy for Children and Adolescents with Psychological Disorders.</li> </ul>
5.	08/2026	Warden (BS-16), Directorate General of Special Education, Ministry of Federal Education and Professional Training	B.A / B.Sc. with one year Diploma in Hotel Management.	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>• Human Resource Management:</li> <li>• Inventory &amp; Store Management</li> <li>• Hostel Premises Maintenance</li> <li>• Food and Mess Management</li> <li>• Safety &amp; Security</li> <li>• Housekeeping</li> <li>• Basic Information Technology</li> <li>• Logical Reasoning</li> <li>• Service Delivery Models in Special Education</li> <li>• Early Childhood Development of special persons</li> <li>• Assistive Devices for special education</li> </ul>
6.	09/2026	Staff Nurse (BS-16), Directorate General of Special Education, Ministry of Federal Education and Professional Training	Three (3) years Post Matric diploma in Nursing and one (1) year diploma in (Midwifery for females/ one year Specialization diploma for males) duly registered 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> 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> <li>• Service Delivery Models in Special Education</li> <li>• Early Childhood Development of special persons</li> <li>• Assistive Devices for special education</li> </ul>

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7.	12/2026	Senior Instructor / Vocational Instructor (BS-16), Directorate General of Special Education, Ministry of Federal Education and Professional Training	i. Three (3) years Post Matric Diploma in Electrical / Mechanical / Electronics or three (3) years Post Matric Diploma in Vocational Trade viz. Knitting / Tailoring or Embroidering. ii. Five (5) 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>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"><li>• Vocational Rehabilitation</li><li>• Community Mobilization</li><li>• Bloom's Taxonomy</li><li>• Disability Specific Teaching</li><li>• Service Delivery Models in Special Education</li><li>• Early Childhood Development of special persons</li><li>• Assistive Devices for special education</li></ul>
8.	13/2026	Composer (BS-16), Directorate General of Special Education, Ministry of Federal Education and Professional Training	i. Second Class or Grade 'C' Bachelor's Degree. ii. Three (3) years post qualification experience in Braille Printing and Composing.	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>▪ Origins &amp; Significance of Braille System</li><li>▪ Fundamentals of Braille Code</li><li>▪ Alphabet &amp; Punctuation in Braille system</li><li>▪ Contractions &amp; Short forms Rules</li><li>▪ Special Symbols</li><li>▪ Braille Formatting and Layout Rules</li><li>▪ Margins and Indentation in Braille</li><li>▪ Page Layout &amp; Text Formatting</li><li>▪ Braille Transcription &amp; Translation Software</li><li>▪ Printing &amp; Composing of Braille Material</li></ul>
9.	14/2026	Audiologist (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	MBBS or equivalent qualifications recognized by PMDC.	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></li><li>▪ Health Policy of the Government</li><li>▪ National Policy for Persons with Disabilities, 2002</li><li>▪ Basic Concepts in Special Education</li><li>▪ Service Delivery Models in Special Education</li><li>▪ Early Childhood Development of special persons</li><li>▪ Assistive Devices for special education</li></ul>

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10.	15/2026	Social Case Worker (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree or equivalent qualification in Special Education or Social Work or Sociology or Anthropology.	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>▪ Community Organization and Development,</li> <li>▪ Social Research &amp; Statistics,</li> <li>▪ Organizational Behaviour and Human Resources,</li> <li>▪ Social Welfare Policy and Administration,</li> <li>▪ Methods of Counselling &amp; Guidance Services</li> <li>▪ Environmental Sociology</li> <li>▪ Health Policy of the Government</li> <li>▪ Basic concepts in Sociology and Criminology</li> <li>▪ Basic Concepts in Special Education</li> <li>▪ Service Delivery Models in Special Education</li> <li>▪ Early Childhood Development of special persons</li> <li>▪ Assistive Devices for special education</li> </ul>
11.	16/2026	Physiotherapist (BS-17), Directorate General of Special Education, Ministry of Federal Education and Professional Training	B.Sc. in Physiotherapy.	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>▪ Anatomy (Upper, Lower Limb &amp; Spine)</li> <li>▪ Physiology (Nerve, Muscles, CNS, Blood)</li> <li>▪ Electrotherapy</li> <li>▪ Kinesiology &amp; Biomechanics</li> <li>▪ Therapeutical Exercises</li> <li>▪ Physiotherapy Treatment</li> <li>▪ Basic Concepts in Special Education</li> <li>▪ Service Delivery Models in Special Education</li> <li>▪ Early Childhood Development of special persons</li> <li>▪ Assistive Devices for special education</li> </ul>
12.	17/2026	3 <sup>rd</sup> Engineer (Textile) (BS-17), Naval Headquarter, Ministry of Defence	Second Class or Grade 'C' Bachelor's in Textile Engineering. OR Second Class or Grade 'C' Master's in Textile Chemistry.	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>▪ General Textile Technology,</li> <li>▪ Spinning &amp; Weaving,</li> <li>▪ Dyeing and Finishing,</li> <li>▪ Testing and Quality Control,</li> <li>▪ Industrial Management and Human Relations.</li> </ul>

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13.	19/2026	Speech Therapist (BS-17), Armed Forces Institute of Rehabilitation Medicine (AFIRM) M/O Defence	<p>i. Second Class or Grade 'C' Master's / BS (16 years education) degree in Speech &amp; Language Therapy / Speech &amp; Language Pathology / Speech Therapy or equivalent qualification from a University recognized by the HEC.</p> <p>ii. Two (2) years post qualification experience in the field of Speech Therapy from a recognized/ registered Hospital / Institute / Organization.</p>	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b></p> <p>English = 20 marks</p> <p><b>Part-II</b></p> <p>Professional Test=80 marks</p>	<p><b>Part-I</b></p> <p>Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Speech &amp; Language Development</li> <li>▪ Articulation</li> <li>▪ Anatomy of Speech &amp; learning</li> <li>▪ Stammering</li> <li>▪ Neurogenic language &amp; communication disorders</li> <li>▪ Learning disabilities</li> <li>▪ Communication &amp; Social skills in Children with Autism Spectrum Disorder</li> <li>▪ Voice Disorder</li> <li>▪ National Policy for Disabled Persons</li> </ul>
14.	20/2026	Physiotherapist (Male) (BS-17), Armed Forces Institute of Rehabilitation Medicine (AFIRM) M/o Defence	DPT / BS in Physiotherapy from a University recognized by HEC.	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b></p> <p>English = 20 marks</p> <p><b>Part-II</b></p> <p>Professional Test=80 marks</p>	<p><b>Part-I</b></p> <p>Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>• Anatomy (Upper, Lower Limb &amp; Spine)</li> <li>• Physiology (Nerve, Muscles, CNS, Blood)</li> <li>• Electrotherapy</li> <li>• Kinesiology &amp; Biomechanics</li> <li>• Therapeutical Exercises</li> <li>• Physiotherapy Treatment</li> </ul>
15.	21/2026	Psychologist (BS-17), Armed Forces Institute of Rehabilitation Medicine (AFIRM) M/o Defence	<p>i. Master in Psychology from a University recognized by HEC.</p> <p>ii. Two (2) years post qualification experience as psychologist.</p>	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b></p> <p>English = 20 marks</p> <p><b>Part-II</b></p> <p>Professional Test = 80 marks</p>	<p><b>Part-I</b></p> <p>Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ History of Psychology</li> <li>▪ Abnormal Psychology</li> <li>▪ Psychotherapies</li> <li>▪ Clinical Psychology</li> <li>▪ Counselling Psychology</li> <li>▪ Psychological Testing</li> </ul>

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16.	22/2026	Prosthetist and Orthotist (BS-17), Armed Forces Institute of Rehabilitation Medicine (AFIRM), M/o Defence	<p>i. Second Class or Grade 'C' Master's / BS / Bachelor's (16 years education) degree in Prosthetics and Orthotics or equivalent qualification from a University recognized by PMDC/HEC</p> <p>OR</p> <p>Second Class or Grade 'C' Bachelor's (B.Sc.) degree in Orthopaedic Technology or equivalent qualification from a University recognized by the PMDC / HEC.</p> <p>ii. Two (2) years post qualification experience in the field of Prosthetics and Orthotics from a recognized/registered Hospital/Institute/Org.</p>	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b></p> <p>English = 20 marks</p> <p><b>Part-II</b></p> <p>Professional Test = 80 marks</p>	<p><b>Part-I</b></p> <p>Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>• CAD/CAM Prosthetics &amp; Orthotics</li> <li>• Mayo Electric Upper Limbs</li> <li>• Internal Sockets Pressure Measurements</li> <li>• High Tech Prosthetic Designing</li> <li>• High Tech Orthotics</li> <li>• Hydraulic and Microprocessor Knees</li> <li>• Reciprocating Gait Orthosis</li> <li>• CAD/CAM Insole Designing</li> <li>• Assistive Aids</li> </ul>
17.	23/2026	Demonstrator (Male) (BS-16), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/O Defence	Second Class or Grade 'C' Master's degree in Physics / Chemistry / Biology.	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b></p> <p>English = 20 marks</p> <p><b>Part-II</b></p> <p>General Science Test=80 marks</p>	<p><b>Part-I</b></p> <p>Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ <b>Physics:</b> <ul style="list-style-type: none"> <li>– Heat &amp; Thermodynamics,</li> <li>– Mechanics</li> <li>– Waves and Optics,</li> <li>– Electrostatic,</li> <li>– Modern and Quantum Physics,</li> <li>– Nuclear Physics,</li> <li>– Basic Solid State Physics</li> </ul> </li> <li>▪ <b>Chemistry:</b> <ul style="list-style-type: none"> <li>– Thermodynamics,</li> <li>– Nature, Properties and States of Matter</li> <li>– Organic Chemistry</li> <li>– Electronic Structure,</li> <li>– Bonding,</li> <li>– Chemical Kinetics &amp; Radioactivity,</li> <li>– Synthetic Chemistry.</li> </ul> </li> <li>▪ <b>Biology:</b> <ul style="list-style-type: none"> <li>– Anatomy and Embryology</li> <li>– Plant Physiology</li> <li>– Genetics &amp; Evolution</li> <li>– Molecular Biology</li> <li>– Animal Form and Function</li> <li>– Viruses &amp; Algae</li> <li>– Bryophyte, Protozoa &amp; Mollusca</li> </ul> </li> <li>▪ Maintenance and Management of Science Laboratories.</li> </ul>

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18.	24/2026	Demonstrator (Female) (BS-16), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence	Second Class or Grade 'C' Master's degree in Physics / Chemistry / Biology.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> General Science Test=80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> ▪ <b>Physics:</b> – Heat & Thermodynamics, – Mechanics – Waves and Optics, – Electrostatic, – Modern and Quantum Physics, – Nuclear Physics, – Basic Solid State Physics ▪ <b>Chemistry:</b> – Thermodynamics, – Nature, Properties and States of Matter – Organic Chemistry – Electronic Structure, – Bonding, – Chemical Kinetics & Radioactivity, – Synthetic Chemistry. ▪ <b>Biology:</b> – Anatomy and Embryology – Plant Physiology – Genetics & Evolution – Molecular Biology – Animal Form and Function – Viruses & Algae – Bryophyte, Protozoa & Mollusca ▪ Maintenance and Management of Science Laboratories.
19.	26/2026	Librarian (Male) (BS-17), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence	Second Class or Grade 'C' Master's Degree in Library Science / Information Science. OR Graduate with Diploma in Library Science from a University. OR Bachelor of Library Science plus five (5) years post qualification professional experience in BPS-16; otherwise eight (8) years' experience if not in BPS-16. OR Second Class or Grade 'C' Master's Degree in the relevant subject with Diploma in Library Science or Bachelor of Library Science.	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> • Information Sources and Services • Cataloguing: Theory and Practice • Procurement and Maintenance of Library Books • Library Automation/Information Storage & Retrieval • Research Methods & Techniques for Librarians • Public Records, Rare Material & their Conservation • Management of Serials Publications • Rules & Procedure regarding Write Off the Library Losses

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20.	27/2026	Lecturer (Male) (BS-17) A Computer Science B Islamiyat C Physics Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/O Defence	Second Class or Grade 'C' Master's degree or equivalent qualification in the relevant subject.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Subject Test = 50 marks <b>Part-III</b> Professional Test = 30 marks	<p><b>For (A) Computer Science</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Computer Hardware/Software,</li> <li>• Data Communication &amp; Networking,</li> <li>• C/C++ Language,</li> <li>• Visual Basic,</li> <li>• Operating System Unix/Linux</li> <li>• Windows 10/11</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <p><b>For (B) Islamiyat</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <p>☆ قرآن کا بنیادی موضوع / متن</p> <p>☆ سیرت النبی ﷺ</p> <p>☆ فقہ: جامعیت، اختلاف رائے اور عصر حاضر کے تناظر میں مذہب کی تشریح۔</p> <p>☆ تعارف اسلام</p> <p>☆ انسانی زندگی میں دین کی اہمیت</p> <p>☆ اسلام کے نمایاں پہلو</p> <p>☆ اسلامی عقائد کے انفرادی اور اجتماعی اثرات</p> <p>☆ انسانی حقوق۔ اسلام کی نظر میں</p> <p>☆ اسلام اور عصر حاضر کے چیلنجز</p> <p>☆ اسلامی نظام حکمرانی کا ڈھانچہ</p> <p>☆ سرکاری ملازمین کی ذمہ داریاں</p> <p>☆ اسلامی ضابطہ حیات</p> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

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					<p><b>For (C) Physics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
21.	32/2026	Lecturer (Male) (BS-17), A Biology/ Zoology / Botany B Chemistry C Commerce D Computer Science E English F Geography G Mathematics H Pak. Studies I Physics J Urdu Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree or equivalent in the relevant subject.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Subject Test = 50 marks <b>Part-III</b> Professional Test = 30 marks <b>Note:</b> <ul style="list-style-type: none"> <li>▪ In Language Subject (i.e Urdu), English part for 20 marks will not be included. There will be 70% subject Test and 30% Professional Test.</li> </ul>	<p><b>For (A) Biology/Zoology/Botany</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>▪ Theories of Evolution,</li> <li>▪ Nucleic Acids,</li> <li>▪ Cell Division,</li> <li>▪ Nutrition,</li> <li>▪ Ecosystem,</li> <li>▪ Division of Plants</li> <li>▪ Bryophytes &amp; Pteridophytes,</li> <li>▪ Gymnosperms, Angiosperms,</li> <li>▪ Ecology, Cytology, Genetics,</li> <li>▪ Eco System,</li> <li>▪ Classification of Fish, Reptiles, Mammals, Mollusks, Edinodermata,</li> <li>▪ Membrane System,</li> <li>▪ Mammalian Gametogenesis and Fertilization,</li> <li>▪ Mendelian laws of inheritance,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (B) Chemistry</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Nature, Properties &amp; States of Matter,</li> <li>• Electronic Structure,</li> <li>• Bonding,</li> <li>• Chemical Kinetics &amp; Radioactivity,</li> <li>• Synthetic Chemistry</li> <li>• Polymers,</li> <li>• Reaction Mechanism (electrophilic &amp; nucleophilic substitution and addition reaction)</li> <li>• Inorganic Chemistry,</li> <li>• Thermodynamics,</li> <li>• Electrochemistry,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
					<p><b><u>For (C) Commerce</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Auditing</li> <li>• Cost Accounting</li> <li>• Managerial Economics</li> <li>• Computer Application in Business</li> <li>• Islamic Principles of Banking &amp; Finance</li> <li>• E-Commerce</li> <li>• Specialized financial Institutions</li> <li>• Salient features of Investment Analysis</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (D) Computer Science</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Computer Hardware/Software,</li> <li>• Data Communication &amp; Networking,</li> <li>• C/C++ Language,</li> <li>• Visual Basic,</li> <li>• Operating System Unix/Linux</li> <li>• Windows 10/11,</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <p><b><u>For (E) English</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• English Literature 16<sup>th</sup> to 20<sup>th</sup> Century.</li> <li>• Linguistics.</li> <li>• English Language Teaching.</li> <li>• Syntax.</li> <li>• Diction.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (F) Geography</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Physical Geography</li> <li>• Landform development, climate, oceans &amp; seas, factor of climate and environmental change</li> <li>• Geography of Pakistan,</li> <li>• Human Geography</li> <li>• Political Geography (State, National and Nation-State Geopolitics of uneven development)</li> <li>• Statistical Geography,</li> <li>• Climatology/Metrology,</li> <li>• Environmental Geography,</li> <li>• GIS Techniques,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
					<p><b><u>For (G) Mathematics</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Calculus/Differentiation, Integration, Limits of continuity</li> <li>• General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>• Areas and Volumes, centre of Mass</li> <li>• Computing Tools for Mathematicians,</li> <li>• Mathematical Statistics,</li> <li>• Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces)</li> <li>• Differential Equations.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (H) Pakistan Studies</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Ideology of Pakistan in light of speeches and statements of Allama Iqbal and Quaid-e-Azam</li> <li>• Pakistan Movement 1857-1947</li> <li>• Current Issues of Pakistan (challenges to National Security, Economic Challenges, Pakistan's War on Terror,</li> <li>• Geography of Pakistan <ul style="list-style-type: none"> <li>✓ Land and People of Pakistan</li> <li>✓ Pakistan and CPEC</li> <li>✓ Natural Resources of Pakistan,</li> </ul> </li> <li>• Latest Constitutional Amendments,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <p><b><u>For (I) Physics</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (J) Urdu</b></p> <p><b>Part-I (Masters Level) (70 Marks)</b></p> <ul style="list-style-type: none"> <li>• اردو ذخیرہ الفاظ</li> <li>• اردو جملے کا ڈھانچہ</li> <li>• اردو قواعد کا استعمال</li> <li>• لسانیات</li> <li>• غالبیات</li> <li>• اقبالیات</li> <li>• تنقید</li> <li>• طنز و مزاح</li> </ul> <p><b>Part-II (30 Marks)</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
22.	33/2026	Lecturer (Female) (BS-17), (A) Commerce (B) Computer Science (C) English (D) Mathematics (E) Pak. Studies (F) Physics (G) Urdu Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree or equivalent in the relevant subject.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Subject Test = 50 marks <b>Part-III</b> Professional Test = 30 marks <b>Note:</b> ▪ In Urdu Subject, English part for 20 marks will not be included. There will be 70% subject Test and 30% Professional Test.	<p><b>For (A) Commerce</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Auditing</li> <li>• Cost Accounting</li> <li>• Managerial Economics</li> <li>• Computer Application in Business</li> <li>• Islamic Principles of Banking &amp; Finance</li> <li>• E-Commerce</li> <li>• Specialized financial Institutions</li> <li>• Salient features of Investment Analysis</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (B) Computer Science</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Computer Hardware/Software,</li> <li>• Data Communication &amp; Networking,</li> <li>• C/C++ Language,</li> <li>• Visual Basic,</li> <li>• Operating System Unix/Linux</li> <li>• Windows 10/11,</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
					<p><b><u>For (C) English</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• English Literature 16<sup>th</sup> to 20<sup>th</sup> Century.</li> <li>• Linguistics.</li> <li>• English Language Teaching.</li> <li>• Syntax.</li> <li>• Diction.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (D) Mathematics</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Calculus/Differentiation, Integration, Limits of continuity</li> <li>• General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>• Areas and Volumes, centre of Mass</li> <li>• Computing Tools for Mathematicians,</li> <li>• Mathematical Statistics,</li> <li>• Mathematical Spaces (Sets, Vector Space, Metric Spaces, topological spaces)</li> <li>• Differential Equations.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <p><b><u>For (E) Pakistan Studies</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Ideology of Pakistan in light of speeches and statements of Allama Iqbal and Quaid-e-Azam</li> <li>• Pakistan Movement 1857-1947</li> <li>• Current Issues of Pakistan (challenges to National Security, Economic Challenges, Pakistan's War on Terror,</li> <li>• Geography of Pakistan <ul style="list-style-type: none"> <li>✓ Land and People of Pakistan</li> <li>✓ Pakistan and CPEC</li> <li>✓ Natural Resources of Pakistan,</li> </ul> </li> <li>• Latest Constitutional Amendments,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (F) Physics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
					<p><b>For (G) Urdu</b></p> <p><b>Part-I (Masters Level) (70 Marks)</b></p> <ul style="list-style-type: none"> <li>• اردو ذخیرہ الفاظ</li> <li>• اردو جملے کا ڈھانچہ</li> <li>• اردو قواعد کا استعمال</li> <li>• لسانیات</li> <li>• غالبیات</li> <li>• اقبالیات</li> <li>• تنقید</li> <li>• طنز و مزاح</li> </ul> <p><b>Part-II (30 Marks)</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
23.	36/2026	Senior Elementary Teacher (Drawing) (Male) (BS-16), Islamabad Model Schools (Ex-F.G Schools), Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) in Fine Arts / Painting / Art and Design / Art and Craft with Second Class or Grade 'C' M.Ed / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Subject Test=40 marks <b>Part-III</b> Professional Test=40 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Drawing &amp; Design Theory</li> <li>▪ Free Hand Sketches and Projected Measured Drawings</li> <li>▪ Technical Drawings and Diagrammatic Illustrations</li> <li>▪ Painting: Basic elements of Art, concepts, media and formats and the ability to apply them to their aesthetic intent.</li> <li>▪ Printmaking: Basic elements of art and design principles, concepts, media, and formats.</li> </ul> <b>Part-III</b> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System</li> <li>▪ Educational Guidance and Counselling.</li> </ul>
24.	37/2026	Senior Elementary Teacher (Drawing) (Female) (BS-16), Islamabad Model Schools (Ex-F.G Schools), Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) in Fine Arts / Painting / Art and Design / Art and Craft with Second Class or Grade 'C' M.Ed / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Subject Test=40 marks <b>Part-III</b> Professional Test=40 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>▪ Drawing &amp; Design Theory</li> <li>▪ Free Hand Sketches and Projected Measured Drawings</li> <li>▪ Technical Drawings and Diagrammatic Illustrations</li> <li>▪ Painting: Basic elements of Art, concepts, media and formats and the ability to apply them to their aesthetic intent.</li> <li>▪ Printmaking: Basic elements of art and design principles, concepts, media, and formats.</li> </ul> <b>Part-III</b> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
25.	38/2026	Senior Elementary Teacher (Male) (BS-16), (A) Biology / Zoology / Botany (B) Chemistry (C) Computer Science (D) English (E) Mathematics (F) Physics (G) Urdu Islamabad Model Schools (Ex-F.G Schools), Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) in relevant subject with Second Class or Grade 'C' M.Ed. / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Subject Test=40 marks <b>Part-III</b> Professional Test=40 marks <b>Note:</b> In Language Subject (i.e Urdu), English part for 20 marks will not be included. There will be 60% subject Test and 40% Professional Test.	<p><b>For (A) Biology/Zoology/Botany</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Theories of Evolution,</li> <li>▪ Nucleic Acids,</li> <li>▪ Cell Division,</li> <li>▪ Nutrition,</li> <li>▪ Ecosystem,</li> <li>▪ Division of Plants</li> <li>▪ Bryophytes &amp; Pteridophytes,</li> <li>▪ Gymnosperms, Angiosperms,</li> <li>▪ Ecology, Cytology, Genetics,</li> <li>▪ Eco System,</li> <li>▪ Classification of Fish, Reptiles, Mammals, Mollusks, Edinodermata,</li> <li>▪ Membrane System,</li> <li>▪ Mammalian Gametogenesis and Fertilization,</li> <li>▪ Mendelian laws of inheritance,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (B) Chemistry</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Nature, Properties &amp; States of Matter,</li> <li>▪ Electronic Structure,</li> <li>▪ Bonding,</li> <li>▪ Chemical Kinetics &amp; Radioactivity,</li> <li>▪ Synthetic Chemistry</li> <li>▪ Polymers,</li> <li>▪ Reaction Mechanism (electrophilic &amp; nucleophilic substitution and addition reaction)</li> <li>▪ Inorganic Chemistry,</li> <li>▪ Thermodynamics,</li> <li>▪ Electrochemistry,</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (C) Computer Science</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Computer Hardware/Software,</li> <li>▪ Data Communication &amp; Networking,</li> <li>▪ C/C++ Language,</li> <li>▪ Visual Basic,</li> <li>▪ Operating System Unix/Linux</li> <li>▪ Windows 10/11,</li> <li>▪ Oracle/PLSQL,</li> <li>▪ System Analysis &amp; Design.</li> <li>▪ Web Programming,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (D) English</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ English Literature 16th to 20th Century.</li> <li>▪ Linguistics.</li> <li>▪ English Language Teaching.</li> <li>▪ Syntax.</li> <li>▪ Diction.</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (E) Mathematics</u></b></p> <p><b><u>Part-I</u></b> Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II</u></b></p> <ul style="list-style-type: none"> <li>▪ Calculus/Differentiation, Integration, Limits of continuity</li> <li>▪ General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>▪ Areas and Volumes, centre of Mass</li> <li>▪ Computing Tools for Mathematicians,</li> <li>▪ Mathematical Statistics,</li> <li>▪ Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces)</li> <li>▪ Differential Equations.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System</li> <li>▪ Educational Guidance and Counselling.</li> </ul>
					<p><b><u>For (F) Physics</u></b></p> <p><b><u>Part-I</u></b> Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II</u></b></p> <ul style="list-style-type: none"> <li>▪ Mechanics</li> <li>▪ Heat and Thermodynamics,</li> <li>▪ Waves and Optics,</li> <li>▪ Electrostatic,</li> <li>▪ Electricity and Magnetism,</li> <li>▪ Modern and Quantum Physics,</li> <li>▪ Nuclear Physics,</li> <li>▪ Basic Solid State Physics,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System</li> <li>▪ Educational Guidance and Counselling.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (G) Urdu</b></p> <p><b>Part-I (60 Marks)</b></p> <ul style="list-style-type: none"> <li>• اردو ذخیرہ الفاظ</li> <li>• اردو جملے کا ڈھانچہ</li> <li>• اردو قواعد کا استعمال</li> <li>• لسانیات</li> <li>• غالبیات</li> <li>• اقبالیات</li> <li>• تنقید</li> <li>• طنز و مزاح</li> </ul> <p><b>Part-II (40 Marks)</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>
26.	40/2026	Librarian (Female) (BS-17), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence	Second Class or Grade 'C' Master's Degree in Library Science/ Information Science. OR Graduate with Diploma in Library Science from a University. OR Bachelor of Library Science plus five (5) years post qualification professional experience in BS-16; otherwise, eight (8) years post qualification experience if not in BS-16. OR Second Class or Grade 'C' Master's Degree in the relevant subject with Diploma in Library Science or Bachelor of Library Science	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Professional Test=80 marks	<p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Information Sources and Services</li> <li>▪ Cataloguing: Theory and Practice</li> <li>▪ Procurement and Maintenance of Library Books</li> <li>▪ Library Automation/Information Storage &amp; Retrieval</li> <li>▪ Research Methods &amp; Techniques for Librarians</li> <li>▪ Public Records, Rare Material &amp; their Conservation</li> <li>▪ Management of Serials Publications</li> <li>▪ Rules &amp; Procedure regarding Write Off the Library Losses</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
27.	41/2026	Librarian (Female) (BS-16), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence	Second Class or Grade 'C' Bachelor's Degree with Diploma in Library Science.  OR Bachelor of Library Science	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>• Information Sources and Services</li> <li>• Cataloguing: Theory and Practice</li> <li>• Procurement and Maintenance of Library Books</li> <li>• Library Automation/Information Storage &amp; Retrieval</li> <li>• Research Methods &amp; Techniques for Librarians</li> <li>• Public Records, Rare Material &amp; their Conservation</li> <li>• Management of Serials Publications</li> <li>• Rules &amp; Procedure regarding Write Off the Library Losses</li> </ul>
28.	42/2026	Lecturer (Female) (BS-17), A. Computer Science B. Islamiyat C. Physics Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence	Second Class or Grade 'C' Master's degree or equivalent qualification in the relevant subject.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Subject Test = 50 marks  <b>Part-III</b> Professional Test = 30 marks	<b>For (A) Computer Science</b>  <b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring  <b>Part-II (Masters Level)</b> <ul style="list-style-type: none"> <li>• Computer Hardware/Software,</li> <li>• Data Communication &amp; Networking,</li> <li>• C/C++ Language,</li> <li>• Visual Basic,</li> <li>• Operating System Unix/Linux</li> <li>• Windows 10/11</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming</li> </ul> <b>Part-III</b> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (B) Islamiyat</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <p>☆ قرآن کا بنیادی موضوع / متن</p> <p>☆ سیرت النبی ﷺ</p> <p>☆ فقہ: جامعیت، اختلاف رائے اور عصر حاضر کے تناظر میں مذہب کی تشریح۔</p> <p>☆ تعارف اسلام</p> <p>☆ انسانی زندگی میں دین کی اہمیت</p> <p>☆ اسلام کے نمایاں پہلو</p> <p>☆ اسلامی عقائد کے انفرادی اور اجتماعی اثرات</p> <p>☆ انسانی حقوق۔ اسلام کی نظر میں</p> <p>☆ اسلام اور عصر حاضر کے چیلنجز</p> <p>☆ اسلامی نظام حکمرانی کا ڈھانچہ</p> <p>☆ سرکاری ملازمین کی ذمہ داریاں</p> <p>☆ اسلامی ضابطہ حیات</p> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
					<p><b>For (C) Physics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
29.	43/2026	Lecturer (BS-17), A. Biology B. Computer Science C. Mathematics D. Pak Studies E. Physics Junior Naval Academy / PN Cadet College, Ormara, Naval Headquarters, Ministry of Defence	Second Class or Grade 'C' Master's Degree in relevant subject.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Subject Test = 50 marks <b>Part-III</b> Professional Test = 30 marks	<p><b>For (A) Biology</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Theories of Evolution,</li> <li>• Nucleic Acids,</li> <li>• Cell Division,</li> <li>• Nutrition,</li> <li>• Ecosystem,</li> <li>• Mendelian laws of inheritance,</li> <li>• Diagnostic Characteristics of all the phyla or invertebrates and chordates,</li> <li>• Division of Plants</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <hr/> <p><b>For (B) Computer Science</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Computer Hardware/Software,</li> <li>• Data Communication &amp; Networking,</li> <li>• C/C++ Language,</li> <li>• Visual Basic,</li> <li>• Operating System Unix/Linux</li> <li>• Windows 10/11,</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology,</li> <li>• Classroom Management and Discipline,</li> <li>• Testing and Evaluation,</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (C) Mathematics</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Calculus/Differentiation, Integration, Limits of continuity</li> <li>• General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>• Areas and Volumes, centre of Mass</li> <li>• Computing Tools for Mathematicians,</li> <li>• Mathematical Statistics,</li> <li>• Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces Tensors,</li> <li>• Differential Equations.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul> <p><b><u>For (D) Pakistan Studies</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>• Ideology of Pakistan in light of speeches and statements of Allama Iqbal and Quaid-e-Azam</li> <li>• Pakistan Movement 1857-1947</li> <li>• Current Issues of Pakistan (challenges to National Security, Economic Challenges, Pakistan's War on Terror,</li> <li>• Geography of Pakistan <ul style="list-style-type: none"> <li>✓ Land and People of Pakistan</li> <li>✓ Pakistan and CPEC</li> <li>✓ Natural Resources of Pakistan,</li> </ul> </li> <li>• Latest Constitutional Amendments,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (E) Physics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Knowledge of Bloom's Taxonomy</li> </ul>
30.	44/2026	Lady Welfare Officer (BS-16), Naval Headquarters, Ministry of Defence	<p>i. Second Class or Grade 'C' Bachelor's degree with Sociology / Social Work / Anthropology.</p> <p>ii. Two (2) years post qualification experience in Social Welfare matters.</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> Grammar Usage, Sentence Structuring.</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>• Community Organization and Development,</li> <li>• Social Research &amp; Statistics,</li> <li>• Organizational Behaviour and Human Resources,</li> <li>• Social Welfare Policy and Administration,</li> <li>• Methods of Counselling &amp; Guidance Services</li> <li>• Project Preparation and Financial Planning</li> <li>• Monitoring Methodology, Evaluation, Cost-benefit Analysis and Implementation</li> </ul>
31.	48/2026	Administrative Officer (BS-17), Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training	<p>i. Second Class or Grade 'C' Master's degree in Business Administration / Public Administration / Commerce or equivalent qualification from a University recognized by HEC.</p> <p>ii. Two (2) years post qualification experience in Accounts / Administration.</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>▪ Principles of Management</li> <li>▪ Human Resource Management</li> <li>▪ Financial Accounting</li> <li>▪ Rules of Business (as amended)</li> <li>▪ System of Financial Control and Budgeting 2006</li> <li>▪ Public Procurement Rules, 2004</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
32.	49/2026	Assistant Director (BS-17), Airports Security Force (ASF), Ministry of Defence	Second Class or Grade 'C' Master's / Bachelor's (16 years) degree or equivalent qualification from a University recognized by HEC.	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> Vocabulary, 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>
33.	50/2026	Inspector (BS-16), Airports Security Force (ASF), Ministry of Defence	Bachelor's Degree.	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>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
34.	51/2026	Senior Elementary Teacher (Female) (BS-16), (A) Biology / Zoology / Botany (B) Chemistry (C) Computer Science (D) English (E) Mathematics (F) Physics (G) Urdu Islamabad Model Schools (Ex-F.G Schools), Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) in relevant subject with Second Class or Grade 'C' M.Ed. / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Subject Test=40 marks <b>Part-III</b> Professional Test=40 marks <b>Note:</b> In Language Subject (i.e Urdu), English part for 20 marks will not be included. There will be 60% subject Test and 40% Professional Test.	<p><b>For (A) Biology/Zoology/Botany</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Theories of Evolution,</li> <li>▪ Nucleic Acids,</li> <li>▪ Cell Division,</li> <li>▪ Nutrition,</li> <li>▪ Ecosystem,</li> <li>▪ Division of Plants</li> <li>▪ Bryophytes &amp; Pteridophytes,</li> <li>▪ Gymnosperms, Angiosperms,</li> <li>▪ Ecology, Cytology, Genetics,</li> <li>▪ Eco System,</li> <li>▪ Classification of Fish, Reptiles, Mammals, Mollusks, Edinodermata,</li> <li>▪ Membrane System,</li> <li>▪ Mammalian Gametogenesis and Fertilization,</li> <li>▪ Mendelian laws of inheritance,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (B) Chemistry</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Nature, Properties &amp; States of Matter,</li> <li>▪ Electronic Structure,</li> <li>▪ Bonding,</li> <li>▪ Chemical Kinetics &amp; Radioactivity,</li> <li>▪ Synthetic Chemistry</li> <li>▪ Polymers,</li> <li>▪ Reaction Mechanism (electrophilic &amp; nucleophilic substitution and addition reaction)</li> <li>▪ Inorganic Chemistry,</li> <li>▪ Thermodynamics,</li> <li>▪ Electrochemistry,</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (C) Computer Science</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ Computer Hardware/Software,</li> <li>▪ Data Communication &amp; Networking,</li> <li>▪ C/C++ Language,</li> <li>▪ Visual Basic,</li> <li>▪ Operating System Unix/Linux</li> <li>▪ Windows 10/11,</li> <li>▪ Oracle/PLSQL,</li> <li>▪ System Analysis &amp; Design.</li> <li>▪ Web Programming,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul> <p><b>For (D) English</b></p> <p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II</b></p> <ul style="list-style-type: none"> <li>▪ English Literature 16th to 20th Century.</li> <li>▪ Linguistics.</li> <li>▪ English Language Teaching.</li> <li>▪ Syntax.</li> <li>▪ Diction.</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (E) Mathematics</u></b></p> <p><b><u>Part-I</u></b> Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II</u></b></p> <ul style="list-style-type: none"> <li>▪ Calculus/Differentiation, Integration, Limits of continuity</li> <li>▪ General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>▪ Areas and Volumes, centre of Mass</li> <li>▪ Computing Tools for Mathematicians,</li> <li>▪ Mathematical Statistics,</li> <li>▪ Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces Tensors,</li> <li>▪ Differential Equations.</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>
					<p><b><u>For (F) Physics</u></b></p> <p><b><u>Part-I</u></b> Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II</u></b></p> <ul style="list-style-type: none"> <li>• Mechanics</li> <li>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Modern and Quantum Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (G) Urdu</b></p> <p><b>Part-I (60 Marks)</b></p> <ul style="list-style-type: none"> <li>• اردو ذخیرہ الفاظ</li> <li>• اردو جملے کا ڈھانچہ</li> <li>• اردو قواعد کا استعمال</li> <li>• لسانیات</li> <li>• غالبیات</li> <li>• اقبالیات</li> <li>• تنقید</li> <li>• طنز و مزاح</li> </ul> <p><b>Part-II (40 Marks)</b></p> <ul style="list-style-type: none"> <li>▪ Education System in Pakistan,</li> <li>▪ Educational Psychology,</li> <li>▪ Class Room Management and Discipline,</li> <li>▪ Instructional Planning and Teaching Strategies,</li> <li>▪ Students Evaluation and Examination System,</li> <li>▪ Educational Guidance and Counselling.</li> </ul>
35.	52/2026	Senior Elementary Teacher (Physical) (Female) (BS-16), Ex-F.G Schools, Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's degree / Bachelor's degree (4 years duration) in Physical Education with Second Class or Grade 'C' M.Ed. / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC	<p><b>Part-I</b> English = 20 marks</p> <p><b>Part-II</b> Subject Test = 50 marks</p> <p><b>Part-III</b> Professional Test = 30 marks</p>	<p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Master's Level)</b></p> <ul style="list-style-type: none"> <li>▪ Philosophy of Physical Education,</li> <li>▪ Psychology of Physical Education,</li> <li>▪ Rules of games</li> <li>▪ Basics of Human Anatomy</li> <li>▪ Administration and Management in Sports,</li> <li>▪ Sports Nutrition,</li> <li>▪ Trauma and Rehabilitation,</li> <li>▪ Research Methodology in Physical Education</li> <li>▪ Test, Measurement and Evaluation in Physical Education &amp; Sports</li> <li>▪ Sports Injuries,</li> <li>▪ Sports with physical disabilities</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
36.	53/2026	Senior Elementary Teacher (Physical) (Female) (BS-16), Ex-F.G Schools, Federal Directorate of Education, Ministry of Federal Education and Professional Training	Second Class or Grade 'C' Master's degree / Bachelor's degree (4 years duration) in Physical Education with Second Class or Grade 'C' M.Ed. / B.Ed. / B.Ed. (Hons) / Associate Diploma in Education or equivalent qualification from a University recognized by HEC	<p><b>Part-I</b> English = 20 marks</p> <p><b>Part-II</b> Subject Test = 50 marks</p> <p><b>Part-III</b> Professional Test = 30 marks</p>	<p><b>Part-I</b> Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Master's Level)</b></p> <ul style="list-style-type: none"> <li>• Philosophy of Physical Education,</li> <li>• Psychology of Physical Education,</li> <li>• Rules of games</li> <li>• Basics of Human Anatomy</li> <li>• Administration and Management in Sports,</li> <li>• Sports Nutrition,</li> <li>• Trauma and Rehabilitation,</li> <li>• Research Methodology in Physical Education</li> <li>• Test, Measurement and Evaluation in Physical Education &amp; Sports</li> <li>• Sports Injuries,</li> <li>• Sports with physical disabilities</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>
37.	55/2026	Lecturer (Male) (BS-17), (A) English (B) Environmental Sciences (C) Geography (D) Islamic Studies (E) Mathematics (F) Persian (G) Physics (H) Psychology (I) Statistics (J) Urdu Islamabad Model Colleges, (Ex-F.G Colleges), Federal Directorate of Education, Ministry of Federal Education & Professional Training	Second Class or Grade 'C' Master's degree or equivalent in the relevant subject.	<p>Objective Type Test (MCQ)</p> <p><b>Part-I</b> English = 20 marks</p> <p><b>Part-II</b> Subject Test = 50 marks</p> <p><b>Part-III</b> Professional Test=30 marks</p> <p><b>Note:</b> <input type="checkbox"/> In Language Subject i.e <b>Persian &amp; Urdu</b>, English part for 20 marks will not be included. There will be 70% subject Test and 30% Professional Test.</p>	<p><b>For (A) English</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>• English Literature 16<sup>th</sup> to 20<sup>th</sup> Century.</li> <li>• Linguistics.</li> <li>• English Language Teaching.</li> <li>• Syntax.</li> <li>• Diction.</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology,</li> <li>▪ Classroom Management and Discipline,</li> <li>▪ Testing and Evaluation,</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (B) Environmental Science</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>▪ Introduction to Environmental Science</li> <li>▪ Introduction to Earth Sciences</li> <li>▪ Environmental Chemistry</li> <li>▪ Environmental Physics</li> <li>▪ Fundamentals of Ecology</li> <li>▪ Environmental Pollution</li> <li>▪ Climatology</li> <li>▪ Environmental Profile of Pakistan</li> <li>▪ Analytical Techniques in Environmental Science</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology,</li> <li>▪ Classroom Management and Discipline,</li> <li>▪ Testing and Evaluation,</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <p><b><u>For (C) Geography</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>▪ Physical Geography</li> <li>▪ Landform development, climate, oceans &amp; seas, factor of climate and environmental change</li> <li>▪ Geography of Pakistan,</li> <li>▪ Human Geography (Geographic pattern of culture, Ethnicities and Nationalities, Economic Indicators, Social Indicators, Health Indicators, Renewable Resources, Recycling Resources, Sustainable resources. The Demographic Transition)</li> <li>▪ Political Geography (State, National and the Nation-State Geopolitics of uneven development)</li> <li>▪ Statistical Geography,</li> <li>▪ Climatology/Metrology,</li> <li>▪ Environmental Geography,</li> <li>▪ GIS Techniques,</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology,</li> <li>▪ Classroom Management and Discipline,</li> <li>▪ Testing and Evaluation,</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <p><b>For (D) Islamic Studies</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <p style="text-align: right;">           قرآن کا بنیادی موضوع / متن ☆            سیرت النبی ﷺ ☆            فقہ: جامعیت، اختلاف رائے اور عصر حاضر کے تناظر میں مذہب کی تشریح۔ ☆            تعارف اسلام ☆            انسانی زندگی میں دین کی اہمیت ☆            اسلام کے نمایاں پہلو ☆            اسلامی عقائد کے انفرادی اور اجتماعی اثرات ☆            انسانی حقوق۔ اسلام کی نظر میں ☆            اسلام اور عصر حاضر کے چیلینجز ☆            اسلامی نظام حکمرانی کا ڈھانچہ ☆            سرکاری ملازمین کی ذمہ داریاں ☆            اسلامی ضابطہ حیات ☆         </p> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <p><b>For (E) Mathematics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>▪ Calculus/Differentiation, Integration, Limits of continuity</li> <li>▪ General Theorems (Rolle's Theorem, Mean Value Theorem)</li> <li>▪ Areas and Volumes, centre of Mass</li> <li>▪ Computing Tools for Mathematicians,</li> <li>▪ Mathematical Statistics,</li> <li>▪ Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces)</li> <li>▪ Differential Equations.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <p><b>For (F) Persian</b></p> <p><b>Part-I (Masters Level) (70 Marks)</b></p> <ul style="list-style-type: none"> <li>▪ Classical Persian Prose and Poetry</li> <li>▪ Modern Persian Literature,</li> <li>▪ History of Persian Language and Literature,</li> <li>▪ Study of Iranian History and Culture,</li> <li>▪ Iqbal's Persian Poetry and Thoughts.</li> </ul> <p><b>Part-II (30 Marks)</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology,</li> <li>▪ Classroom Management and Discipline,</li> <li>▪ Testing and Evaluation,</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <p><b>For (G) Physics</b></p> <p><b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <ul style="list-style-type: none"> <li>▪ Mechanics</li> <li>▪ Heat and Thermodynamics,</li> <li>▪ Waves and Optics,</li> <li>▪ Electrostatic,</li> <li>▪ Electricity and Magnetism,</li> <li>▪ Modern and Quantum Physics,</li> <li>▪ Nuclear Physics,</li> <li>▪ Basic Solid State Physics,</li> </ul> <p><b>Part-III</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b><u>For (H) Psychology</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>▪ Nature and Scope of Psychology</li> <li>▪ Biological basis of Behaviour</li> <li>▪ Developmental Psychology</li> <li>▪ Social Psychology</li> <li>▪ Educational Psychology</li> <li>▪ Counselling Psychology</li> <li>▪ Abnormal and Clinical Psychology</li> <li>▪ Organizational/Industrial Psychology</li> <li>▪ Forensic Psychology</li> <li>▪ Psychological Testing and Assessment</li> <li>▪ Research Methodology</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul> <hr/> <p><b><u>For (I) Statistics</u></b></p> <p><b><u>Part-I</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (Masters Level)</u></b></p> <ul style="list-style-type: none"> <li>▪ Introduction to Statistics,</li> <li>▪ Presentation of Data,</li> <li>▪ Measures of Central Tendency,</li> <li>▪ Measures of Dispersion,</li> <li>▪ Index Numbers,</li> <li>▪ Simple Regression and Correlation,</li> <li>▪ Time Series Analysis,</li> <li>▪ Sampling Techniques,</li> <li>▪ Testing of Hypothesis,</li> <li>▪ Techniques of Research,</li> <li>▪ Report writing and presentation,</li> </ul> <p><b><u>Part-III</u></b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology</li> <li>▪ Classroom Management and Discipline</li> <li>▪ Testing and Evaluation</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications/ Experience for the Posts	Test Specification	Topics of Syllabi
					<p><b>For (J) Urdu</b></p> <p><b>Part-I (Master's Level) (70 Marks)</b></p> <ul style="list-style-type: none"> <li>• اردو ذخیرہ الفاظ</li> <li>• اردو جملے کا ڈھانچہ</li> <li>• اردو قواعد کا استعمال</li> <li>• لسانیات</li> <li>• غالبیات</li> <li>• اقبالیات</li> <li>• تنقید</li> <li>• طنز و مزاح</li> </ul> <p><b>Part-II (30 Marks)</b></p> <ul style="list-style-type: none"> <li>▪ Teaching Techniques and Methodology,</li> <li>▪ Classroom Management and Discipline,</li> <li>▪ Testing and Evaluation,</li> <li>▪ Knowledge of Bloom's Taxonomy</li> </ul>
38.	60/2026	<b>Assistant Director (BS-17),</b> Federal Public Service Commission,	Second Class or Grade 'C' Master's Degree or equivalent qualification from a University recognized by HEC.	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> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> • Basic Arithmetic – Algebra – Ratios – Percentages – Arithmetic Means • Current Affairs. – Issues/Challenges at National and International Level during the last 5 years • Pakistan Affairs & Islamic Studies – Basic Level knowledge • Basic IT knowledge. • FPSC Ordinance 1977 as amended.

**Schemes and Syllabi of Objective Type Test (MCQ) relating to Posts in  
BS-18 & Above under Advertisement No. 01/2026**

Case No.	F.4-02/2026-R
Particulars of post	System Analyst (BS-18), National Library of Pakistan, National Heritage and Culture Division
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's / Bachelor's (4 years duration) degree in Software Engineering /Computer Engineering/ Computer System Engineering/ Computer Science / Information Technology or equivalent qualification from a University recognized by HEC ii. Five (5) years post qualification experience in Computer Programming / System Analysis / Software Development

Max Marks: 200

Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. General Intelligence/Ability (50 Marks)**

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

**Part-II (Professional): 100 Marks (MCQ)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Design/Programming**

Introduction to object oriented design, history and advantages of object oriented design, introduction to object oriented programming concepts, classes, objects, data encapsulation, constructors, destructors, access modifiers, const vs non-const

functions, static data members & functions, function overloading, operator overloading, identification of classes and their relationships, composition, aggregation, inheritance, multiple inheritance, polymorphism, abstract classes and interfaces, generic programming concepts, function & class templates, standard template library, object streams, data and object serialization using object streams, exception handling.

### **III. Software Engineering**

Nature of Software, Overview of Software Engineering, Professional software development, Software engineering practice, Software process structure, Software process models, Agile software Development, Agile process models, Agile development techniques, Requirements engineering process, Functional and non-functional requirements, Context models, Interaction models, Structural models, behavioral models, model driven engineering, Architectural design, Design and implementation, UML diagrams, Design patterns, Software testing and quality assurance, Software evolution, Project management and project planning, configuration management, Software Process improvement

### **IV. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

### **V. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

### **VI. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

### **VII. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch.

Case No.	F.4-03/2026-R
Particulars of post	Director General (BS-20), National Crisis Information Management Cell (NCIMC), Ministry of Interior and Narcotic Control
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's / Bachelor's (16 years education) degree in Strategic Studies / Political Science / International Relations / Public Administration / Business Administration / Computer Science / Information Technology / Management Sciences / Law or equivalent qualification from a University recognized by the HEC.</p> <p>ii. Seventeen (17) years' post qualification experience in the field of public administration and coordination, establishment and financial / legal matters in BS-17 and / or above from a Public / Private Sector Organization.</p>

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)**

**I. English (20 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring

**II. General Intelligence/Ability (40 Marks)**

- Quantitative Ability
- Logical Reasoning & Analytical Ability
- Developments at National and International Levels in last 2 years
- Basic IT (Hardware and Software)

**III. Laws of Pakistan (40 Marks)**

- Rules of Business, 1973
- Civil Servants Act & Rules made thereunder,
- General Financial Rules, 2025
- PPRA Rules, 2004

## Paper-II (Professional): 100 Marks (MCQ)

(Public Administration & Office Management)

- 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. **Planning:** Types of Plans, Planning Process; Principles of Planning, Planning Machinery in Pakistan;
- VI. **Controlling and Co-Ordination:** Forms of Controls, Control Mechanism, the process of Control, Principles of Controlling; Principles of Coordination; Machinery for Coordination; Problems of Coordination in Public Administration in Pakistan.
- VII. Secretariat Instructions and Office Procedures;
- VIII. PPRA Ordinance 2002

Case No.	F.4-07/2026-R
Particulars of post	Deputy Director (BS-18), Directorate General of Special Education, Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master Degree or equivalent qualifications in Special Education / Education / Social Work / Sociology / Anthropology / Psychology. Diploma or certificate in Special Education will be considered as an additional qualification for degree holders other than Special Education.</p> <p>ii. Five (5) years post qualification experience of Planning / Administrative/ Supervision or Teaching in the field of Special Education.</p>

Max Marks: 200Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. General Intelligence/Ability 50%**

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

**Part-II (Professional): 100 Marks (MCQ)****I. Principles of Management**

- Functions of Management and Roles of Manager
- Types of Plans and Planning Process
- Types of organizations
- Leadership Styles and Theories
- Types of Control and Control Process
- Basic Concepts of Quality Management (Total Quality management, ISO 9001 Standard)

**II. Human Resource Management**

- Definition, Significance and Scope of Human Resource Management;
- Recruitment and Selection
- Training and Development
- Theories of Motivation
- Performance Management

**III. Financial Management:** Principles of Budgeting, Auditing and Accounting.

**IV.** Civil Servant Act 1973 and Rules made thereunder;

**V.** Rules of Business 1973;

**VI.** Secretariat Instructions and Office Procedures;

**VII.** PPRA Ordinance 2002 and Rules 2004.

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Case No.	F.4-10/2026-R
Particulars of post	Works Manager (BS-18), Pakistan Mint, Lahore, Ministry of Finance
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Bachelor's degree in Electrical / Mechanical/ Metallurgical Engineering or equivalent qualification in Engineering from a University recognized by the HEC / PEC. ii. Five (5) years post qualification experience in the field of electrical / mechanical / metallurgical engineering related work from a Public / Private Sector Organization. iii. Valid registration with the PEC.

Max Marks: 200Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. General Intelligence/Ability 50%**

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

**Part-II (Professional): 100 Marks (MCQ)****I. Industrial Materials & Electronics:**

- a. Metals and Alloys
- b. Heat Treatment
- c. Cutting Tools and Cutting Fluids
- d. Mechanical Testing of Materials
- e. Physical and Mechanical Properties.

**II. Industrial Electronics & Applied Electricity**

- a. Bi-polar Junction Transistors
- b. Oscilloscope

- c. A.C/D.C Generators
- d. Transformers

**III. Production Management & Inspection:**

- a. Forecasting
- b. Inventory Control
- c. Budgetary Control
- d. Inspection Gauges
- e. Control Charts

**IV. Strength of Materials:**

- a. Stresses
- b. Bending Moments
- c. Shear Forces
- d. Moment of Areas
- e. Columns
- f. Deflection

**V. Thermodynamics:**

- a. Nozzles
- b. Compressors
- c. IC engines and E.C. Engines
- d. Gas turbines and Steam Turbines

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Case No.	F.4-11/2026-R
Particulars of post	Deputy Director General (BS-19), Pakistan Mint, Lahore, Ministry of Finance
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Bachelor's degree in Electrical / Mechanical / Metallurgical Engineering or equivalent qualification in Engineering from a University recognized by the HEC / PEC. ii. Twelve (12) years post qualification experience in the field of electrical / mechanical / metallurgical engineering related work from a Public / Private Sector Organization. iii. Valid registration with the PEC.

Max Marks: 200

Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

### **Part-I: 100 Marks (MCQ)**

#### **I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

#### **II. General Intelligence/Ability 50%**

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

### **Part-II (Professional): 100 Marks (MCQ)**

#### **I. Industrial Materials & Electronics:**

- a. Metals and Alloys
- b. Heat Treatment
- c. Cutting Tools and Cutting Fluids
- d. Mechanical Testing of Materials
- e. Physical and Mechanical Properties.

#### **II. Industrial Electronics & Applied Electricity**

- a. Bi-polar Junction Transistors
- b. Oscilloscope
- c. A.C/D.C Generators
- d. Transformers

**III. Production Management & Inspection:**

- a. Forecasting
- b. Inventory Control
- c. Budgetary Control
- d. Inspection Gauges
- e. Control Charts

**IV. Strength of Materials:**

- a. Stresses
- b. Bending Moments
- c. Shear Forces
- d. Moment of Areas
- e. Columns
- f. Deflection

**V. Thermodynamics:**

- a. Nozzles
- b. Compressors
- c. IC engines and E.C. Engines
- d. Gas turbines and Steam Turbines

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Case No.	F.4-18/2026-R
Particulars of post	Law Officer (BS-18), Department of Tourist Services, Ministry of Inter Provincial Coordination.
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Bachelor's degree in Law or equivalent qualification from a University recognized by the HEC. ii. Five (5) years post qualification experience of teaching Law or departmental legal work or as lawyer.

Max Marks: 200

Qualifying Standard: 40%

(Note: Negative marking of 0.25/ wrong answer)

### Part-I: 100 Marks (MCQ)

#### I. English (50 Marks)

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

#### II. General Intelligence/Ability 50%

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

### Part-II (Professional): 100 Marks (MCQ)

- Philosophy of Law
- Constitutional Law
- Law of Contract
- The Code of Civil Procedure, 1908
- Pakistan Panel Code, 1860
- Qanun-e-Shahdat Order, 1984
- Criminal Procedure Code, 1898
- Important principles pertaining to the criminal justice system, propounded in decisions of Superior Courts
- Broad features of the criminal justice system in Pakistan and issues pertaining thereto

Case No.	F.4-25/2026-R
Particulars of post	Assistant Professor (Male) (BS-18), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence (A) Computer Science (B) English
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.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Computer Science)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

**Part-II: 100 Marks (MCQ) (For English)****I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

Case No.	F.4-28/2026-R
Particulars of post	Associate Professor ( <b>Information Technology</b> ) (Male) (BS-19), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with eight (8) years' post qualification teaching and administrative experience at College / University level. OR M.Phil Degree in the relevant subject with ten (10) years' post qualification teaching and administrative experience at College / University level. OR Second Class or Grade 'C' Master's Degree in the relevant subject with twelve (12) years' post qualification teaching and administrative experience at College / University level.

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (Information Technology)****I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

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Case No.	F.4-29/2026-R
Particulars of post	Associate Professor / Vice Principal (Male) (BS-19), (A) Biology / Zoology / Botany (B) Chemistry (C) Computer Science (D) Physics Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with eight (8) years' post qualification teaching and administrative experience at College / University level.  OR  M.Phil Degree in the relevant subject with ten (10) years' post qualification teaching and administrative experience at College / University level.  OR  Second Class or Grade 'C' Master's Degree in the relevant subject with twelve (12) years' post qualification teaching and administrative experience at College / University level.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Biology / Zoology / Botany)**

**I. Anatomy and Embryology**

- Primary and secondary tissues. Meristems. Secondary growth in dicot stem. Anatomy of leaf, stem and root.
- Micro and mega sporogenesis, pollination mechanism, fertilization, development of Embryo and Endosperm, Seed dispersal.

**II. Plant Physiology**

- Plant water relations, Osmotic Quantities, component potentials of water and their role in transport, water absorption by roots, transpiration. Role of essential mineral elements and their uptake. Plant hormones. Photoperiodism, Vernalization. Dormancy and Seed germination. Enzymes.
- Photosynthesis: Plant pigments, Light reaction, CO<sub>2</sub> fixation, Mechanism of photophosphorylation.
- Respiration: Glycolysis, Krebs cycle, Mechanism of oxidative phosphorylation.

**III. Genetics & Evolution**

- Mendelian Genetics, Multiple Alleles, Polygenic inheritance, Gene interaction, Epistasis and pleiotropy, Sex-linked inheritance, Chromosomal aberrations, Mutations, DNA repair.
- Evolution of life, Convergent Evolution, Divergent Evolution, Parallel Evolution and Natural selection

**IV. Molecular Biology**

- Nucleic acids, DNA as hereditary material, DNA replication, Transcription, Genetic code, Protein synthesis, Genetic engineering and its application, Genetically Modified Organisms (GMO).

**V. Animal Form and Function**

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canal, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms

**VI. Algae, Fungi and Bryophytes**

- Phycology: Distribution, Classification, Structure, Life History and Economic importance of the main groups of Algae.
- Mycology and Plant Pathology: Structure, Reproduction, Classification and Economic importance of the main groups of Fungi. Diseases of economically important crops and general principles of their control
- Bryology: Structure and reproduction of bryophytes, Evolution of Gametophyte and Sporophyte.

**Part-II: 100 Marks (MCQ) (For Chemistry)**

- I. Atomic structure.—Quantum theory, Schrodinger equation, Particle in box, hydrogen atom. Hydrogen molecule ion, hydrogen molecule. Theories of hydrogen and metallic bonding.
- II. Electrochemistry.—Ionic equilibria, theory of strong electrolytes; Debye-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. Chemistry of Following Elements.—Oxygen, Carbon, Chlorine, Silicon, Nitrogen, Phosphorus.
- IV. Inorganic Chemical Industries.—Sulphuric Acid, Fixation of Nitrogen, Chemical Fertilizers, Semi-conductivity devices. Cement, Glass and Ceramics.
- V. Surface Chemistry and Catalysis.—Physical adsorption and chemisorption. Surface area determination. Homogeneous and Heterogeneous Catalysis. Acid-base and Enzyme Catalysis.

- VI.** Physical Organic Chemistry.—Elements of Organic reaction mechanism. Optical and Geometric Isomerism. Conformational analysis. Resonance. H—Bond and its effects on the properties of Organic Compounds.
- VII.** Chemistry of Natural Products.—Elementary study of Carbohydrates. Oils and Fats. Alkaloids and Vitamins.
- VIII.** Industrial Organic Chemistry.—Organic Polymers. Fermentation processes including preparation of Anti-Biotics. Petro-Chemical Industry.

**Part-II: 100 Marks (MCQ) (For Computer Science)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

**Part-II: 100 Marks (MCQ) (For Physics)**

**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; Gravitation; planetary motion and satellites; Kepler's laws; centripetal forces
- Special theory of relativity. Mischelson—Morley experiment and Einstein's postulates; Lorentz transformation; time dilation and length contraction; equivalence of mass and energy.

**II. Heat and Thermodynamics**

- Perfect gas and Van der Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; Maxwellian distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application.

### III. Modern and Quantum Physics

- Operators and quantum states, time dependent and independent Schrodinger equation, angular momentum, wave mechanics, Heisenber's uncertainty relationship and indeterminacy based on commutation properties of operators, Bohr theory and quantum numbers including electron spin; Pauli's exclusion principle; Spectra of simple systems with one or two valence electrons. Lande's g factor and Zeeman effect. Raman effect; Waves and particles and De Broglie's Hypothesis.

### IV. 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.

### V. Nuclear Physics

- Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application.

Case No.	F.4-30/2026-R
Particulars of post	Assistant Professor (Male) (BS-18), (A) Biology / Zoology / Botany (B) Chemistry (C) Computer Science (D) English (E) Mathematics (F) Pak. Studies (G) Physics Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training
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.

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Biology / Zoology / Botany)****I. Anatomy and Embryology**

- Primary and secondary tissues. Meristems. Secondary growth in dicot stem. Anatomy of leaf, stem and root.
- Micro and mega sporogenesis, pollination mechanism, fertilization, development of Embryo and Endosperm, Seed dispersal.

**II. Plant Physiology**

- Plant water relations, Osmotic Quantities, component potentials of water and their role in transport, water absorption by roots, transpiration. Role of essential mineral elements and their uptake. Plant hormones. Photoperiodism, Vernalization. Dormancy and Seed germination. Enzymes.
- Photosynthesis: Plant pigments, Light reaction, CO<sub>2</sub> fixation, Mechanism of photophosphorylation.
- Respiration: Glycolysis, Krebs cycle, Mechanism of oxidative phosphorylation.

**III. Genetics & Evolution**

- Mendelian Genetics, Multiple Alleles, Polygenic inheritance, Gene interaction, Epistasis and pleiotropy, Sex-linked inheritance, Chromosomal aberrations, Mutations, DNA repair.
- Evolution of life, Convergent Evolution, Divergent Evolution, Parallel Evolution and Natural selection

**IV. Molecular Biology**

- Nucleic acids, DNA as hereditary material, DNA replication, Transcription, Genetic code, Protein synthesis, Genetic engineering and its application, Genetically Modified Organisms (GMO).

**V. Animal Form and Function**

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canal, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms

**VI. Algae, Fungi and Bryophytes**

- Phycology: Distribution, Classification, Structure, Life History and Economic importance of the main groups of Algae.
- Mycology and Plant Pathology: Structure, Reproduction, Classification and Economic importance of the main groups of Fungi. Diseases of economically important crops and general principles of their control
- Bryology: Structure and reproduction of bryophytes, Evolution of Gametophyte and Sporophyte.

**Part-II: 100 Marks (MCQ) (For Chemistry)**

- I. Atomic structure.—Quantum theory, Schrodinger equation, Particle in box, hydrogen atom. Hydrogen molecule ion, hydrogen molecule. Theories of hydrogen and metallic bonding.
- II. Electrochemistry.—Ionic equilibria, theory of strong electrolytes; Debye-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. Chemistry of Following Elements.—Oxygen, Carbon, Chlorine, Silicon, Nitrogen, Phosphorus.
- IV. Inorganic Chemical Industries.—Sulphuric Acid, Fixation of Nitrogen, Chemical Fertilizers, Semi-conductivity devices. Cement, Glass and Ceramics.
- V. Surface Chemistry and Catalysis.—Physical adsorption and chemisorption. Surface area determination. Homogeneous and Heterogeneous Catalysis. Acid-base and Enzyme Catalysis.

- VI.** Physical Organic Chemistry.—Elements of Organic reaction mechanism. Optical and Geometric Isomerism. Conformational analysis. Resonance. H—Bond and its effects on the properties of Organic Compounds.
- VII.** Chemistry of Natural Products.—Elementary study of Carbohydrates. Oils and Fats. Alkaloids and Vitamins.
- VIII.** Industrial Organic Chemistry.—Organic Polymers. Fermentation processes including preparation of Anti-Biotics. Petro-Chemical Industry.

**Part-II: 100 Marks (MCQ) (For Computer Science)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

**Part-II: 100 Marks (MCQ) (For English)**

**I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

**Part-II: 100 Marks (MCQ) (For Mathematics)****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-II: 100 Marks (MCQ) (For Pak. Studies)

- I. Ideology of Pakistan-----definition and elucidation, historical aspects: Muslim rule in the Sub-Continent, its downfall and efforts for Renaissance. Movements for reforms-- Shaikh Ahmad Sarhindi, Shah Waliullah, Sayyid Ahmad Shaheed, Aligarh, Deoband, Nadwah, and other educational institutions-----Sindh Madrassah and Islamia College Peshawar. Ideology of Pakistan in the light of Speeches and statements of Allama Iqbal and Quaid-i-Azam Muhammad Ali Jinnah.
- II. Changing Security Dynamics for Pakistan: Challenges to National Security of Pakistan
- III. Pakistan War on Terror
- IV. Foreign Policy of Pakistan Post 9/11
- V. Evolution of Democratic System in Pakistan
- VI. Hydro Politics ; Water Issues in Domestic and Regional Context
- VII. Pakistan's Relations with Neighbours
- VIII. Pakistan and India Relations Since 1947
- IX. Kashmir Issue
- X. The Prevailing Social Problems of Pakistan and the Strategies to Deal with Them, Poverty, Education, Health and Sanitation.

### Part-II: 100 Marks (MCQ) (For Physics)

#### 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; 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. Heat and Thermodynamics

- Perfect gas and Van der Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; Maxwellian distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application.

#### III. Modern and Quantum Physics

- Operators and quantum states, time dependent and independent Schrodinger equation, angular momentum, wave mechanics, Heisenber's uncertainty relationship and indeterminacy based on commutation properties of operators, Bohr theory and quantum numbers including electron spin; Pauli's exclusion principle; Spectra of simple systems with one or two valence electrons.

Lande's g factor and Zeeman effect. Raman effect; Waves and particles and De Broglie's Hypothesis.

**IV. 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.

**V. Nuclear Physics**

- Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application.

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Case No.	F.4-31/2026-R
Particulars of post	Assistant Professor (Female) (BS-18), (A) Biology/Zoology/Botany (B) Chemistry (C) Computer Science (D) English (E) Geography (F) Islamiyat (G) Mathematics (H) Pak. Studies (I) Physics (J) Urdu Islamabad Model Colleges, Federal Directorate of Education (FDE), Ministry of Federal Education and Professional Training
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.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Biology / Zoology / Botany)**

**I. Anatomy and Embryology**

- Primary and secondary tissues. Meristems. Secondary growth in dicot stem. Anatomy of leaf, stem and root.
- Micro and mega sporogenesis, pollination mechanism, fertilization, development of Embryo and Endosperm, Seed dispersal.

**II. Plant Physiology**

- Plant water relations, Osmotic Quantities, component potentials of water and their role in transport, water absorption by roots, transpiration. Role of essential mineral elements and their uptake. Plant hormones. Photoperiodism, Vernalization. Dormancy and Seed germination. Enzymes.
- Photosynthesis: Plant pigments, Light reaction, CO<sub>2</sub> fixation, Mechanism of photophosphorylation.
- Respiration: Glycolysis, Krebs cycle, Mechanism of oxidative phosphorylation.

**III. Genetics & Evolution**

- Mendelian Genetics, Multiple Alleles, Polygenic inheritance, Gene interaction, Epistasis and pleiotropy, Sex-linked inheritance, Chromosomal aberrations, Mutations, DNA repair.
- Evolution of life, Convergent Evolution, Divergent Evolution, Parallel Evolution and Natural selection

**IV. Molecular Biology**

- Nucleic acids, DNA as hereditary material, DNA replication, Transcription, Genetic code, Protein synthesis, Genetic engineering and its application, Genetically Modified Organisms (GMO).

**V. Animal Form and Function**

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canal, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms

**VI. Algae, Fungi and Bryophytes**

- Phycology: Distribution, Classification, Structure, Life History and Economic importance of the main groups of Algae.
- Mycology and Plant Pathology: Structure, Reproduction, Classification and Economic importance of the main groups of Fungi. Diseases of economically important crops and general principles of their control
- Bryology: Structure and reproduction of bryophytes, Evolution of Gametophyte and Sporophyte.

**Part-II: 100 Marks (MCQ) (For Chemistry)**

- I. Atomic structure.—Quantum theory, Schrodinger equation, Particle in box, hydrogen atom. Hydrogen molecule ion, hydrogen molecule. Theories of hydrogen and metallic bonding.
- II. Electrochemistry.—Ionic equilibria, theory of strong electrolytes; Debye-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. Chemistry of Following Elements.—Oxygen, Carbon, Chlorine, Silicon, Nitrogen, Phosphorus.
- IV. Inorganic Chemical Industries.—Sulphuric Acid, Fixation of Nitrogen, Chemical Fertilizers, Semi-conductivity devices. Cement, Glass and Ceramics.
- V. Surface Chemistry and Catalysis.—Physical adsorption and chemisorption. Surface area determination. Homogeneous and Heterogeneous Catalysis. Acid-base and Enzyme Catalysis.

- VI.** Physical Organic Chemistry.—Elements of Organic reaction mechanism. Optical and Geometric Isomerism. Conformational analysis. Resonance. H—Bond and its effects on the properties of Organic Compounds.
- VII.** Chemistry of Natural Products.—Elementary study of Carbohydrates. Oils and Fats. Alkaloids and Vitamins.
- VIII.** Industrial Organic Chemistry.—Organic Polymers. Fermentation processes including preparation of Anti-Biotics. Petro-Chemical Industry.

**Part-II: 100 Marks (MCQ) (For Computer Science)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

**Part-II: 100 Marks (MCQ) (For English)**

**I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

**Part-II: 100 Marks (MCQ) (For Geography)****I. Geographical Information System:**

Definitions, key components, functional subsystem, Raster data model, vector data model, attribute data model, Data acquisition techniques, data sources, data capturing techniques and procedures, data transformation, visualization of spatial data, layers and projections and datums, GIS Applications

**II. Map design:**

Symbols to portray points, lines, polygons and volumes, graphic variables, visual hierarchy, Data classification graphic approach, mathematical approach.

**III. Spatial analysis:**

Neighbourhood functions, network, and overlay analysis, buffering, spatial data quality: components of data quality, micro level components, macro level components, usage components, sources of errors, accuracy and resolution and uncertainty.

**IV. Remote Sensing**

History and Development, Concepts and Foundation of Remote Sensing, Electromagnetic spectrum, Types of Remote Sensing Systems, Types of Satellites, Ground Receiving Stations (Reception of Data), Applications (Hydrology, Geology, Climatology, Environmental etc.), Remote Sensing in Pakistan: Potential and Prospects

**V. Land Surveying**

- Instrumental survey and records
- Surveying using the following instruments:
  - Chain survey
  - Plane Table
  - Prismatic Compass
  - Determination of heights and slopes with Abney Level
  - Contouring by Indian Clinometer
  - Use of Dumpy level and Theodolite
  - Total station

- Global Positioning System (GPS)

## Part-II: 100 Marks (MCQ) (For Islamiyat)

### I. Islam: the Code of Life

- Salient features of Islamic;
- Social System
- Political System
- Economic System
- Judicial System
- administrative System
- Responsibilities of civil servants

### II. Study of Seerah

Need and importance of the study of Seerah Prophet Mohammad (PBAH) as;

- The Role Model
- Merciful for the universe.
- Preacher
- Diplomat
- Teacher and Educationalist
- Revolutionary Leader

### III. Islamic Civilization and Culture:

- Meanings and the vital elements
- The role of civilisation in the development of the human personality and communities
- Distinctions of Islamic Civilization;
  - Tauheed
  - Spiritualism
  - Dignity of Man
  - Equality
  - Social Justice
  - Moral values
  - Tolerance
  - Rule of Law

### IV. Islam and World

- Impact of Islamic Civilization on the West and vice-versa.
- Muslim World and the Contemporary Challenges
- Interaction between East and West.
- The role of Islam in the modern world.

**I. اسلامی ضابطہ حیات**

⇐ اسلامی نظام کی نمایاں خصوصیات:

- سماجی نظام
- سیاسی نظام
- اقتصادی نظام
- عدالتی نظام
- انتظامی نظام

⇐ سرکاری ملازمین کی ذمہ داریاں

**II. سیرت النبی کا مطالعہ**

⇐ سیرت النبی کے مطالعہ کی اہمیت اور ضرورت بطور:

- نمونہ عمل
- ہائپر امن
- صلح
- سخاوت کار
- معلم انسانیت
- انقلابی رہنما

**III. اسلامی تہذیب و ثقافت**

⇐ اسلامی تہذیب و ثقافت کے معانی اور اہم اہم

⇐ سماج اور انسانی شخصیت کی تعمیر میں تہذیب کا کردار

⇐ اسلامی تہذیب کے نمایاں اوصاف:

- توحید
- رسالت
- تزکیہ نفس
- انسانی عزت و وقار
- مساوات
- سماجی انصاف
- اخلاقی اقدار
- صبر و برداشت
- قانون کی حکمرانی

**IV. اسلام اور دنیا:**

⇐ اسلامی تہذیب کے مغرب اور مغرب کے اسلامی تہذیب پر اثرات

⇐ اسلام اور عصر حاضر کے چیلنجز

⇐ مشرق اور مغرب کے درمیان بات چیت

⇐ جدید دنیا میں اسلام کا مقام

**Part-II: 100 Marks (MCQ) (For Mathematics)****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-II: 100 Marks (MCQ) (For Pak. Studies)**

- I. Ideology of Pakistan-----definition and elucidation, historical aspects: Muslim rule in the Sub-Continent, its downfall and efforts for Renaissance. Movements for reforms-- Shaikh Ahmad Sarhindi, Shah Waliullah, Sayyid Ahmad Shaheed, Aligarh, Deoband, Nadwah, and other educational institutions-----Sindh Madrassah and Islamia College Peshawar. Ideology of Pakistan in the light of Speeches and statements of Allama Iqbal and Quaid-i-Azam Muhammad Ali Jinnah.
- II. Changing Security Dynamics for Pakistan: Challenges to National Security of Pakistan
- III. Pakistan War on Terror
- IV. Foreign Policy of Pakistan Post 9/11
- V. Evolution of Democratic System in Pakistan
- VI. Hydro Politics ; Water Issues in Domestic and Regional Context
- VII. Pakistan's Relations with Neighbours
- VIII. Pakistan and India Relations Since 1947
- IX. Kashmir Issue

- X. The Prevailing Social Problems of Pakistan and the Strategies to Deal with Them, Poverty, Education, Health and Sanitation.

**Part-II: 100 Marks (MCQ) (For Physics)**

**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; 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. Heat and Thermodynamics**

- Perfect gas and Van der Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; Maxwellian distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application.

**III. Modern and Quantum Physics**

- Operators and quantum states, time dependent and independent Schrodinger equation, angular momentum, wave mechanics, Heisenber's uncertainty relationship and indeterminacy based on commutation properties of operators, Bohr theory and quantum numbers including electron spin; Pauli's exclusion principle; Spectra of simple systems with one or two valence electrons. Lande's g factor and Zeeman effect. Raman effect; Waves and particles and De Broglie's Hypothesis.

**IV. 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.

**V. Nuclear Physics**

- Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application.

## Part-II: 100 Marks (MCQ) (For Urdu)

- 1- اردو ادب کا مطالعہ  
 i- اردو زبان و ادب کی اسلامی شناخت  
 ii- بیسویں صدی کی ادبی تحریکیں  
 iii- پاکستانی ادب کی اصلاح: تشکیل و روایت اور ارتقاء
- 2- شعری ادب کا تنقیدی مطالعہ  
الف - دور قدیم  
 i- میر (غزل- انتخاب میر مولوی عبد الحق)  
 ii- غالب (دیوان غالب)  
 iii - حالی (مسدس)  
 iv- اقبال (طلوع اسلام، خضر راہ، مسجد قرطبہ)  
ب - دور جدید  
 i- فیض (غزل - دست صبا)  
 ii- راشد (نظم - ایران میں اجنبی)  
 iii- مجید امجد (نظم - شب رفتہ)
- 3- نثری ادب کا تنقیدی مطالعہ  
 الف- غیر افسانوی نثر  
 i- شبلی (سیرت النبی ﷺ، جلد اول)  
 ii- مولوی عبد الحق (خاکے، چند ہم عصر)  
ب - افسانوی نثر  
 i- منٹو (افسانے، منٹو کے بیس افسانے: مرتب ڈاکٹر انوار احمد، ڈاکٹر اے بی اشرف)  
 ii- احمد ندیم قاسمی (افسانے، کپاس کے پھول)  
 iii- مشتاق احمد یوسفی (طنز و مزاح، آب گم)۔

Case No.	F.4-34/2026-R
Particulars of post	Assistant Professor (Pakistan Studies) (BS-18), Junior Naval Academy Ormara, Naval Headquarters, Ministry of Defence
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's Degree in relevant subject. ii. Five (5) years post qualification teaching experience at College level in the relevant subject. OR M.Phil with three (3) years post qualification teaching experience at College level in the relevant subject. OR Ph.D. in the relevant subject.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (Pak. Studies)**

- I. Ideology of Pakistan-----definition and elucidation, historical aspects: Muslim rule in the Sub-Continent, its downfall and efforts for Renaissance. Movements for reforms-- Shaikh Ahmad Sarhindi, Shah Waliullah, Sayyid Ahmad Shaheed, Aligarh, Deoband, Nadwah, and other educational institutions-----Sindh Madrassah and Islamia College Peshawar. Ideology of Pakistan in the light of Speeches and statements of Allama Iqbal and Quaid-i-Azam Muhammad Ali Jinnah.
- II. Changing Security Dynamics for Pakistan: Challenges to National Security of Pakistan
- III. Pakistan War on Terror
- IV. Foreign Policy of Pakistan Post 9/11
- V. Evolution of Democratic System in Pakistan
- VI. Hydro Politics ; Water Issues in Domestic and Regional Context
- VII. Pakistan's Relations with Neighbours

- VIII.** Pakistan and India Relations Since 1947
- IX.** Kashmir Issue
- X.** The Prevailing Social Problems of Pakistan and the Strategies to Deal with Them, Poverty, Education, Health and Sanitation.

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Case No.	F.4-35/2026-R
Particulars of post	Deputy Armament Supply Officer (BS-18), 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.

Max Marks: 200

Qualifying Standard: 40%

(Note: Negative marking of 0.25 per wrong answer)

**Part-I: 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. General Intelligence/Ability 50%**

- Basic Arithmetic/Quantitative Ability
  - Algebra
  - Ratios
  - Percentages
  - Arithmetic Means
- Logical Reasoning and Analytical Ability
- Current Affairs.
  - Developments at National and International Levels in last 2 years
- Pakistan Affairs
  - Basic Level knowledge
- Basic IT (Hardware and Software)

**Part-II (Professional): 100 Marks (MCQ)**

**I- (Chemistry) 50 Marks**

- 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.

## II- (Physics) 50 Marks

### 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. Methods of detection, Mass Spectrometer. Accelerators. Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application, Elementary particles and their properties.

Case No.	F.4-39/2026-R
Particulars of post	Assistant Professor (English) (Female) (BS-18), Federal Government Educational Institution (FGEI) Directorate, (Cantts / Garrisons) Colleges, M/o Defence
Minimum Qualification & Experience:	Ph.D. degree in the relevant subject with one 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.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I: 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II (English): 100 Marks (MCQ)**

**I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)

- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

Case No.	F.4-45/2026-R
Particulars of post	Associate Professor (Female) (BS-19), (A) Computer Science (B) Education (C) Psychology GB Colleges, Higher Education Department GB, Ministry of Kashmir Affairs and Gilgit Baltistan.
Minimum Qualification & Experience:	i. Ph.D. degree in the relevant subject from a University recognized by the HEC. ii. Eight (8) years post qualification teaching and administrative experience at a College / University level. OR i. M. Phil degree in the relevant subject from a University recognized by the HEC. ii. Ten (10) years post qualification teaching and administrative experience at College / University level. OR i. Second Class or Grade 'C' Master's degree in the relevant subject from a University recognized by the HEC. ii. Twelve (12) years post qualification teaching and administrative experience at College / University level.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Computer Science)**

**I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

**II. Object Oriented Programming**

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

**Part-II: 100 Marks (MCQ) (For Education)****I. Foundation of Education**

- Educational Process
- Role of education in Nation Building, National cohesion and integration, Character building, Human resource development, World peace and prosperity
- Philosophical Foundations of Education
- Psychological Foundation of Education
- Sociological Foundations of Education
- Islamic Concept Education

**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
- Information and Communication Technologies (ICTs)

**III. Education 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
- Achievement Test
- Standardized Tests
- Characteristics of a Good Test: Validity, Reliability, Objectivity, Usability

**IV. Education Administration and Supervision**

- The Concept of Administration
- Educational Planning and Organization in Pakistan
- Approaches to Educational Administration: Democratic; Authoritarian; Laissez-faire
- Function of Administration
- Educational Supervision

- Agencies and Organizations promoting Education in Pakistan

### Part-II: 100 Marks (MCQ) (For Psychology)

- I. **Nature and Scope of Psychology:** Definition and scope, Psychology as a Science, Schools, Perspectives, and Models of Psychology, Recent Trends
- II. **Biological Basis of Behaviour:** Nervous System, Neuron and its function, Central and Peripheral Nervous System, Endocrine System
- III. **Motivation and Emotion:** Homeostasis, Factors affecting Motivation, Biogenic and Social Motives, Measurement of Human Motivation, Theories of Motivation, Emotions, Types of Emotions, Physiological changes and Emotion, Theories of Emotion.
- IV. **Personality:** Determinants of Personality, Factors in Development of Personality, Theoretical Perspectives, Traits and Types, Personality Assessment and Techniques, Cross-Cultural Issues.
- V. **Intelligence:** Theories of Intelligence, Types of intelligence (IQ, EQ), Assessing Intelligence
- VI. **Developmental Psychology:** Physical, Cognitive, Social and Emotional development in Childhood, Adolescence, Adulthood and Old Age
- VII. **Abnormal and Clinical Psychology:** Concept and causes of Abnormality, Clinical Assessment and Intervention, Different disorders such as Schizophrenia, Mood disorders, Anxiety disorders, Personality disorders, etc. Psychological treatment including different Therapeutic techniques.

Case No.	F.4-46/2026-R
Particulars of post	Assistant Professor (Male) (BS-18), (A) Accounting & Finance (B) Computer Science (C) English (D) Psychology (E) Tourism & Hospitality Management Education Department, GB Colleges, Ministry of Kashmir Affairs and Gilgit Baltistan.
Minimum Qualification & Experience:	<p>i. Ph. D. degree in the relevant subject from a University recognized by the HEC.</p> <p>ii. One year post qualification teaching and administrative experience at a College/ University level.</p> <p style="text-align: center;">OR</p> <p>i. M. Phil. degree in the relevant subject from a University recognized by the HEC.</p> <p>ii. Three (3) years post qualification teaching and administrative experience at College/ University level.</p> <p style="text-align: center;">OR</p> <p>i. Second Class or Grade 'C' Master's degree in the relevant subject from a University recognized by the HEC.</p> <p>ii. Five (5) years post qualification teaching and administrative experience at College/ University level.</p>

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)**

**I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

### Part-II: 100 Marks (MCQ) (For Accounting & Finance)

- I. **Principles of Accounting**  
Accounting Conventions, Concepts and Principles, Accounting Systems and Procedures, Control Accounts, Cash Control, Rectification of Errors, Basic Principles of Calculating and Recording Depreciation of Tangible Non-Current Assets, Preparation and Presentation of Financial Statements
- II. **Financial Accounting**  
Preparation and Presentation of Financial Statements, Inventories and their valuation, Accounting for bill of exchange, Accounting for accounts receivable, bad debts & provision for bad/doubtful debts, Accounting for consignment, Accounting for share capital of a corporation, Accounting for 'associations not-for-profit', Accounting from incomplete records, Accounting information system (AIS) and computer-based accounting systems
- III. **Introduction to Business Finance**  
Introduction to Finance, Time Value of Money, Financial assets / securities and their valuation, Capital investment, its valuation, and investment decision making, Capital budgeting cash flows (Capital Budgeting Process, Relevant Cash Flows, Finding the Initial Investment, Finding the Operating Cash Flows, Finding the Terminal Cash Flows)
- IV. **Advanced Accounting**  
Preparation of Final Accounts, Departmental Accounting, Branch Accounting, Accounting for Joint Venture, Partnership Accounting, Intangible Assets, Company final accounts, and special treatments, Cash flow statement, and statement of changes in equity, and notes, Analysis of Financial Statements, Partnership Accounting

### Part-II: 100 Marks (MCQ) (For Computer Science)

- I. **Computer Architecture**  
Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.
- II. **Object Oriented Programming**  
Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors
- III. **Data Structure and Algorithms**  
Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists
- IV. **Database Management Systems**  
Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization
- V. **Computer Communications and Networks**  
Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,
- VI. **Operating Systems**  
Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

### Part-II: 100 Marks (MCQ) (For English)

- I. **Essays:**
  - Bertrand Russell (The Conquest of Happiness)
  - George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

**Part-II: 100 Marks (MCQ) (For Psychology)**

- I. Nature and Scope of Psychology:** Definition and scope, Psychology as a Science, Schools, Perspectives, and Models of Psychology, Recent Trends
- II. Biological Basis of Behaviour:** Nervous System, Neuron and its function, Central and Peripheral Nervous System, Endocrine System
- III. Motivation and Emotion:** Homeostasis, Factors affecting Motivation, Biogenic and Social Motives, Measurement of Human Motivation, Theories of Motivation, Emotions, Types of Emotions, Physiological changes and Emotion, Theories of Emotion.
- IV. Personality:** Determinants of Personality, Factors in Development of Personality, Theoretical Perspectives, Traits and Types, Personality Assessment and Techniques, Cross-Cultural Issues.
- V. Intelligence:** Theories of Intelligence, Types of intelligence (IQ, EQ), Assessing Intelligence
- VI. Developmental Psychology:** Physical, Cognitive, Social and Emotional development in Childhood, Adolescence, Adulthood and Old Age

- VII. Abnormal and Clinical Psychology:** Concept and causes of Abnormality, Clinical Assessment and Intervention, Different disorders such as Schizophrenia, Mood disorders, Anxiety disorders, Personality disorders etc. Psychological treatment including different Therapeutic techniques.

### **Part-II: 100 Marks (MCQ) (For Tourism & Hospitality Management)**

#### **I. Introduction to Tourism & Hospitality**

- Definitions, History, Scope, Types and Forms, Basis of Tourism, Limits of Tourism, Tourism Promotion. Main Global features, Time Zones and Climate.
- Travel (Air, Sea, Road), Accommodation (Hotels & Restaurants), Infrastructure, Super Structure, Composition, Related Industries, Recourses (Natural & Cultural), Activities.
- Hospitality and tourism, characteristics of Hospitality industry, The natures of Hospitality industry, services offered by hospitality industry, relationships with other sectors of tourism Industry. Historical development in accommodation sector, accommodation classification, F&B establishment classification, Hotel guests and Types of guests, ownership and management of accommodations, management measures for Hotels.
- Influences of hospitality industry on other establishment, working conditions in hospitality industry, service ethos. Types of establishments, key departments, Hospitality structures (organizational) major Hospitality division, support departments,
- The Hotel Development Process, The Art and Science of Opening a Hotel, Customer Relationship Management, Ownership structure of hotels. Types- Sole proprietorship, Partnership, Management Contract, Joint Venture, Franchisee, Public Sector, Private Sector, Referral Groups/Consortium-Concept, Features, Advantages and Disadvantages.

#### **II. Sustainable Tourism**

- An Overview of Sustainability and Development
- Introduction to Sustainable Tourism: Historical Background, sustainable tourism: concepts and objectives, Key Issues in Sustainable Tourism, critique of Current thinking in Sustainable Tourism.
- Dimensions of Sustainable Tourism: Sustainable Tourism Management: The Socio-cultural Dimension, The Environmental Dimension, The Economic Dimension, Major Indicators of Sustainable Tourism
- Strategies for Sustainability: Selected strategies for achieving sustainability, feasibility studies, project formulation, getting the framework right: policy and planning, organizing for sustainability: institutional issues.
- The Key Actors in Sustainable Tourism: The Public Actors, the Industry (tour operators/hoteliers), the Voluntary Sector, the Host Community, the Media, the Tourist, the NGOs/INGs.
- Sustainable Tourism in Different Geographical Locations: Coastal Areas and the Sea, Rural Areas, Urban Areas, Mountainous Regions, Islands, Wetlands, Deserts.
- Sustainable Tourism & Cultural Heritage: Culture & its preservation, culture as a tourism attraction, the impacts of tourism, Eco-tourism and parallels to cultural heritage tourism, industry responses to sustainable tourism, the realities of industry structure, role for development cooperation programs.
- Global Sustainable Tourism Criteria: Sustainability and Tourism Policies, Tourism and Sustainable Development Goals (SGDs).

### III. Cultural Tourism

- Introduction: Meanings of Culture, Society, Civilization, Definition of Cultural Tourism, Cultural Diversity, Impacts of Tourism on Culture, Living cultural Heritage, Archaeological Heritage, International Cultural Tourism Charter
- Cultural Tourism Resources: The Land, Climate, Economy, Language and Literature, Socio-Religious groups, Customs & Traditions
- Attractions of Cultural Tourism in Pakistan: Tangible & Intangible Culture, Archaeological sites, Museums, Architecture, Festivals, Arts & Crafts, Rural & Urban Tourism, Religious/Spiritual, Folklores, Performing Art (Music, Drama and dance), Traditional Sports, Food & Gastronomy, Events and exhibitions
- Cultural Tourism Issues & Challenges: Endangered Cultures & Traditions, Globalization, Terrorism, Poverty, Awareness, Education and Trainings, Management & Marketing, Research and Planning
- Cultural Tourism Planning & Operations: Understanding heritage tourism in relation to World Heritage Sites, urban and rural environments, specific sites, buildings and institutions, heritage tourism tours, understanding impacts from tourism, and, balancing conservation, community needs and access, Cultural Policy of Pakistan, Tourism Policy of Pakistan

Case No.	F.4-47/2026-R
Particulars of post	Associate Professor / Principal (Male) (BS-19), (A) Computer Science (B) Economics (C) Education (D) English (E) Physics (F) Psychology (G) Sociology (H) Zoology Higher Technical and Special Education Department GB, Ministry of Kashmir Affairs and Gilgit Baltistan.
Minimum Qualification & Experience:	i. Ph. D. degree in the relevant subject from a University recognized by the HEC. ii. Eight (8) years post qualification teaching and administrative experience at a College/ University level. OR i. M. Phil. degree in the relevant subject from a University recognized by the HEC. ii. Ten (10) years post qualification teaching and administrative experience at College/ University level. OR i. Second Class or Grade 'C' Master's degree in the relevant subject from a University recognized by the HEC. ii. Twelve (12) years post qualification teaching and administrative experience at College/ University level.

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25/ wrong answer)

**Part-I (For all Categories): 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II: 100 Marks (MCQ) (For Computer Science)****I. Computer Architecture**

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

- II. Object Oriented Programming**  
Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors
- III. Data Structure and Algorithms**  
Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists
- IV. Database Management Systems**  
Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization
- V. Computer Communications and Networks**  
Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,
- VI. Operating Systems**  
Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch, Introduction to concurrency

### **Part-II: 100 Marks (MCQ) (For Economics)**

- I. Micro Economics**  
Consumer behaviour, Determination of market demand and supply i.e. concept of elasticity of Demand & Supply, Static, Comparative Static Analysis, Distinction between partial and general equilibrium analysis (basic level) theory of the Firm, Producer's equilibrium, Pricing factors of production
- II. Macro Economics**  
Basic Economic Concepts, National Income Accounting, Consumption Function, Multiplier, Accelerator, Component of Aggregate Demand, Labour Demand and Supply, Un-Employment, Determination of equilibrium level of income and output (at least with reference to two or three school of thought), Inflation.
- III. Public Financing**  
Government expenditure, Sources of Government Revenue, Privatization, Taxes and non-taxes, Incidence of different taxes, Public Debt, Objectives, methods of repayment, Deficit financing, General Equilibrium Analysis, Welfare Economics, Fiscal Policy.
- IV. Role of Foreign Trade and Aid in Economic Development**  
Trends in Pakistan's Balance of Payments, Terms of Trade, Changes in direction of trade, Trends in Pakistan's major exports and imports, Causes of significant changes in the trends, the role of migration and remittances in Pakistan's economy, costs and benefits of Foreign Aid, Role of Foreign Investment.
- V. Major Issues in Pakistan Economy**  
Energy crisis, Corruption, Bad governance, External debt accumulation and dependency, Unemployment, Income inequality, Inflation, Fiscal and trade deficits, Balance of payment issues, Shortage of irrigation water.

### **Part-II: 100 Marks (MCQ) (For Education)**

- I. Foundation of Education**
  - Educational Process

- Role of education in Nation Building, National cohesion and integration, Character building, Human resource development, World peace and prosperity
- Philosophical Foundations of Education
- Psychological Foundation of Education
- Sociological Foundations of Education
- Islamic Concept Education

## 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
- Information and Communication Technologies (ICTs)

## III. Education 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
- Achievement Test
- Standardized Tests
- Characteristics of a Good Test: Validity, Reliability, Objectivity, Usability

## IV. Education Administration and Supervision

- The Concept of Administration
- Educational Planning and Organization in Pakistan
- Approaches to Educational Administration: Democratic; Authoritarian; Laissez-faire
- Function of Administration
- Educational Supervision
- Agencies and Organizations promoting Education in Pakistan

### Part-II: 100 Marks (MCQ) (For English)

#### I. Essays:

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

#### II. Short Stories:

- Somerset Maugham (The Lotus-eater)
- G.K. Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

#### III. Poetry:

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

#### IV. Drama:

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House)

- Harold Pinter (*The Caretaker*)
- Samuel Beckett (*Waiting for Godot*)
- Eugene O'Neill (*Long Day's Journey into Night*)

#### V. Novels:

- Thomas Hardy (*Far from the Madding Crowd*)
- D.H. Lawrence (*Sons and Lovers*)
- George Orwell (*Nineteen Eighty-four*)
- Iris Murdoch (*Under the Net*)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

#### VI. Literacy Theory & Criticism

- Structuralism
- Marxism
- Deconstructionism
- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

### Part-II: 100 Marks (MCQ) (For Physics)

#### 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; 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. Heat and Thermodynamics

- Perfect gas and Van der Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; Maxwellian distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application.

#### III. Modern and Quantum Physics

- Operators and quantum states, time dependent and independent Schrodinger equation, angular momentum, wave mechanics, Heisenber's uncertainty relationship and indeterminacy based on commutation properties of operators, Bohr theory and quantum numbers including electron spin; Pauli's exclusion principle; Spectra of simple systems with one or two valence electrons. Lande's g factor and Zeeman effect. Raman effect; Waves and particles and De Broglie's Hypothesis.

#### IV. 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.

## V. Nuclear Physics

- Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application.

### Part-II: 100 Marks (MCQ) (For Psychology)

- I. **Nature and Scope of Psychology:** Definition and scope, Psychology as a Science, Schools, Perspectives, and Models of Psychology, Recent Trends
- II. **Biological Basis of Behaviour:** Nervous System, Neuron and its function, Central and Peripheral Nervous System, Endocrine System
- III. **Motivation and Emotion:** Homeostasis, Factors affecting Motivation, Biogenic and Social Motives, Measurement of Human Motivation, Theories of Motivation, Emotions, Types of Emotions, Physiological changes and Emotion, Theories of Emotion.
- IV. **Personality:** Determinants of Personality, Factors in Development of Personality, Theoretical Perspectives, Traits and Types, Personality Assessment and Techniques, Cross-Cultural Issues.
- V. **Intelligence:** Theories of Intelligence, Types of intelligence (IQ, EQ), Assessing Intelligence
- VI. **Developmental Psychology:** Physical, Cognitive, Social and Emotional development in Childhood, Adolescence, Adulthood and Old Age
- VII. **Abnormal and Clinical Psychology:** Concept and causes of Abnormality, Clinical Assessment and Intervention, Different disorders such as Schizophrenia, Mood disorders, Anxiety disorders, Personality disorders etc. Psychological treatment including different Therapeutic techniques.

### Part-II: 100 Marks (MCQ) (For Sociology)

- I. **Social Interaction:** Caste and classes, Forms of social classes, Feudal system in Pakistan, Social Mobility-nature of social mobility and its determinants in Pakistani society, Culture of poverty.
- II. **Social Control:** Mechanisms of social control-formal and informal means of social control, Anomie, Alienation and social Integration-Means of social integration in Pakistani Society.
- III. **Social and Cultural Change and Social Policy:** Processes of Social and Cultural Change-discovery, Inhibitions to social and cultural change in Pakistan, Social planning and directed social and cultural change, Effect of Industrialization, Urbanization, Modernization and Modern Means of Communication on Social Change.
- IV. **Public Opinion:** Formulation of public opinion, concept of opinion leader, characteristics of opinion leadership.
- V. **Community:** The rural community, Traditional Characteristics of rural life, The urban community, Rural – Urban convergence, Urbanism, Future of cities in Pakistan.
- VI. **Social Institutions:** The nature and genesis of institutions, The process of institutionalization, Functions of Social Institutions: Family, Religion, Education, Economy and Politics.
- VII. **Social Problems in Pakistan:** High population growth rate, Rural –urban migration. Issues of technical/vocational training, Deviance and street crime, Unemployment, illiteracy and School dropout, Smuggling, Prostitution, Poverty, Drug Addiction, Child Labour and Abuse, Bonded Labour, Social customs and Traditions affecting Women

in Pakistan, Violence Against Women and Domestic Violence, Issues concerning the Elderly in Pakistan.

**VIII. Methods of Sociological Research:** Scientific Method, Steps in research, Types of Questionnaire Research Design, Surveys, Observation and Case Studies.

**Part-II: 100 Marks (MCQ) (For Zoology)**

**I. Animal Diversity-Chordata**

- Fishes: Structural and functional adaptations of fishes.
- Amphibian: Movement onto land and early evolution of terrestrial vertebrates.
- Reptiles: Characteristics of reptiles, adaptations in reptilians.
- Birds: Migration and navigation, adaptations.
- Mammals: Structural and functional adaptations of mammals.

**II. Principles of Animal Life**

- Protozoa: Reproduction pattern in protozoan, Parasitism in protozoan
- Tissues Types: epithelial, connective, muscle and nervous tissue; organs and organ systems.
- Ecological Concepts: Interactions, Concepts and components of ecosystem, Food chain, Food web, Biogeochemical cycles, Forest, Biomes, Wildlife conservation and management, Environmental pollution, Greenhouse effect, Acid rain, Global warming.

**III. Animal Form and Function**

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canals, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms
- Nervous Coordination: Nervous system and Sense: Functional units of nervous systems, Synapses junctions between nerves.
- Chemical Coordination: Endocrine System; Vertebrate endocrine glands and types of hormones, Mechanism of hormones action,
- Animal Behavior: Learning, Habituation, Insight learning, latent learning, classical learning: Control of Behavior; social behavior

Case No.	F.4-54/2026-R
Particulars of post	Assistant Professor (Female) (BS-18), (A) Biology / Zoology / Botany (B) Computer Science (C) English (D) Islamic Studies (E) Mathematics (F) Physics (G) Psychology (H) Urdu Islamabad Model Colleges, (Ex-F.G Colleges), Federal Directorate of Education, Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	Ph.D. degree in the relevant subject and one (1) years' post qualification teaching experience at College / University level. OR M. Phil 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.

Max Marks: 200

Qualifying Standard: 50%

(Note: Negative marking of 0.25 per wrong answer)

**Paper-I (For all categories): 100 Marks (MCQ)**

**I. English 50%**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology 50%**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II (For Biology / Zoology / Botany): 100 Marks (MCQ)**

**I. Anatomy and Embryology**

- Primary and secondary tissues. Meristems. Secondary growth in dicot stem. Anatomy of leaf, stem and root.

- Micro and mega sporogenesis, pollination mechanism, fertilization, development of Embryo and Endosperm, Seed dispersal.

## II. Plant Physiology

- Plant water relations, Osmotic Quantities, component potentials of water and their role in transport, water absorption by roots, transpiration. Role of essential mineral elements and their uptake. Plant hormones. Photoperiodism, Vernalization. Dormancy and Seed germination. Enzymes.
- Photosynthesis: Plant pigments, Light reaction, CO<sub>2</sub> fixation, Mechanism of photophosphorylation.
- Respiration: Glycolysis, Krebs cycle, Mechanism of oxidative phosphorylation.

## III. Genetics & Evolution

- Mendelian Genetics, Multiple Alleles, Polygenic inheritance, Gene interaction, Epistasis and pleiotropy, Sex-linked inheritance, Chromosomal aberrations, Mutations, DNA repair.
- Evolution of life, Convergent Evolution, Divergent Evolution, Parallel Evolution and Natural selection

## IV. Molecular Biology

- Nucleic acids, DNA as hereditary material, DNA replication, Transcription, Genetic code, Protein synthesis, Genetic engineering and its application, Genetically Modified Organisms (GMO).

## V. Animal Form and Function

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canal, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms

## VI. Algae, Fungi and Bryophytes

- Phycology: Distribution, Classification, Structure, Life History and Economic importance of the main groups of Algae.
- Mycology and Plant Pathology: Structure, Reproduction, Classification and Economic importance of the main groups of Fungi. Diseases of economically important crops and general principles of their control
- Bryology: Structure and reproduction of bryophytes, Evolution of Gametophyte and Sporophyte.

### Part-II (For Computer Science): 100 Marks (MCQ)

#### I. Computer Architecture

Microprocessor Bus Structure (Address/Data/Control), Registers and Flags, Storage Hierarchy (Main/Virtual/ Cache/ Secondary memory), Peripheral communication, CPU, ALU, Principles of Instruction Set Design, Multiprocessors & Thread Level Parallelism.

#### II. Object Oriented Programming

Data types, control structures, functions, arrays, classes, methods, object and encapsulation; constructors and destructors

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists

**IV. Database Management Systems**

Database design, functional dependencies and normal forms, concurrency control and recovery techniques, Database security and authorization

**V. Computer Communications and Networks**

Asynchronous and Synchronous transmission, LAN/WAN/MAN, Network layers, Transport layer protocols TCP/IP, UDP,

**VI. Operating Systems**

Process and CPU management, Multithreading, Deadlocks, Memory management and virtual memory, External Fragmentation, Paging and Demand Paging, File management systems, Scheduling and dispatch.

**Part-II (For English): 100 Marks (MCQ)****I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)

**II. Short Stories:**

- Somerset Maugham (The Lotus-eater)
- G.K.Chesterton (A Somewhat Improbable Story)
- O'Henry (The Gift of the Magi)

**III. Poetry:**

- William Wordsworth (Resolution Independence; Tintern Abbey)
- John Keats (Ode to a Nightingale; Ode to Autumn)
- Lord Alfred Tennyson (Ulysses; The Lady of Shalott)
- Yeats (A Dialogue of Self and Soul; The Second Coming)
- Eliot (The Wasteland; Love Song of J. Alfred Prufrock)
- Philip Larkin (Maturity; Continuing to Live; The Trees)
- Wallace Stevens (A postcard from the volcano; Continual conversation with a silent man; Dry loaf) **OR** Walt Whitman (As I ponder'd in silence; Are you the new person drawn toward me?; This moment yearning and thoughtful)

**IV. Drama:**

- Shakespeare (Hamlet; King Lear, As you like it and Twelfth Night)
- William Congreve (The Way of the World)
- Shaw (Pygmalion; Heartbreak House )
- Harold Pinter (The Caretaker)
- Samuel Beckett (Waiting for Godot)
- Eugene O'Neill (*Long Day's Journey into Night*)

**V. Novels:**

- Thomas Hardy (Far from the Madding Crowd)
- D.H. Lawrence (Sons and Lovers)
- George Orwell (Nineteen Eighty-four)
- Iris Murdoch (Under the Net)
- Nathaniel Hawthorne (*The Scarlet Letter*) or William Faulkner (*The Sound and the Fury*)

**VI. Literacy Theory & Criticism**

- Structuralism
- Marxism
- Deconstructionism

- Psychoanalytic criticism
- Feminist criticism
- Postcolonial Criticism

### **Part-II (For Islamic Studies): 100 Marks (MCQ)**

#### **I. Islam: the Code of Life**

- Salient features of Islamic;
- Social System
- Political System
- Economic System
- Judicial System
- administrative System
- Responsibilities of civil servants

#### **II. Study of Seerah**

Need and importance of the study of Seerah Prophet Mohammad (PBAH) as;

- The Role Model
- Merciful for the universe.
- Preacher
- Diplomat
- Teacher and Educationalist
- Revolutionary Leader

#### **III. Islamic Civilization and Culture:**

- Meanings and the vital elements
- The role of civilisation in the development of the human personality and communities
- Distinctions of Islamic Civilization;
  - Tauheed
  - Spiritualism
  - Dignity of Man
  - Equality
  - Social Justice
  - Moral values
  - Tolerance
  - Rule of Law

#### **IV. Islam and World**

- Impact of Islamic Civilization on the West and vice-versa.
- Muslim World and the Contemporary Challenges
- Interaction between East and West.
- The role of Islam in the modern world.

**I. اسلامی ضابطہ حیات**

⇨ اسلامی نظام کی نمایاں خصوصیات:

- سماجی نظام
- سیاسی نظام
- اقتصادی نظام
- عدالتی نظام
- انتظامی نظام

⇨ سرکاری ملازمین کی ذمہ داریاں

**II. سیرت النبی کا مطالعہ**

⇨ سیرت النبی کے مطالعہ کی اہمیت اور ضرورت بطور:

- نمونہ عمل
- پختہ امن
- مسلخ
- سفارت کار
- معلم انسانیت
- انقلابی رہنما

**III. اسلامی تہذیب و ثقافت**

⇨ اسلامی تہذیب و ثقافت کے معانی اور اہم اجزاء

⇨ سماج اور انسانی شخصیت کی تعمیر میں تہذیب کا کردار

⇨ اسلامی تہذیب کے نمایاں اوصاف:

- توحید
- رسالت
- تزکیہ نفس
- انسانی عزت و وقار
- مساوات
- سماجی انصاف
- اعتدالی اقدار
- صبر و برداشت
- قانون کی حکمرانی

**IV. اسلام اور دنیا:**

⇨ اسلامی تہذیب کے مغرب اور مغرب کے اسلامی تہذیب پر اثرات

⇨ اسلام اور عصر حاضر کے چیلنجز

⇨ مشرق اور مغرب کے درمیان بات چیت

⇨ جدید دنیا میں اسلام کا مقام

**Part-II (For Mathematics): 100 Marks (MCQ)****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-II (For Physics): 100 Marks (MCQ)****I. Mechanics**

- Newtonian laws of motion; calculus based approach to kinematics, forces and dynamics, conservation law of energy; conservation of linear and angular momentum; 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. Waves and Oscillation**

- Free oscillation with one and two degrees of freedom; forced and damped oscillations and phenomenon of resonance.

- Reflection, Refraction, Interference, Diffraction and Polarization of waves; interfero-meter and Newton's rings.

### III. Heat and Thermodynamics

- Perfect gas and Van der Waals equation; Three Laws of Thermodynamics, internal energy, temperature, entropy. Thermal properties of Simple system production and measurement of low temperatures; Maxwellian distribution of molecular velocities; Brownian motion; Transport phenomena. Classical Maxwell-Boltzmann Statistics and its application.

### IV. Electricity and Magnetism

- Gauss' law Electric potential and Poisson and Laplace's equation Dielectric medium and Polarization; Ampere's law; Vector potential; Magnetic properties of matter; Faraday's law of electromagnetic induction; Maxwell's equations; Poynting theorem and Poynting Vector. Maxwell's equations in integral and differential form.

### V. Modern and Quantum Physics

- Operators and quantum states, time dependent and independent Schrodinger equation, angular momentum, wave mechanics, Heisenber's uncertainty relationship and indeterminacy based on commutation properties of operators, Bohr theory and quantum numbers including electron spin; Pauli's exclusion principle; Spectra of simple systems with one or two valence electrons. Lande's g factor and Zeeman effect. Raman effect; Waves and particles and De Broglie's Hypothesis.

### VI. 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.

### VII. Nuclear Physics

- Structure of Nuclei; Radioactivity,  $\alpha$ ,  $\beta$  and  $\gamma$  decay. Methods of detection, Phenomenon of fission; reactor and nuclear power, nuclear fusion and its application.

## Paper-II (For Psychology): 100 Marks (MCQ)

- I. **Nature and Scope of Psychology:** Definition and scope, Psychology as a Science, Schools, Perspectives, and Models of Psychology, Recent Trends
- II. **Biological Basis of Behaviour:** Nervous System, Neuron and its function, Central and Peripheral Nervous System, Endocrine System
- III. **Motivation and Emotion:** Homeostasis, Factors affecting Motivation, Biogenic and Social Motives, Measurement of Human Motivation, Theories of Motivation, Emotions, Types of Emotions, Physiological changes and Emotion, Theories of Emotion.
- IV. **Personality:** Determinants of Personality, Factors in Development of Personality, Theoretical Perspectives, Traits and Types, Personality Assessment and Techniques, Cross-Cultural Issues.
- V. **Intelligence:** Theories of Intelligence, Types of intelligence (IQ, EQ), Assessing Intelligence

- VI. Developmental Psychology:** Physical, Cognitive, Social and Emotional development in Childhood, Adolescence, Adulthood and Old Age
- VII. Abnormal and Clinical Psychology:** Concept and causes of Abnormality, Clinical Assessment and Intervention, Different disorders such as Schizophrenia, Mood disorders, Anxiety disorders, Personality disorders, etc. Psychological treatment including different Therapeutic techniques.

**Part-II: 100 Marks (MCQ) (For Urdu)**

- 1 **اردو ادب کا مطالعہ**  
 i- اردو زبان و ادب کی اسلامی شناخت  
 ii- بیسویں صدی کی ادبی تحریکیں  
 iii- پاکستانی ادب کی اصلاح: تشکیل و روائت اور ارتقاء
- 2 **شعری ادب کا تنقیدی مطالعہ**  
**الف - دور قدیم**  
 i- میر (غزل- انتخاب میر مولوی عبد الحق)  
 ii- غالب (دیوان غالب)  
 iii- حالی (مسدس)  
 iv- اقبال (طلوع اسلام، خضر راہ، مسجد قرطبہ)  
**ب - دور جدید**  
 i- فیض (غزل - دست صبا)  
 ii- راشد (نظم - ایران میں اجنبی)  
 iii- مجید امجد (نظم - شب رفتہ)
- 3 **نثری ادب کا تنقیدی مطالعہ**  
 الف- غیر افسانوی نثر  
 i- شبلی (سیرت النبی ﷺ، جلد اول)  
 ii- مولوی عبد الحق (خاکے، چند ہم عصر)  
**ب - افسانوی نثر**  
 i- منٹو (افسانے، منٹو کے بیس افسانے: مرتب ڈاکٹر انوار احمد، ڈاکٹر اے بی اشرف)  
 ii- احمد ندیم قاسمی (افسانے، کپاس کے پھول)  
 iii- مشتاق احمد یوسفی (طنز و مزاح، اب گم)۔

Case No.	F.4-56/2026-R
Particulars of post	Principal (Male) (BS-19), Federal Directorate of Education (Ex-F.G Schools), Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's degree / Bachelor's degree (4 years duration) with Second Class or Grade 'C' M.Ed / B.Ed. (Hons) or equivalent qualification from a University recognized by HEC. Requirement of M.Ed / B.Ed. (Hons) is exempted for those having Master's / M.Phil / Ph.D. degree in Education.</p> <p>ii. Twelve (12) years post qualification experience in Teaching and Administration in a recognized Educational Institution.</p>

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25 per wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II (Professional): 100 Marks (MCQ)****I. Foundation of Education**

- Educational Process
- Role of education in Nation Building, National cohesion and integration, Character building, Human resource development, World peace and prosperity
- Philosophical Foundations of Education
- Psychological Foundation of Education
- Sociological Foundations of Education
- Islamic Concept Education
- Process of Development of Test books and National Textbook Policy

## 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
- Information and Communication Technologies (ICTs)

## III. Education 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
- Achievement Test
- Standardized Tests
- Characteristics of a Good Test: Validity, Reliability, Objectivity, Usability

## IV. Education Administration and Supervision

- The Concept of Administration
- Educational Planning and Organization in Pakistan
- Approaches to Educational Administration: Democratic; Authoritarian; Laissez-faire
- Function of Administration
- Educational Supervision
- Agencies and Organizations promoting Education in Pakistan

## V. 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,

## VI. 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.

Case No.	F.4-57/2026-R
Particulars of post	Principal (Female) (BS-19), Federal Directorate of Education, (Ex-F.G Schools), Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's degree / Bachelor's degree (4 years duration) with Second Class or Grade 'C' M.Ed / B.Ed. (Hons) or equivalent qualification from a University recognized by HEC. Requirement of M.Ed / B.Ed. (Hons) is exempted for those having Master's / M.Phil / Ph.D. degree in Education.</p> <p>ii. Twelve (12) years post qualification experience in Teaching and Administration in a recognized Educational Institution.</p>

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25 per wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Paper-II (Professional): 100 Marks (MCQ)****I. Foundation of Education**

- Educational Process
- Role of education in Nation Building, National cohesion and integration, Character building, Human resource development, World peace and prosperity
- Philosophical Foundations of Education
- Psychological Foundation of Education
- Sociological Foundations of Education
- Islamic Concept Education
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- Factors affecting Classroom Communication
- Barriers to Classroom Communications
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- Function of Administration
- Educational Supervision
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## V. Human Resource and Financial Management

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## VI. 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.

Case No.	F.4-58/2026-R
Particulars of post	Vice Principal (Male) (BS-18), Federal Directorate of Education, (Ex.F.G Schools), Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) with Second Class or Grade 'C' M.Ed / B.Ed. (Hons) or equivalent qualification from a University recognized by HEC. Requirement of M.Ed / B.Ed. (Hons) is exempted for those having Master's / M.Phil / Ph.D. degree in Education.</p> <p>ii. Five (5) years post qualification experience in Teaching and Administration in a recognized Educational Institution.</p>

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25 per wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

- Comprehension
- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Part-II (Professional): 100 Marks (MCQ)****I. Foundation of Education**

- Educational Process
- Role of education in Nation Building, National cohesion and integration, Character building, Human resource development, World peace and prosperity
- Philosophical Foundations of Education
- Psychological Foundation of Education
- Sociological Foundations of Education
- Islamic Concept Education
- Process of Development of Text books and National Textbook Policy

## 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
- Information and Communication Technologies (ICTs)

## III. Education 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
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- Characteristics of a Good Test: Validity, Reliability, Objectivity, Usability

## IV. Education Administration and Supervision

- The Concept of Administration
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Case No.	F.4-59/2026-R
Particulars of post	Vice Principal (Female) (BS-18), Federal Directorate of Education, (Ex.F.G Schools), Ministry of Federal Education and Professional Training
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree / Bachelor's degree (4 years duration) with Second Class or Grade 'C' M.Ed / B.Ed. (Hons) or equivalent qualification from a University recognized by HEC. Requirement of M.Ed / B.Ed. (Hons) is exempted for those having Master's / M.Phil / Ph.D. degree in Education.</p> <p>ii. Five (5) years post qualification experience in Teaching and Administration in a recognized Educational Institution.</p>

Max Marks: 200Qualifying Standard: 50%

(Note: Negative marking of 0.25 per wrong answer)

**Part-I: 100 Marks (MCQ)****I. English (50 Marks)**

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- Grammar Usage
- Vocabulary
- Sentence Structuring
- Sentence Correction
- Grouping of Words
- Pairs of Words
- Idiomatic Phrases
- Synonyms/ Antonyms
- Translation

**II. Teaching Methodology (50 Marks)**

- Teaching Methodology
- Elements of Curriculum.
- Curriculum Development Process:
- Classroom Communication
- Classroom Assessment and Evaluation
- Types of Test and characteristics of a Good Test
- Research Instruments

**Paper-II (Professional): 100 Marks (MCQ)****I. Foundation of Education**

- Educational Process
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