

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

**Schemes and Syllabi for Screening/Professional Tests as well as Descriptive Examination**  
**Relating to Posts Advertised under Consolidated Advertisement No. 11/2016**

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
1.	214/2016	<b>Boiler Engineer</b> (BS-16), Office of the Director General Pakistan Post, Postal Services Wing, Ministry of Communications.	i Second Class or Grade 'C' B.Sc. (Mechanical)/(Electrical) Engineering. ii Second Class Certificate of Competency as Boiler Engineer from Directorate of Industries, Boiler Inspection Wing, granted under the Boiler Act, 1973.	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>• Boiler Mountings, Accessories and Auxiliaries</li> <li>• Draught System of Boilers</li> <li>• Boiler Performance</li> <li>• Steam Engines and Condensers</li> <li>• Boiler Operation &amp; Maintenance</li> <li>• Boiler Safety</li> <li>• Design Fundamentals of Boiler</li> <li>• Boiler Metallurgy</li> <li>• Boiler Protection and Interlocks</li> <li>• Boiler Controls</li> <li>• Boiler Pollution Control</li> <li>• Liquid Fuel Handling</li> <li>• Solid Fuel Handling</li> </ul>
2.	225/2016	<b>Sub Treasury Officer</b> (BS-16 Plus 25 % Special Pay), Finance Department, Gilgit Baltistan, Ministry of Kashmir Affairs And Gilgit Baltistan.	Second Class or Grade "C" Bachelor's Degree in Business Administration (Finance/Accounting)/ Commerce/ Economics/ Statistics/ Mathematics from a university recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Professional/ General Intelligence Test=80 Marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Accounting Principles &amp; Procedures,</li> <li>• Scrutiny of Record for Audit Purposes,</li> <li>• Journal, Ledger &amp; Cash Book,</li> <li>• Financial Planning &amp; Cost Accounting,</li> <li>• Re-appropriation of Funds and Supplementary Grant,</li> <li>• Settlement of Audit Objections</li> <li>• Preparation of Pension Documents.</li> <li>• Public Procurement Rules, 2004</li> <li>• Current Affairs</li> <li>• Pakistan Affairs</li> <li>• Islamic Studies</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
3.	229/2016	<b>Treasury Officer</b> (BS-17 Plus 25 % Special Pay), Finance Department, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.	i Second Class or Grade "C" Master's Degree in Business Administration (Finance/ Accounting)/ Commerce/ Economics/ Statistics/ Mathematics from a university recognized by HEC. ii Two (2) years post qualification service in Treasury matters	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>Accounting Principles &amp; Procedures,</li> <li>Scrutiny of Record for Audit Purposes,</li> <li>Journal, Ledger &amp; Cash Book,</li> <li>Preparation of Annual Budget,</li> <li>Adjustment &amp; Depreciation,</li> <li>Financial Planning &amp; Cost Accounting,</li> <li>Re-appropriation of Funds and Supplementary Grant,</li> <li>Settlement of Audit Objections</li> <li>Preparation of Pension Documents.</li> <li>Public Procurement Rules, 2004</li> </ul>
4.	232/2016	<b>Deputy Assistant Chemical Examiner</b> (BS-16), Customs Department, Federal Board of Revenue.	i Second Class or Grade 'C' Bachelor's Degree in Chemistry/ Analytical Chemistry from a recognized University. ii Five (5) years post qualification experience in analytical work and operation of equipments based on Chromatography Spectrophotometry, Spectroscopy, and electron microscopy.	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>Hydro-generation</li> <li>Polymerization</li> <li>Hydrocarbons &amp; their Byproducts</li> <li>Vitamins: Introduction and Classification</li> <li>Qualitative and Quantitative Analysis of Chemicals</li> <li>Hydration and Dehydration</li> <li>Enzymes: Terminology, Nature, Classification</li> <li>Organic and Inorganic Compounds</li> <li>Chemistry of Functional Groups</li> <li>Introductory Organic Spectroscopy</li> <li>PH Range of Phenolphthalein</li> <li>Chromatography &amp; Spectroscopy</li> </ul>
5.	233/2016	<b>Sub Divisional Forest Officer</b> (BS-17 Plus 25 % Special Pay), Forest, Parks & Wildlife Department, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.	i M.Sc. Degree in Forestry. ii Two (2) 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>Silviculture</li> <li>Forest Management</li> <li>Range Management</li> <li>Watershed Management</li> <li>Laws relating to Forest</li> <li>Forest Types of Pakistan and Gilgit-Baltistan</li> <li>Forest Biometrics</li> <li>Forest Utilization</li> </ul>

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6.	234/2016	<b>Subject Specialist (Female),</b>	Second Class or Grade 'C' Master's Degree in the relevant subject with B.Ed. (Hons.)/ B.Ed./ M.Ed. or equivalent qualification from a university recognized by the HEC.	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 Language Subjects (i.e <b>Urdu and English</b> ), English part for 20 marks will not be included. There will be 70% subject Test and 30% Professional Test. ▪ In the subject of <b>Education</b> , there will be 20% English Test and 80% Subject Test.	<b>For A (English)</b> <b>Part-I (Master's Level) (70 Marks)</b> • English Literature 16 <sup>th</sup> to 20 <sup>th</sup> Century. • Vocabulary • Structuring of sentences. • Linguistics. • English Language Teaching. • Grammar. • Syntax. • Diction.  <b>Part-II (30 Marks)</b> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan.
7.	235/2016	<b>Subject Specialist (Male)</b> (BS-17 Plus 25 % Special Pay), A. English (F/M) B. Urdu (F/M) C. Islamiat (F/M) D. Pak. Studies (F/M) E. Education (F/M) F. History (F/M) G. Physics (F/M) H. Mathematics (F/M) I. Chemistry (F/M) J. Botany (F/M) K. Computer Science (F/M) L. Political Science (F/M) M. Home Economics (F) M. Economics (M) N. Health & Physical Education (F/M) O. Sociology (F/M) P. Geography (F/M) Education Department, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.			<b>For B (Urdu)</b> <b>Part-I (Master's Level) (70 Marks)</b> اردو ذخیرہ الفاظ ☆ اردو جملے کا ڈھانچہ ☆ اردو لہجہ کا استعمال ☆ لسانیات ☆ انیسویں اور بیسویں صدی کا اردو ادب اور اس کا تنقیدی جائزہ ☆ اردو ادب کی نثری اصناف کا تحقیقی جائزہ ☆ اردو ادب کی شعری اصناف کا تحقیقی جائزہ ☆ غزلیات ☆ اقبالیات ☆  <b>Part-II (30 Marks)</b> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan.

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b>For C (Islamiat)</b></p> <p><b>Part-I</b> Vocabulary, Grammar usage, Sentence Structuring</p> <p><b>Part-II (Masters Level)</b></p> <p>☆ قرآن کا تباری موضوع / متن ☆ حدیث: حدیث کی صحت کو پہنچنے کا سیار ☆ سیرت النبی ﷺ ☆ فرق: جامعیت، اختلاف رائے اور عصر حاضر کے تناظر ☆ عس و ہبہ کی فوج۔ ☆ عقائد و ماحول۔ ☆ تاریخ اسلام۔</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>• Development of Education in Pakistan</li> </ul> <p><b>For D (Pakistan Studies)</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>• Ideology of Pakistan,</li> <li>• Pakistan Movement</li> <li>• Personalities in Pakistan Movement</li> <li>• Current Issues of Pakistan,</li> <li>• Geography of Pakistan,</li> <li>• Constitutional History of Pakistan,</li> <li>• Language and Cultural Heritage of Pakistan,</li> <li>• Natural Resources of Pakistan,</li> <li>• Economic Development of Pakistan,</li> <li>• Pakistan and Islamic World,</li> <li>• Pakistan's Relations with UNO and its Agencies,</li> <li>• Current Affairs of Pakistan and its Neighbouring Countries. (China, India, Iran and Afghanistan)</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>• Development of Education in Pakistan</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For E (Education)</u></b></p> <p><b><u>Part-I (20 marks)</u></b> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><b><u>Part-II (80 marks)</u></b></p> <ul style="list-style-type: none"> <li>• Aims of Education in Pakistan,</li> <li>• Educational Reforms in Pakistan,</li> <li>• Philosophy of Education,</li> <li>• Sociology of Education,</li> <li>• Educational Psychology,</li> <li>• Educational Guidance &amp; Counselling,</li> <li>• Educational Planning &amp; Management,</li> <li>• Educational Administration and Supervision,</li> <li>• Curriculum Development &amp; Instructions,</li> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Development of Education in Pakistan</li> </ul> <p><b><u>For F (History)</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>• Islamic History (The Prophet, Khulafa-i-Rashidin &amp; the Ummayyads)</li> <li>• Islamic Culture, Civilization and Institutions</li> <li>• History of Indo-Pak Sub-continent</li> <li>• Muslim Freedom Movement in India (1857-1947)</li> <li>• Emergence of Pakistan and Afterwards</li> <li>• Important Personalities regarding Pakistan Movement.</li> <li>• Research Methodology &amp; Philosophy of History</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>• Development of Education in Pakistan</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For G (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>• Heat and Thermodynamics,</li> <li>• Waves and Optics,</li> <li>• Electrostatic,</li> <li>• Electricity and Magnetism,</li> <li>• Atomic and Modern Physics,</li> <li>• Nuclear Physics,</li> <li>• Basic Solid State Physics,</li> <li>• Basic Electronics,</li> <li>• Electrodynamics,</li> <li>• Mechanics</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>• Development of Education in Pakistan</li> </ul> <p><b><u>For H (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>• Discrete Structures/Discrete Mathematics,</li> <li>• Communication Skills for Mathematicians,</li> <li>• Computing Tools for Mathematicians,</li> <li>• Classical Mechanics,</li> <li>• Mathematical Statistics,</li> <li>• Real Analysis,</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>• Development of Education in Pakistan.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For I (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>• Chemical Kinetics,</li> <li>• Chemical Equilibrium,</li> <li>• Quantum Theory of Atom,</li> <li>• Synthetic Chemistry &amp; Polymers,</li> <li>• Reaction mechanism,</li> <li>• Green Chemistry,</li> <li>• Spectroscopy,</li> <li>• Nano Technology,</li> <li>• Colloidal State.</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>• Development of Education in Pakistan</li> </ul> <hr/> <p><b><u>For J (Botany)</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>• Algae,</li> <li>• Fungi,</li> <li>• Bryophytes</li> <li>• Pteridophytes,</li> <li>• Gymnosperms,</li> <li>• Angiosperms,</li> <li>• Plant Physiology,</li> <li>• Ecology,</li> <li>• Cytology,</li> <li>• Genetics,</li> <li>• Evolution</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>• Development of Education in Pakistan.</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For K (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 XP, 2000,</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>• Development of Education in Pakistan</li> </ul> <p><b><u>For L (Political 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>• Western Political Thought</li> <li>• Muslim Political Thought</li> <li>• State System</li> <li>• Political Institutions and Role of Government</li> <li>• Political Ideologies</li> <li>• Government and Politics in Pakistan</li> <li>• History of International Relations: Post World War-II Period.</li> <li>• Local Government System in Pakistan,</li> <li>• Ideology and Dynamics of Politics in Pakistan.</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>• Development of Education in Pakistan</li> </ul>



S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For M (Home Economics) (For Females only)</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 Home Economics</li> <li>• Fundamentals of Food and Nutrition</li> <li>• Meal Management &amp; Food Preservation</li> <li>• Home Management</li> <li>• Childhood and Adolescent Development and their Guidance</li> <li>• Family &amp; Community Development</li> <li>• Introduction to Art and Design</li> <li>• Home Nursing</li> <li>• Textiles and Clothing</li> <li>• Clothing and Consumer Education</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>• Development of Education in Pakistan</li> </ul> <hr/> <p><b><u>For M (Economics) (For Males Only)</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>• Micro Economics,</li> <li>• Macro Economics,</li> <li>• International Trade,</li> <li>• Economics Development,</li> <li>• WTO and Developing Economies,</li> <li>• Monetary Theory &amp; Public Finance,</li> <li>• Agriculture Development in Pakistan</li> <li>• Industrial Development in Pakistan</li> <li>• Energy Crises and Policy in Pakistan</li> <li>• Interest Free Banking in Pakistan</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>• Development of Education in Pakistan</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b><u>For N (Health and Physical Education)</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>• Philosophy of Physical Education,</li> <li>• Curriculum of Physical Education,</li> <li>• Psychology of Physical Education,</li> <li>• Measurement &amp; Evaluation,</li> <li>• Rules of all games,</li> <li>• Rules of all Athletic events,</li> <li>• Recreation,</li> <li>• Audio Visual aid,</li> <li>• Athletic Injuries,</li> <li>• Handicap Sports Organization</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>• Development of Education in Pakistan</li> </ul>
					<p><b><u>For O (Sociology)</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>• Culture &amp; Society,</li> <li>• Sociological Theory,</li> <li>• Methods of Sociological Research,</li> <li>• Social Institutions</li> <li>• Mechanism of Social Control</li> <li>• Social and Cultural Change &amp; Social Policy.</li> <li>• Community organization and development</li> <li>• Social Problems in Pakistan</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>• Development of Education in Pakistan</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><b>For P (Geography)</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>• Geographic Thoughts,</li> <li>• Regional Geography,</li> <li>• Geography of Pakistan,</li> <li>• Human Geography,</li> <li>• Economic Geography,</li> <li>• Statistical Geography,</li> <li>• Principles of Cartography,</li> <li>• Climatology/Metrology,</li> <li>• Oceanography,</li> <li>• Environmental Geography,</li> <li>• GIS Techniques,</li> <li>• Geomorphology</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>• Development of Education in Pakistan.</li> </ul>
8.	238/2016	<b>Assistant Private Secretary</b> (BS-16), Ministry of National Health Services, Regulations & Coordination	<p>i. Second Class or Grade "C" Bachelor's degree from a University recognized by HEC.</p> <p>ii. A minimum speed of 100/50 W.P.M in shorthand/typing respectively</p> <p>iii. Must be computer literate.</p>	<ul style="list-style-type: none"> <li>• Typing Test with minimum Speed of 50 W.P.M</li> <li>• Shorthand Test with minimum Speed of 100 W.P.M</li> </ul>	<p><b>50 Marks</b></p> <p><b>50 Marks</b></p>
9.	243/2016	<b>Assistant Private Secretary</b> (BS-16), National Industrial Relations Commission (NIRC), Ministry of Overseas Pakistanis & Human Resource Development	<p>i. Second Class or Grade "C" Bachelor's degree from a University recognized by HEC.</p> <p>ii. A minimum speed of 100/50 W.P.M in shorthand/typing respectively</p> <p>iii. Must be computer literate.</p>	<ul style="list-style-type: none"> <li>• Typing Test with minimum Speed of 50 W.P.M</li> <li>• Shorthand Test with minimum Speed of 100 W.P.M</li> </ul>	<p><b>50 Marks</b></p> <p><b>50 Marks</b></p>
10.	244/2016	<b>Assistant Private Secretary</b> (BS-16), Ministry of Law, Justice and Human Rights	<p>i. Second Class or Grade "C" Bachelor's degree from a University recognized by HEC.</p> <p>ii. A minimum speed of 100/50 W.P.M in shorthand/typing respectively</p> <p>iii. Must be computer literate.</p>	<ul style="list-style-type: none"> <li>• Typing Test with minimum Speed of 50 W.P.M</li> <li>• Shorthand Test with minimum Speed of 100 W.P.M</li> </ul>	<p><b>50 Marks</b></p> <p><b>50 Marks</b></p>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
11.	245/2016	<b>Lecturer (Female)(BS-17),</b> A. English B. Computer Science Directorate of Federal Government Educational Institutions (Cantts/ Garrisons), Ministry of Defence. .	Second Class or Grade 'C' Master's Degree or equivalent qualification in the relevant subject.	Objective Type Test (MCQ) <u><b>Part-I</b></u> English =20 marks <u><b>Part-II</b></u> Subject Test = 50 marks <u><b>Part-III</b></u> Professional Test=30 marks <b>Note:</b> ▪ In Language Subject i.e. <b>English</b> , English part for 20 marks will not be included. It will be 70% subject Test and 30% Professional Test.	<u><b>For (A) English</b></u> <u><b>Part-I (Masters Level) (70 Marks)</b></u> <ul style="list-style-type: none"> <li>• English Literature 16<sup>th</sup> to 20<sup>th</sup> Century,</li> <li>• Vocabulary,</li> <li>• Structuring of Sentences,</li> <li>• Linguistics,</li> <li>• English Language Teaching,</li> <li>• Grammar,</li> <li>• Syntax,</li> <li>• Diction.</li> </ul> <u><b>Part-II (30 Marks)</b></u> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Development of Education in Pakistan</li> </ul> <u><b>For (B) Computer Science</b></u> <u><b>Part-I</b></u> Vocabulary, Grammar Usage, Sentence Structuring. <u><b>Part-II (Masters Level)</b></u> <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 XP, 2000,</li> <li>• Oracle/PLSQL,</li> <li>• System Analysis &amp; Design.</li> <li>• Web Programming</li> </ul> <u><b>Part-III</b></u> <ul style="list-style-type: none"> <li>• Teaching Techniques and Methodology</li> <li>• Classroom Management and Discipline</li> <li>• Testing and Evaluation</li> <li>• Development of Education in Pakistan</li> </ul>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
12.	246/2016	<b>Programmer</b> (BS-17), GHQ, Ministry of Defence.	Second Class or Grade 'C' Master's Degree in Computer Science/ Information Technology or equivalent from a University recognized by HEC. <b>OR</b> Second Class or Grade 'C' Bachelor's Degree in Computer Science/ BIT (04 years duration) or equivalent from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Professional Test =80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>Programming in PHP, Ajax and Java Script</li> <li>Designing, Analyzing &amp; Maintenance of Software</li> <li>Coding, Debugging, Testing and Documenting of Application Programme</li> <li>Installation and Testing Software Package</li> <li>Software Development Process,</li> <li>Software Architecture,</li> <li>Software Maintenance &amp; Optimization</li> </ul>
13.	248/2016	<b>Staff Nurse</b> (BS-16), Medical Department of Pakistan Railways, (Railway Board) Ministry of Railways.	i Registered Nurse and Registered Midwife with PNC. ii For male one year course/ Certificate in nursing related field in lieu of midwifery.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring. <b>Part-II</b> <ul style="list-style-type: none"> <li>Basic Medical Sciences</li> <li>General Nursing</li> <li>Ward Administration</li> <li>Hospitality of the Patients</li> <li>Care vs. Cure for Health Management</li> </ul>
14.	249/2016	<b>Assistant Private Secretary</b> (BS-16), Ministry of Climate Change.	i. Second Class or Grade "C" Bachelor's degree from a University recognized by HEC. ii. A minimum speed of 100/50 W.P.M in shorthand/typing respectively iii. Must be computer literate.	<ul style="list-style-type: none"> <li>Typing Test with minimum Speed of 50 W.P.M</li> <li>Shorthand Test with minimum Speed of 100 W.P.M</li> </ul>	<b>50 Marks</b> <b>50 Marks</b>
15.	251/2016	<b>Research Officer</b> (BS-17), Institute of Optronics, Ministry of Defence Production.	Second Class or Grade 'C' Master's degree in Physics/ Applied Optics/ Laser Physics OR B.E. (Electrical/ Electronics)/ Control Engineering or equivalent qualification from a University recognized by the HEC.	Objective Type Test (MCQ) <b>Part-I</b> English = 20 marks <b>Part-II</b> Professional Test=80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>Geometrical Optics</li> <li>Polarization</li> <li>Interference</li> <li>Diffraction</li> <li>Continuous Wave (CW) and pulsed lasers</li> <li>Lasers Systems</li> <li>Laser applications</li> <li>Report Writing and Presentation Skills</li> <li>Research Methodology</li> </ul>
16.	253/2016	<b>Assistant Private Secretary</b> (BS-16), Ministry of Industries & Production Islamabad	i. Second Class or Grade "C" Bachelor's degree from a University recognized by HEC. ii. A minimum speed of 100/50 W.P.M in shorthand/typing respectively iii. Must be computer literate.	<ul style="list-style-type: none"> <li>Typing Test with minimum Speed of 50 W.P.M</li> <li>Shorthand Test with minimum Speed of 100 W.P.M</li> </ul>	<b>50 Marks</b> <b>50 Marks</b>

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
17.	255/2016	<b>Programmer</b> (BS-17), Hajj IT Cell of Hajj Wing, Ministry of Religious Affairs and Interfaith Harmony.	Second Class or Grade 'C' Master's Degree in Computer Science/ Information Technology or equivalent qualification from a University recognized by the HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Professional Test =80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Programming in PHP, Ajax and Java Script</li> <li>• Designing, Analyzing &amp; Maintenance of Software</li> <li>• Coding, Debugging, Testing and Documenting of Application Programme</li> <li>• Installation and Testing Software Package</li> <li>• Software Development Process,</li> <li>• Software Architecture,</li> <li>• Software Maintenance &amp; Optimization</li> </ul>
18.	257/2016	i. <b>Reader</b> (BS-16 Plus 25 % Special Pay),	LLB from a University recognized by HEC.	Objective Type Test (MCQ) <b>Part-I</b> English =20 marks <b>Part-II</b> Professional Test =80 marks	<b>Part-I</b> Vocabulary, Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Core courses of <b>LL.B.</b> Degree Programme</li> <li>• Role of Lawyer/Prosecutor in Defending the Court Cases</li> <li>• Steps involved in Processing of Legal Cases.</li> </ul>
19.	258/2016	ii. <b>Superintendent</b> (BS-16 Plus 25 % Special Pay), Gilgit Baltistan Service Tribunal, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.			
20.	263/2016	<b>Deputy Superintendent Jail</b> (BS-16 Plus 25 % Special Pay), Prisons Deptt., Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.	i Second Class or Grade 'C' Bachelor's degree with one of subject in Social Work/ Sociology/ Criminology/ Psychology or equivalent qualification from a University recognized by the HEC. ii Two (2) years post qualification experience in Administration.	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>• The Criminal Justice System</li> <li>• Punitive and Reformative Treatment of Criminals</li> <li>• Human Rights Abuses and Protection, especially of Children; Women and Minorities</li> <li>• Social and Cultural Change and Social Policy</li> <li>• Social Problems in Pakistan</li> <li>• Principles of Management</li> <li>• Civil Servants Act, 1973 and Rules made thereunder</li> <li>• Rules of Business, 1973</li> <li>• Principles of Secretariat Noting and Drafting</li> <li>• Basic IT knowledge.</li> <li>• Basic Arithmetic,</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 for Posts	Test Specification	Topics of Syllabi
21.	265/2016	<b>Computer Operator</b> (BS-16 Plus 25 % Special Pay), Gilgit Baltistan Service Tribunal, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.	Second Class or Grade 'C' Bachelor's degree in Computer Science/ IT or equivalent from a University recognized by the HEC.  <b>OR</b> i Second Class or Grade 'C' Bachelor's degree in Math/ Statistics/ Physics/ Economics and one (1) year diploma in Computer or equivalent from an Institute/ University recognized by the HEC. ii Two (2) years post qualification experience in 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>• Software Research and Development,</li> <li>• Program logic,</li> <li>• Visual Basic, C++, Java, Unix/Red Hat Linux Operating System,</li> <li>• Computer Networks and Internet,</li> <li>• Computer Graphics and Algorithms</li> <li>• Development of Basic Algorithms,</li> <li>• Analyzing Problems.</li> </ul>
22.	277/2016	<b>Inspector Inland Revenue</b> (BS-16), Revenue Division, Federal Board of Revenue.	Second Class or Grade 'C' Bachelor's degree with Economics/ Business Administration/ Commerce/ Statistics/ Law from a university recognized by HEC.	Objective Type Test (MCQ)  <b>Part-I</b> English = 20 marks  <b>Part-II</b> Professional Test = 80 marks	<b>Part-I</b> Grammar Usage, Sentence Structuring <b>Part-II</b> <ul style="list-style-type: none"> <li>• Functions of Federal Board of Revenue.</li> <li>• Fiscal Policy of Pakistan</li> <li>• Tax Administration/Reforms in Pakistan</li> <li>• Sales Tax Act 1990 as amended upto July 2016</li> <li>• Federal Excise Act 2005 as amended upto July 2016</li> <li>• Income Tax Ordinance 2001 as amended upto June 2016 (Chapter-III &amp; Part IV of Chapter-X only)</li> </ul>

**Scheme and Syllabus for Written Examination (Descriptive)  
for all Posts in BS-20 advertised under Consolidated  
Advertisement No. 11/2016**

i)	Case No.	F.4-239/2016-R
	Particulars of post	<b>Consulting Surgeon (Thoracic Cardiovascular) (BS-20), Federal Government Polyclinic Islamabad, Capital Administration and Development Division</b>
	Minimum Qualification & Experience:	i. MBBS or equivalent qualification recognized by Pakistan Medical and Dental Council. ii. Postgraduate Higher Diploma in the relevant faculty with eight (8) years clinic experience.
ii)	Case No.	F.4-281/2016-R
	Particulars of post	<b>Executive Director (BS-20), National Institute of Rehabilitation Medicine Islamabad, Capital Administration and Development Division</b>
	Minimum Qualification & Experience:	i. MBBS or equivalent qualification recognized by Pakistan Medical and Dental Council. ii. Postgraduate Higher Diploma/Degree in Public Health/ Health Administration/ Primary Health Care Management/ Medical Administration/ Health Services Administration. iii. Seventeen (17) years post qualification experience in the field of Public Health Administration/Health Services Administration.

**PAPER: ENGLISH (100 MARKS)**

**English Essay:** Candidates will be required to write an Essay in English from three topics comprising approximately **2000 words**. Candidates are expected to reflect comprehensive and research based knowledge on a selected topic. Candidate's articulation, expression and technical treatment of the style of English Essay writing will be examined.

**OR**

**Case Study:** Candidates will be given real situation case studies related to advertised posts/organization concerned and will be expected from the candidates to present (i) identification of issues (ii) evaluation of issues (iii) legal or case related theories (iv) evaluation of case facts if required and (v) possible solution of the case or writing judicial order, if the case so requires.



**Schemes and Syllabi for Written Examination (Descriptive)  
for All Posts in BS-18 & BS-19 included in Consolidated  
Advertisement No. 11/2016**

**PAPER-I: ENGLISH**

Max Marks: 100

Time Allowed: 3 Hours

- (i) **English Essay-50 Marks:** Candidates will be required to write an Essay in English comprising **1500 words** from a set of **six given topics**. Candidates are expected to reflect comprehensive and research based knowledge on a selected topic. Candidate's articulation, expression and technical approach to the style of English Essay writing will be examined.
- (ii) **English (Composition and Précis)-50 Marks:**  
The examination will test the candidate's abilities to handle Précis Writing, Reading Comprehension, Sentence Structuring, Translation, Grammar and Vocabulary, etc.
- Précis Writing (10 marks):** A selected passage with an orientation of generic understanding and enough flexibility for compression shall be given for précis writing and suggesting an appropriate title.
- Reading Comprehension (10 marks)**  
A selected passage, rich in substance but not very technical or discipline-specific shall be given, followed by five questions, each carrying 2 marks.
- Grammar and Vocabulary (10 marks):** Correct usage of Tense, Articles, Prepositions, Conjunctions, Punctuation, Phrasal Verbs, Synonyms and Antonyms etc.
- Sentence Correction (5 marks):** Ten sentences shall be given each having a clear structural flaw in terms of grammar or punctuation. The candidates shall be asked to rewrite them with really needed correction only, without marking unnecessary alterations. No two or more sentences should have exactly the same problem, and 2-3 sentences shall be based on correction of punctuation marks.
- Grouping of Words (5 marks):** A random list of ten words of moderate standard (neither very easy nor utterly unfamiliar) shall be given, to be grouped by the candidates in pairs of those having similar or opposite meaning, as may be clearly directed in the question.
- Pairs of Words (5 marks):** Five pairs shall be given of seemingly similar words with different meanings, generally confused in communication, for bringing out the difference in meaning of any five of them by first explaining them in parenthesis and then using them in sentences.
- Translation (5 marks):** Ten short Urdu sentences involving structural composition, significant terms and figurative/idiomatic expressions shall be given, to be accurately translated in English.

**SUGGESTED READINGS**

Sr. No.	Title	Author
1.	English Grammar in Use	Raymond Murphy (Cambridge University Press)
2.	Practical English Usage	M. Swan (Oxford University Press)
3.	The Little Brown Handbook	H. Ramsey Flower & Jane Aaron (The Little, Brown & Co; Harper Collins)
4.	A University English Grammar	R. Quirk & S. Greenbaum (ELBS; Longmans)
5.	Write Better, Speak Better	Readers Digest Association
6.	Modern English in Action	Henry Christ (D.C. Heath & Co.)
7.	Exploring the World of English	Syed Saadat Ali Shah

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

Case No.	F.4-199/2016-R
Particulars of post	<b>Senior Research Officer (BS-18)</b> , GHQ, Ministry of Defence.
Minimum Qualification & Experience:	<ul style="list-style-type: none"> <li>i. Bachelor's Degree (or equivalent qualifications) in Chemical Engineering.</li> <li>ii. Five (5) years post qualification experience in Research Development, Production, R&amp;D Project Management and Contract Research in Defence R&amp;D and Production Organization.</li> <li>iii. Background and working knowledge in the subject of Research, ammunition, Chemicals, petro-chemicals, POLs, General Stores and Clothing and related technologies.</li> </ul>

**Part-I: (Research and Planning)****50 Marks****i. Communication Skills, Technical Writing and Presentation Skills**

Paragraph writing, Essay writing, CV and job application, Translation skills, Study skills, Academic skills, Essay writing, Academic writing, Technical Report writing, Progress report writing, Presentation skills

**ii. Planning and Management****a) Project Management**

Project Management. Processes Integration Management, Project Plan Development, Project Plan Execution and Overall Change Control.

**b) Scope Management**

Initiation, Scope Planning, Scope Definition, Scope Verification and Scope Change Control.

**c) Time Management**

Activity Definition, Activity Sequencing, Activity Duration Estimation, Schedule Development and Schedule Control.

**d) Cost Management**

Quality Planning, Staff Acquisition and Team Development.

**e) Communications Management**

Communications Planning, Information Distribution, Performance Reporting and Administrative Closure.

**f) Risk Management**

Risk Identification, Risk Quantification, Risk Response Development and Risk Response Control.

**g) Procurement Management**

Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration and Contract Close-Out.

**h) Closing**

Administrative Closure, Contract Close-Out and Lessons Learnt.

**i) Lab Work**

Computing Project Management Software, PERT, Gantt Chart/ Network, CPM, etc.

**j) Statistical Techniques**

All statistical techniques related to Planning & Research

**Part-II: (Chemical Engineering)****50 Marks****A). Chemical Process Technology (CPT)**

Introduction and Historical development of Chemical Process Industry in Pakistan

**Basic Industries:** Silicate and allied products, Glass, Ceramics and Cement; Phosphorus, Soap and Detergents, Sugar, Paints and Varnishes;

**Heavy Chemicals:** Sulphuric Acid, Nitric Acid, Sodium carbonate and sodium hydroxide;

**Fertilizers:** Urea, Potassium Nitrate, Super phosphate. Di-ammonium Phosphate;

**Explosives:** Introduction, Types, Manufacture, Uses;

**Gas & Oil processing:** Oil refining and gas purification; Industrial gases; Carbon dioxide, Hydrogen, Nitrogen;

**Food processing industry:** Introduction, Types of food processing, Food by products,

**Plastic industry:** Plastics, Types and their properties, Polymerization, Manufacture of plastics,

**B). Chemical Engineering Thermodynamics**

Chemical thermodynamics, Laws of Thermodynamics, Phase equilibria, Chemical equilibria, Liquification; Refrigeration and air-conditioning.

**C). Fuels, Combustion and Fluid Flow**

Introduction and survey of locally available fuels, quantity, quality, prices and uses. Industrial fuels. Classification and storage of solid, liquids and gaseous fuels. Criteria for the selection of fuels for industrial purposes; Coke and its industrial manufacture and uses; Petroleum and its distillation products; Synthetic fuels; Testing of fuels; Combustion calculations; Furnaces, Burners and their performance. Fluid static's, Nature of flow, Fluid Motion, Piping, Pumping, Flow through packed beds, Fluidization, Compressible flow, Flow Measurement

**D). Chemical Plant Design**

Introduction. Process design development. General design consideration. Health and safety; Fire and explosion hazards; Optimum design. Materials of fabrication and selection. Introduction to vessel design. Review of design of mass transfer, material transfer, material handling and heat transfer including furnaces and refrigeration units. Introduction to piping design. Introduction to computer aided design.

**SUGGESTED READINGS**

S. No.	Title	Author
1.	Practical English Grammar	A.J. Thomson and A.V. Martinet.
2.	Writing. Intermediate	Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet.
3.	Writing. Upper-Intermediate	Rob Nolasco.
4.	Reading. Advanced	Brian Tomlinson and Rod Ellis.
5.	Study Skills	Riachard Yorkey
6.	Writing. Advanced	Ron White.
7.	College Writing Skills	John Langan.
8.	Patterns of College Writing	Laurie G. Kirszner and Stephen R. Mandell.
9.	The Mercury Reader. A Custom Publication.	Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton.

<b>S. No.</b>	<b>Title</b>	<b>Author</b>
10.	Project Management Body of Knowledge,	Project Management Institute (PMI) standards committee
11.	Software Project Management	S.A. Kelkar, A Concise Study, Prentice Hall of India.
12.	A Textbook of Chemical Technology	Pandey G.N.
13.	Industrial Chemistry”	Riegel
14.	Chemical Engineering Thermodynamics	Smith J.M., Van Ness H.C., Abbott M.M.
15.	Applied Thermodynamics	Eastop, Mc Conkey
16.	Fuels and Combustion	Himus
17.	Synthetic Fuels.	Probstein
18.	Unit Operations of Chemical Engineering	McCabe Warren L., Smith Julian C., Harriott peter
19.	Fluid Mechanics for Chemical Engineers	Noel-de-Nevers
20.	Chemical Product Design	E.L. Cussler and G.D. Moggridge,

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

Case No.	F.4-242/2016-R
Particulars of post	<b>Deputy Director</b> (BS-18), Geological Survey of Pakistan, Ministry of Petroleum and Natural Resources.
Minimum Qualification & Experience:	i. Second Class or Grade 'C' M.Sc. degree in Geology or equivalent qualification or Second Class or Grade 'C' B.Sc. (Hons.) degree in Geology or equivalent from a University recognized by the HEC. ii. Five (5) years post qualification research experience in the field of Geology. iii. Must have published three (3) research papers in the field of Geology.

**Geology: 100 Marks**

- I. **Stratigraphy and Paleontology:** Principles of stratigraphy; laws of superposition and faunal succession. Geological time scale with divisions. Classification and nomenclature of stratigraphic units: lithostratigraphic units, biostratigraphic units and chronostratigraphic units.  
  
Introduction to fossils and their significance; modes of fossilization, Study of morphology, range and broad classification of major invertebrate phyla; Introduction to micro fossils; Introduction to Paleobotany; Introduction and classification of major vertebrates; Introduction to micropaleontology
- II. **Mineralogy :** Classification of minerals; Study of internal structure; polymorphism and isomorphism; paragenesis; Physical and optical properties of the common silicate and non-silicate mineral groups; Introduction to crystallography; elements of symmetry, study; normal classes of crystallographic systems.
- III. **Structural Geology and Tectonics:** Stress-strain concepts; factors which control the mechanical behaviour of materials; Folds, Faults, Joints, Foliation: terminology, classification and relationship with bedding; Lineation, Unconformity.  
  
Plate tectonics theory; Geological evidences for continental drift; Sea-floor spreading; Oceanic ridges; Continental rifts; Intra-oceanic islands; Hot spot and Mantle plumes; Wilson Cycle; Tectonic framework of Pakistan.
- IV. **Sequence Stratigraphy:** Introduction, history, concept and significance of sequence stratigraphy; Data sources: seismic reflections, outcrops, well logs, core and seismic facies; Sea level changes, their causes and effects; Accommodation, eustatic and relative sea curve; Hierarchy of sequence stratigraphic elements; Types of sequences and systems tracts.
- V. **Mineral and Energy Resources:** Introduction of geological exploration/prospecting. Brief description of hydrocarbons, coal, gemstones, copper, lead, zinc, iron, gold, chromite, manganese, salt, gypsum, bauxite, sulphur, barite, fluorite, clays, phosphorite, building and dimension stones, industrial rocks and minerals, radioactive minerals and rocks with special reference to economic mineral deposits in Pakistan.  
  
Origin, occurrence, and depositional environments of coal; coal Constitution and kinds of coals.Coal rank, grade and calorific value. Coal deposits of Pakistan with reference to Thar Coal. Geothermal energy resources of Pakistan.
- VI. **Engineering and Environmental Geology:** Rock and soil mechanics and its application in civil engineering; Rock mass characteristics; Geotechnical studies of

rocks and soils; Geological factors and strength of rocks; Study of geological factors in relation to the construction of buildings and foundations, roads, highways, tunnels, dams and bridges; Application of geophysical methods for site investigation; Construction materials; Mass movement, their causes and prevention.

**VII. Economic and Applied Geology:** Metallic and Non-metallic mineral resources of Pakistan. Mineral-based industries. Overview of Recodec Copper. Radioactive minerals and their occurrences in Pakistan. Gemstones of Pakistan

Geology of Reservoirs, Dams .Highways and Tunnels. Major natural hazards and their impact on the environment with special reference to Pakistan.

### SUGGESTED READINGS

S. No.	Title	Author
1.	Principles of Paleontology	Raup, D.M. & Stanley, S.M
2.	Principles of Sedimentology and Stratigraphy	Boggs, S
3.	Mineralogy	Perkins, D
4.	Plate Tectonics – Geodynamics	Moore, E.M. & Twiss, R.J
5.	Structural Geology	Twiss, R.J. & Moore, E.M.,
6.	Sequence Stratigraphy	Emery, D. & Myers, K.J.,
7.	Geology of Pakistan	Bender, F.K. & Raza, H.A.,
8.	Environmental Geology	Montgomery, C.W.,
9.	Economic Geology: Principles and Practice	Walter L. Pohl
10.	Energy Resources	Brown and Skipsy
11.	Pakistan Energy Yearbook 2012	Ministry of Petroleum and Natural Resources Hydrocarbon Development Institute of Pakistan. Islamabad

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

Case No.	F.4-247/2016-R
Particulars of post	<b>Assistant Chief</b> (BS-18), National Fertilizer Development Centre (NFDC) Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree or equivalent qualification in Agricultural Economics OR Second Class or Grade 'C' Bachelor's Degree or equivalent qualification in Agriculture, Forestry, Veterinary Science/ Animal Husbandry/ Agricultural Engineering.</p> <p>ii. Three (3) years post qualification experience of work and / or research relating to food and agriculture or agricultural planning or development.</p>

**Part-I: (Research and Planning)****50 Marks****i. Communication Skills, Technical Writing and Presentation Skills**

Paragraph writing, Essay writing, CV and job application, Translation skills, Study skills, Academic skills, Essay writing, Academic writing, Technical Report writing, Progress report writing, Presentation skills

**ii. Planning and Management****a) Project Management**

Project Management. Processes Integration Management, Project Plan Development, Project Plan Execution and Overall Change Control.

**b) Scope Management**

Initiation, Scope Planning, Scope Definition, Scope Verification and Scope Change Control.

**c) Time Management**

Activity Definition, Activity Sequencing, Activity Duration Estimation, Schedule Development and Schedule Control.

**d) Cost Management**

Quality Planning, Staff Acquisition and Team Development.

**e) Communications Management**

Communications Planning, Information Distribution, Performance Reporting and Administrative Closure.

**f) Risk Management**

Risk Identification, Risk Quantification, Risk Response Development and Risk Response Control.

**g) Procurement Management**

Procurement Planning, Solicitation Planning, Solicitation, Source Selection, Contract Administration and Contract Close-Out.

**h) Closing**

Administrative Closure, Contract Close-Out and Lessons Learnt.

**i) Lab Work**

Computing Project Management Software, PERT, Gantt Chart/ Network, CPM, etc.

j) Statistical Techniques

All statistical techniques related to Planning & Research

## **Part-II: (Agricultural Economics)**

**50 Marks**

### **i. Introduction to Agricultural Economics**

Definition, nature and scope of agricultural economics; Agriculture as an industry, its peculiarities & role in national economy; Organization and structure of the agricultural Sector; Factors of production and their rewards; Theory of Production; Laws of return, and its significance in agriculture; Land utilization and land use policy; Land tenure systems and land reforms. Important indicators and issues of agriculture sector in Pakistan.

### **ii. Principles of Agricultural Marketing**

Basic concepts and principles of Agricultural Marketing and its role in Agricultural development; Marketing Infrastructure, Marketing Approaches and problems; Marketing functions; standardization, grading, Packing coding, packaging, storage, transportation, information, legislation and management. Marketing margins and profitability; market functionaries, marketing channels, price variation and stabilization; Review of agricultural marketing systems in Pakistan.

### **iii. Agricultural Finance**

Nature and scope of agricultural finance; Capital budgeting, Credit worthiness, Agricultural credit markets; formal and informal sources of agricultural credit, Supervised Agricultural Credit, Agricultural credit policies and their problems, Role of central bank and other financial institute in agricultural financing, Risk analysis and management; insurance in agricultural sector, Micro credit and role of NGO's in agricultural lending and development.

### **iv. Agricultural Policies of Pakistan**

Introduction, definition of Policy, Agricultural Policy, policy goals, Layering of policy goals, Policy instruments, policy formulation, tradeoffs between goals, Land Reforms, land tenure system, Agricultural pricing policies, input-Output pricing policies, Policy of Agricultural Marketing; agro-based industries; Agri-Taxation and subsidies, Agri. Credit and finance policies, trade policies for agricultural commodities, Farm mechanization, Agri. extension, research and educational policies, Irrigation policies of Pakistan, Institutional reforms. Rural development policies; Past policies and their evaluations.



**SUGGESTED READINGS**

<b>S. No.</b>	<b>Title</b>	<b>Author</b>
1.	Practical English Grammar	A.J. Thomson and A.V. Martinet.
2.	Writing. Intermediate	Marie-Christine Boutin, Suzanne Brinand and Francoise Grellet.
3.	Writing. Upper-Intermediate	Rob Nolasco.
4.	Reading. Advanced	Brian Tomlinson and Rod Ellis.
5.	Study Skills	Riachard Yorky
6.	Writing. Advanced	Ron White.
7.	College Writing Skills	John Langan.
8.	Patterns of College Writing	Laurie G. Kirszner and Stephen R. Mandell.
9.	The Mercury Reader: A Custom Publication.	Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharton.
10.	Project Management Body of Knowledge,	Project Management Institute (PMI) standards committee
11.	Software Project Management	S.A. Kelkar, A Concise Study, Prentice Hall of India.
12.	Introduction to Agricultural Economics.	Penson, J. B., Capps, O. Rossen C. P. & Woodward, R.
13.	Principle of Marketing	Kotler, P. and Armstrong, G.
14.	Agricultural Finance and Management	Reddy, S.
15.	Agricultural Policies in Developing Countries	Ellise, F.
16.	Agricultural Policy Manual: A discussion of Agricultural Policies for Development	Eckert, J. B.

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

Case No.	F.4-250/2016-R
Particulars of post	<b>Assistant Professor (Computer Science) (BS-18), Naval Headquarters, (Pakistan Navy), Ministry of Defence</b>
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's Degree in Computer Science ii. Five (5) years post qualification teaching experience at College level in Computer Science. <p style="text-align: center;"><b>OR</b></p> M.Phil. with three (3) years post qualification teaching experience at College level in Computer Science. <p style="text-align: center;"><b>OR</b></p> Ph.D. Degree in Computer Science.

**Part-I: (Computer Science)****50 Marks****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, operator and function overloading, virtual functions, derived classes, inheritance and polymorphism, I/O and file processing.

**III. Data Structure and Algorithms**

Stack and Queue, Sequential Search, Binary Search, Bubble sort, Merge sort, Quick sort, Insertion sort, Selection Sort, Linked Lists, Infix to postfix conversions, Expression tree construction, Tree traversals, Graph representation and traversal, Minimum spanning tree.

**IV. Database Management Systems**

Entity Relationship modeling, Relational data model and algebra, Structured Query language, 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, Error Control, Flow Control, Multiplexing, Routing, Bridging, Network security issues.

**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: (Professional)****50 Marks****I. Development of Curriculum and Instructional Material**

- Elements of Curriculum.
- Relationship of Education and Curriculum

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

## II. Process of Teaching and Teaching Strategies

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

## III. Educational Assessment and Evaluation

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

## IV. Educational Administration and Supervision

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

## V. Research Methods in Education

- Scientific Method and its Application in Education
- Sampling Techniques
- Research Instruments: Questionnaire; Interview; Test; Observation; Rating Scale
- Type of Research: Basic/Applied Research; Historical Research; Descriptive Research; Correlation Research; Causal-Comparative Research; Experimental Research; Action Research; Qualitative and Quantitative Research
- Research Proposal and Report Writing

### Suggested Reading

S.No.	Title	Author
1.	Modern Operating Systems	Andrew S. Tanenbaum
2.	Operating System Concepts	Addison-Wesley
3.	Algorithms and Data Structures	N. Wirth
4.	Data structures	Aaron M. Tanenbaum,
5.	Database Systems: A Practical Approach to Design, Implementation and Management	R.Connolly and P.Begg
6.	Introduction to Computer Networks	A. S. Tanenbaum
7.	Computer Networks and Internets	Douglas E. Comer
8.	Computer Architecture: A Quantitative Approach	Hennessy & Patterson
9.	Research in Education	JW Best
10.	Integrating Education Technology into Teaching	Roblyer
11.	Curriculum Development	S.M. Shahid
12.	Educational Measurement and Evaluation	S.M. Shahid
13.	Educational Administration	S.M. Shahid

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

Case No.	F.4-256/2016-R
Particulars of post	<b>Works Manager (BS-18), Pakistan Mint, Lahore, Finance Division</b>
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Bachelor's degree in Electrical/ Mechanical/ Metallurgical Engineering or equivalent qualification from a University recognized by the HEC. OR Second Class or Grade 'C' Master's degree in Chemistry with Metallurgy from a University recognized by the HEC.</p> <p>ii. Five years post qualification practical experience as an Electrical/ Mechanical/ Metallurgical Engineer or Metallurgist in an Industrial Institution processing non-ferrous metals and alloys.</p> <p>iii. Experience in General Administration of Industrial management as well as management of industrial colony, Labour.</p>

**Part-I: 50 Marks**

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

**I. Human Resource and Financial Management**

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

**II. Basic Concept of Quality Management**

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

**III. Information Technology and MS Office**

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

**Part-II (Metallurgy): 50 Marks****I. Physical Metallurgy**

Crystallography; Space lattice, Crystal system, Unit cell, Packing density, Coordination number, Allotropy, Rotational and Reflection Symmetries, Crystal planes and direction, Crystalline defects, Twinning, Ordered and Disordered solutions. Crystallization; Solidification, Grain boundaries, Grain size, Cast structure, Segregation, Shrinkage defects, Phase diagrams; Phase rule, Binary system,

Ternary system, Solid Solution, Interstitial solid solution and Substitutional solid solution, Factor affecting the limit of solubility, Intermediate compound, Mixture, Iron–Carbon Diagram, Microstructure and properties of steel and Cast Iron, Microstructure of Copper based and Aluminium based alloys and their relationship to the properties, Metallurgical Microscope, Objective lenses and their shortcomings, Polarized light microscopy.

## **II. Inspection and Testing of Materials**

Introduction to inspection and testing of materials, its scope and importance, The Brinell test, the Vicker test, the Rockwell test, the Knoop test, the Scleroscope test, conversion tables for various scales of hardness, Stress and strain, load extension diagrams, modulus of elasticity, elastic limit, yield stress, proof stress, work hardening, tensile testing, (equipment and specimens). Compression testing, bend testing, torsion testing. impact testing. Toughness, brittleness and ductility, notched bar impact testing, the Charpy and Izod impact tests, brittle and ductile fractures, The fatigue test, different types of fatigue fractures, Goodman diagram, endurance limit-ultimate tensile strength, The Creep Test. Non destructive testing of materials, Liquid Penetrant, Eddy Current, X ray, Magnaflux, Ultrasonic etc.

## **III. Non Ferrous metals and alloys**

Introduction to Non Ferrous metals and its ore deposits in Pakistan, Introduction to Non- Ferrous Extractive Metallurgy its scope and importance in Pakistan, Aluminium and its ores, Preparation of Alumina, Preparation of Cryolite, Production of metallic Aluminium, Thermal process of Aluminium, Alloys production, Recovery of other values from Aluminium ores, Aluminium and its alloys, Properties, Microstructure and application. Copper and its ores, Preparation of concentrate, Extraction of Copper ores by pyrometallurgical methods, Matte smelting, Pier Smith converter, Top Blown Rotary Converter, Electrolyte and fire refining of Copper, Recovery of values such as Gold and Silver from Copper ores, Copper and its alloys, Properties and applications. Zinc and Zinc ores, General Preparation of extraction of Zinc, Roasting of Zinc concentrate, Leaching of roasted Zinc concentrate, Electrolysis of Zinc Sulphate solution, Melting of Cathodic Zinc, Production of Zinc retort and blast furnace method, Refining of Zinc, Zinc and its alloys, Properties and application. Lead and its ores, Extraction of lead, Blast roasting of lead concentrate, Blast furnace smelting of lead bullion, Recovery of aluminium and other metals from lead concentrate, Lead and its alloys, Properties microstructure and applications. Magnesium and its ores, Chromium and its ores, Extraction of magnesium and Chromium by Alumino-thermic and silico-thermic method, Refining of Magnesium and Chromium and its alloys, properties microstructure and application. Titanium and its ores, treatment of its ores concentrate, production of titanium metal by reduction with sodium and magnesium. Titanium and its alloys, properties, microstructure and applications. Refining of silicon and other semiconductor materials.

**SUGGESTED READINGS**

<b>S. No.</b>	<b>Title</b>	<b>Author</b>
1.	Human Resource Management	H.T. Graham & Roger Bennett
2.	Management	James A.F. Stoner, R. Edward Freeman, Daniel R. Gilbert Jr.
3.	Understanding Computer: Today and Tomorrow	Deborah Morley, Charles Parker
4.	MS Office 365 Handbook: 2013 Edition	Kevin Wilson
5.	Physical Metallurgy Principles	Reed Hill, R.E. and Abbaschian, R.
6.	Introduction to Physical Metallurgy	Sydney, H. Avener
7.	Mechanical Metallurgy	Dieter G. E
8.	Deformation and Fracture Mechanics of Engineering Materials	Hertzberg R. W
9.	Non-Ferrous Extractive Metallurgy	Gill, C.B.
10.	Light Alloys	Polmear, I.J

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

Case No.	F.4-259/2016-R
Particulars of post	<b>Director</b> (BS-19), Directorate of Dock Workers Safety H.Qs. Ministry of Ports and Shipping.
Minimum Qualification & Experience:	i. Bachelor's Degree in Mechanical or Electrical Engineering. ii. Twelve (12) years post qualification experience in testing the lifting appliances/ inspection of loading/discharging of Cargo on Ports in Semi-Government/ Government Organization. iii. Knowledge of Labour Laws/ Dock Labourers Act and the Pakistan Dock Labourers Regulations.

**Part-I: 20 Marks****I. Human Resource and Financial Management**

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

**II. Laws about Ports and Shipping**

Labour Laws, Dock Labourers Act, Pakistan Dock Labourers Regulations

**Part-II (Engineering): 80 Marks****I. Mechanical Engineering Fundamentals**

Mechanics and Strength of Materials: Concept of Stress and Strain, bending, torsion, geometric properties of areas, principal stresses, Tensile testing, Stress- Strain curve, True Stress & Strain, Shear Stress & Strain, Concept of elastic and plastic deformation, Yield & ultimate Tensile strengths, Elongation, Toughness and Resilience, Ductility and Malleability, Hardness Testing, Brinell and Rock well Hardness test, bending moment,

Fluid Mechanics: Properties and basics of fluid mechanics, loss of head, power transformation by fluids, pumps, turbines. Fluid static's, Fluid dynamics, Types of flow: Turbulent and Laminar, Reynold's number.

Manufacturing: Different manufacturing processes like Casting, Forging, Machining, Rolling, Extrusion, Wire-drawing, welding, Turning (lathe), Milling, Shaping, Gear cutting, Drilling, Fitting.

**II. Electricity & Electronics**

Electricity & Magnetism; Electrical potential, Resistance, Laws of resistance, Conductance, Conductivity, Impedance, Ohm law, Resistance in series and in

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

### III. Electrical Machines

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

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

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

### SUGGESTED READINGS

S. No.	Title	Author
1.	Human Resource Management	H.T.Graham & Roger Bennett
2.	Management	James A.F.Stoner, R.Eward Freeman, Daniel R.Gilbert Jr.
3.	Fluid mechanics with engineering applications	Finnemore/ Franzini.
4.	Schaum Outline Series; Strength of Materials	Williym A. Nash
5.	Fluid Mechanics	Lewitt
6.	Manufacturing Processes for Engineering Materials	Kalpapgjian
7.	Electrical Technology	B.L. Tharaja
8.	Electronic Devices and Circuits.	Bogart
9.	DC Machines	P.C. Sen
10.	Semiconductors	Manzar Saeed



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

Case No.	F.4-260/2016-R
Particulars of post	<b>Pathologist-Cum-Bacteriologist</b> (BS-18), Medical Department of Pakistan Railways, Ministry of Railways.
Minimum Qualification & Experience:	<ul style="list-style-type: none"> <li>i. MBBS or equivalent qualifications.</li> <li>ii. Post graduate higher diploma/ degree, viz., MS/FRCS/ FCPS/ MRCP/ FFA or equivalent in the requisite Speciality and two (2) years post qualification clinical experience OR Post graduate lower diploma in the requisite Speciality and four (4) years post qualification clinical experience</li> </ul>

**Part-I: (Qualification Based)****50 Marks**Core courses of **MBBS Degree****Part-II: (Professional)****50 Marks**Core courses of Post Graduate Lower Diploma in **Pathology**.

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

Case No.	F.4-261/2016-R
Particulars of post	<b>Registrar</b> (BS-18 plus 25 % special pay), Gilgit Baltistan Service Tribunal, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.
Minimum Qualification & Experience:	LLB from a University recognized by HEC with five (5) years post qualification judicial service/practice as an advocate.

**LAW : 100 Marks****I. Definitions of Crime****II. All Provisions of:**

- i. Concept of arbitration, arbitration with or without intervention of court and in civil suits.
- ii. Establishment of Civil Courts with their Original & Appellate Jurisdiction.
- iii. The Code of Civil Procedure, 1908
- iv. Pakistan Panel Code, 1860
- v. Qanun-e-Shahdat Order, 1984
- vi. Criminal Procedure Code, 1898

**SUGGESTED READINGS**

<b>S.No.</b>	<b>Title</b>	<b>Author</b>
1.	Pakistan Panel Code, 1860	M. Mahmood
2.	Criminal Procedure Code, 1898	Shaukat Mahmood
3.	Law of Evidence	Justice (R) Khalid ur Rahman Khan as adapted from Principles and Digest of the Law of Evidence by M. Monir
4.	Qanun-e-Shahdat Order, 1984	
5.	The Code of Civil Procedure, 1908	Aamir Raza A. Khan
6.	The Arbitration Laws in Pakistan	M. Mahmood
7.	Civil Courts Ordinance, 1962	Nisar Ahmad Nisar

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

Case No.	F.4-264/2016-R
Particulars of post	<b>Superintendent Jail (BS-18)</b> , Prisons Department, Gilgit Baltistan, Ministry of Kashmir Affairs and Gilgit Baltistan.
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's degree in Social Work/ Sociology/ Criminology/ Psychology/ LLB or equivalent qualification from a University recognized by the HEC. ii. Five (5) years post qualification experience in Administration.

**Part-I (Professional): 50 Marks****I. Understanding Criminology**

Definition, meaning and scope of criminology; Criminology and criminal law; Crime as social problem; Deviance, Sin Vice, Evil, Norms, Values; Security (Physical, Social, Economic)

**II. The Criminal Justice System:**

- Police and its role
- Trial and Conviction of Offenders
  - ✧ Agencies: formal and informal
  - ✧ Criminal courts: procedures and problems
  - ✧ Role of prosecutors
- Prisons, Probation and Parole

**III. Punitive and Reformative Treatment of Criminals**

Corporal punishment, Imprisonment, Rehabilitation of criminals

**IV. Human Rights Abuses and Protection, especially of Children; Women and Minorities;**

The role of civil society and NGOs

**V. Society**

Meaning and characteristics. Community; meaning and characteristics. Individual and society. Relationship between individual and society. Two main theories regarding the relationship of man and society (i) the social contact theory and (ii) the organismic theory. Social and cultural evolution of society (Hunting and Gathering Society, Herding and Advance Herding Society, Horticultural Society, Agrarian Society, Industrial Society, Post modern Society).

**VI. 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.

**VII. 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.

## VIII. 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.

### Part-II: 50 Marks

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

#### I. Human Resource and Financial Management

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

#### II. Basic Concept of Quality Management

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

#### III. Information Technology and MS Office

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

### SUGGESTED READINGS

S. No.	Title	Author
1.	New Perspectives in Criminology	Conklin, J.E
2.	Crime, Justice and Society: An Introduction to Criminology	Ronald, J.B., Marvin, D.F. and Patricia, S.
3.	Sociology	Ogburn & Nimkoff
4.	Pakistani Society	Akbar Ahmad, S.
5.	Human Resource Management	H.T.Graham & Roger Bennett
6.	Management	James A.F.Stoner, R.Eward Freeman, Daniel R.Gilbert Jr.
7.	Understanding Computer: Today and Tomorrow	Deborah Morley, Charles Parker
8.	MS Office 365 Handbook: 2013 Edition	Kevin Wilson
<b>Suggested Websites</b>		
9.	Pakistan Society of Criminology (PSC): <a href="http://www.pakistansocietyofcriminology.com">www.pakistansocietyofcriminology.com</a>	
10.	South Asian Society of Criminology and Victimology (SASCV): <a href="http://www.sascv.org/">http://www.sascv.org/</a>	

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

Case No.	F.4-267/2016-R
Particulars of post	<b>Associate Professor/Vice Principal (English) (Male)</b> (BS-19), F.G. Colleges, Federal Directorate of Education, Capital Administration and Development Division.
Minimum Qualification & Experience:	Ph.D. Degree in English with eight (8) years' post qualification teaching and administrative experience at College/ University level. <b>OR</b> M. Phil Degree in English with ten (10) years' post qualification teaching and administrative experience at College/ University level. <b>OR</b> Second Class or Grade 'C' Master's Degree in English with twelve (12) years' post qualification teaching and administrative experience at College/ University level.

**Part-I: (English)****50 Marks****I. Essays:**

- Bertrand Russell (The Conquest of Happiness)
- George Orwell (Politics and the English Language; The Prevention of Literature)
- Ralph Waldo Emerson (The Transcendentalist; Self-reliance)

**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*)
- James Joyce (*A Portrait of the Artist as a Young Man*)
- 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: (Professional)

50 Marks

#### I. Development of Curriculum and Instructional Material

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

#### II. Process of Teaching and Teaching Strategies

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

#### III. Educational Assessment and Evaluation

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

#### IV. Educational Administration and Supervision

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

- Educational Supervision

## V. Research Methods in Education

- Scientific Method and its Application in Education
- Sampling Techniques:
- Research Instruments: Questionnaire; Interview; Test; Observation; Rating Scale
- Type of Research: Basic/Applied Research; Historical Research; Descriptive Research; Correlation Research; Causal-Comparative Research; Experimental Research; Action Research; Qualitative and Quantitative Research
- Research Proposal and Report Writing

### SUGGESTED READINGS

S.No.	Title	Author
1.	The basics Literary Theory. (Second edition). Routledge.	Bertens, H. (2008).
2.	Literary Theory: An Introduction. (Anniversary Edition).	Eagleton, E. (2008).
3.	A New Handbook of Literary Terms.	Mikics, W. (2007).
4.	A Companion to Twentieth Century Poetry.	Roberts, N. (2003).
5.	A Reader's Guide to Contemporary Literary Theory. (Fifth edition).	Selden, R., Widdowson, P., & Brooker, P. (2005)
6.	Twentieth Century British Drama.	Smart, J. (2001).
7.	Modern Critical Views & Interpretations, ed: 80's and 90's editions.	Harold Bloom
8.	A Companion to 20 <sup>th</sup> Century Drama Oxford: Blackwell.	Krasner David. 2005.
9.	Research in Education	JW Best
10.	Integrating Education Technology into Teaching	Roblyer
11.	Curriculum Development	S. M. Shahid
12.	Educational Measurement and Evaluation	S. M. Shahid
13.	Educational Administration	S. M. Shahid