

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

**Scheme and Syllabi for Screening/ Professional Tests Relating to
Posts Advertised Vide Consolidated Advertisement No. 05/2014**

<p>For Each Case No. of Paper : 1 Marks : 100 Time Allowed: 100 Minutes</p>
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S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
1.	115/2014	Engineering Instructor (BS-19), Pakistan Marine Academy Karachi, Ministry of Ports and Shipping.	i) Certificate of Competency or Certificate of service as First Class Engineer. ii) At least two (2) years post qualification experience as Chief Engineer or three (3) years post qualification experience as Second Engineer in ships.	Objective Type Test (MCQ) Professional Test = 100 marks	<ul style="list-style-type: none"> • Planning and Development of Training Courses and material • Theoretical & Practical training skills to cadets and Seafarers in the Class Room & Workshop • Maintenance of mechanical machinery equipments/fittings etc. • Planning and Management of Training Visits alongwith Cadets to Ships and other Workshops • Classroom Management and Discipline
2.	116/2014	Deputy Director (Environmental Engineering and Transfer of Technology) (BS-18), Pakistan Environmental Protection Agency (PAK-EPA), Climate Change Division, Islamabad.	i) B.Sc. Engineering in Chemical/ Civil/ Public Health/ Environment / Mechanical/ Industrial Engineering. ii) Valid Registration with Pakistan Engineering Council on or before the closing date is required. <p align="center">OR</p> i) Second Class or Grade 'C' M.Sc. in Chemistry/ Biology/ Chemical Technology/ Environmental Technology/ Environmental Planning and Management/ Bio-Chemistry. ii) Five (5) years post qualification experience in BS-16 or above or equivalent in any of the prescribed educational qualification in govt./ semi govt./reputable organization.	Objective Type Test (MCQ) Professional Test=100 marks	<ul style="list-style-type: none"> • Current Environmental Issues and their Solutions • Environmental Laws • Environmental Engineering • Environmental Design • Basic Botany • Basic Zoology • Basic Chemistry • Basic Arithmetic • Report Writing

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3.	117/2014	Assistant Director (Admn/ Finance) (BS-17), Pakistan Environmental Protection Agency (PAK-EPA), Climate Change Division, Islamabad.	Second Class or Grade 'C' Master degree in Public Administration/ Business Administration/ Political Science/ Economics and a degree in LLM/LLB.	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar Usage, Sentence Structuring. Part-II <ul style="list-style-type: none"> • Civil Servants Act 1973 and Rules made thereunder • Civil Servants (Appointment, Promotion and Transfer) Rules, 1973 • Government Servants Conduct Rules, 1964 • Civil Servant (Appeal) Rules, 1977 • Revised Leave Rules, 1980 • Public Procurement Rules, 2004 • System of Financial Control & Budgeting, 2006 • Financial Rules (F.R) • Human Resource Management • Environmental Laws of Pakistan • Official Communication
4.	118/2014	Sub Engineer (Civil) (BS-16), Office of the Chief Engineering Adviser/ Chairman, Federal Flood Commission, Ministry of Water And Power.	i. Three (3) years Diploma of Associate Engineer in Civil from a Government Polytechnic or any recognized Institution. ii. Five (5) years post qualification experience in Irrigation or Flood Works.	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar Usage Part-II <ul style="list-style-type: none"> • Estimation; • Quantity Surveying; • Composite Schedule of Rates; • Surveying and Leveling; • Plain Tabling; • Theodolite Survey; • Soil Mechanics; • Implementation & Monitoring of Flood Protection Works • Design of Embankments, Spurs, Simple Hydraulic Structures; • Hydrological Cycle; • Initial spade work for preparation of PC-I, PC-II, PC-III and PC-IV.

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5.	120/2014	Graphic Officer (Civilian), (BS-16), GHQ, Ministry of Defence.	i) Intermediate ii) 10 years experience (Post Qualification) in Graphic arts viz (a) Press advertising and publicity; (b) Publication designing and layout (c) Title designing and animation of films (d) Calligraphy (English) and typography (e) Lithography viz: (i) Colour separation (Line); (ii) Film making (line and half-tone); (iii) Film mounting (Colour and black and white); and (iv) complete knowledge of all kinds of printing i.e off-set, letter press dye stamping and ornamental printing. OR Post-Inter Diploma in Printing and Graphic Arts with three (3) years experience as detailed above	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test = 80 marks	Part-I Vocabulary, Grammar Usage. Part-II <ul style="list-style-type: none"> • Knowledge of Adobe Photoshop, CorelDraw and Inpage • Finishing/Improvement Procedures in Picture by using Adobe Photoshop and CorelDraw • Paper Sizing Methods for Magazine Printing • Printing Process of Publication • Publication Designing and Layout • Sizes of Pictures (DPI/Pixel) in Designing and better printing quality of Magazines. • Complete knowledge of all kinds of printing (Off-set, Letter press dye stamping and ornamental printing).
6.	121/2014	Assistant Engineering Adviser (Civil)/ Senior Engineer (Floods)/ DD (S & M) (BS-18), Office of the Chief Engineering Adviser/ Chairman, Federal Flood Commission, Ministry of Water and Power	i. Bachelor Degree in Civil Engineering or an equivalent qualification from a recognized University/ Institution. ii. Five years post qualification experience in Planning, Design or construction or operation of Dams, Irrigation System or Hydraulic Works including use of construction equipment in BS-16 and above or equivalent in a Government/ Semi-Government/ reputable private organization.	Objective Type Test (MCQ) Professional Test=100 marks	<ul style="list-style-type: none"> • Catchment Hydrology & Hydrometry • Design of water retaining structures (embankments, dams, barrages, spurs, dykes); • Integrated water resource development & management in Pakistan. • River Engineering • Hydraulic Modeling • Irrigation System and Flood Engineering in Pakistan's perspective • River Morphology, Flood Forecasting & Warning including existing Mechanism • Irrigation/Water Resource Management Project Design, Review/Analysis and Implementation • Dams and Barrages Engineering (Feasibility, Design, Implementation & Review) including Reservoir Operation Rules/SOPs • Tender Evaluation, Quantity Surveying, Estimation • Planning, Implementation, Monitoring and Post Implementation Evaluation of Flood Protection Works; • Project Monitoring-Critical Path Method (CPM) • Impact of Global Warming/Climate Change on Water and Flood Management • Financial Management of Projects • Flood Management Facilities and Organizations involved in Flood Management in Pakistan

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7.	122/2014	Assistant Director (Legal / Enforcement) (BS-17), Pakistan Environmental Protection Agency (PAK-EPA), Climate Change Division, Islamabad.	Second Class OR Grade 'C' Master degree in Public Administration/ Business Administration/ Political Science/ Economics and a degree in LLM/LLB.	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar Usage, Sentence Structuring. Part-II <ul style="list-style-type: none"> • Environmental Laws of Pakistan • Environment Policy • Pakistan Penal Code • Pakistan Criminal Code • Qanoon-e-Shahadat Order, 1984 • Health Safety and Environment • Legal Drafting • Pleading and Convincing • Inquiries and Investigation • Civil Servants Act 1973 and Rules made thereunder • Civil Servants (Appointment, Promotion and Transfer) Rules, 1973 • Government Servants Conduct Rules, 1964 • Civil Servant (Appeal) Rules, 1977
8.	123/2014	Editor (BS-18), GHQ, Ministry of Defence	<p>i) Second Class or Grade 'C' Master's Degree in Journalism/ Urdu/Mass Communication/ Public Relations</p> <p>ii) Five years post qualification experience in a News Agency or Newspaper of repute.</p> <p>iii) Ability to write and contribute articles in English and Urdu.</p>	Objective Type Test (MCQ) Professional Test = 100 marks	<ul style="list-style-type: none"> • Introduction to Mass Communication • History of Journalism • Journalism in Sub-continent • Journalistic Writing • News Reporting & Writing • Feature, Column & Editorial Writing • Development of Communication/ Journalism • Copy Right Act • Press Laws in Pakistan & Government Media Relationship, Ethics of Journalism and Freedom of Press • Organizational Structure of National Newspapers and News Agencies
9.	124/2014	Research Officer (BS-17), Ministry of Defence.	Second Class OR Grade 'C' Master's degree in Economics/Public Administration/Project Management/ MBA/ M.Com OR equivalent from a University recognized by HEC.	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar Usage, Sentence Structuring. Part-II <ul style="list-style-type: none"> • Methods of Data Collection and Analysis of Data, • Report Writing and Presentation Skill, • Project Planning and Management, • Preparation of PC-I of Project. • Project Monitoring and Evaluation • Usage of Internet & other Media for Research Assignments

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10.	125/2014	Assistant Mechanical Engineer (BS-17), Mechanical Engineering Department of Pakistan Railways, (Railway Board), Ministry of Railways.	Bachelor's Degree in Mechanical Engineering or equivalent qualification	Objective Type Test (MCQ) Part-I English = 20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar usage, Sentence Structuring Part-II <ul style="list-style-type: none"> • Production Planning & Control and Industrial Management • Ferrous and Non-Ferrous Metals and their Heat Treatment • Engineering Mechanics • Hydraulic and Fluid Mechanics • Heat Transfer/Refrigeration & Air Conditioning • Mechanics of Material • Workshop Production and Manufacturing Practices. • Specification, Analysis, Inspection and Testing Lubricants & Metrology • Engineering Drawing • AC/DC Machines, Rectifiers, Inverters etc.
11.	126/2014	Vice Principal/ Headmaster (Male) (BS-18), Federal Govt. Schools, Federal Directorate of Education, Islamabad, Capital Administration and Development Division.	i. Second Class OR Grade 'C' Master's degree with B.Ed./M.Ed. ii. Five (5) years post qualification teaching and professional/administrative experience in a recognized Educational Institution.	Objective Type Test (MCQ) Professional Test = 100 marks	<ul style="list-style-type: none"> • Educational Planning and Management • Educational Administration and Supervision, • Classroom/Institutional Management • Educational Psychology • Educational Guidance & Counselling • Curriculum Development • Teaching Techniques & Methodology • Testing & Evaluation • Educational Reforms in Pakistan • Co-curricular Activities in Educational Institutions

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
12.	127/2014	Lecturer (Female) (BS-17), A. English B. Computer Science C. Mathematics D. Economics E. Biology F. Physics G. Chemistry H. Library Science I. Applied Psychology J. Fine Arts K. Sociology L. Urdu M. Mass Communication Federal Government Colleges for Women, Federal Directorate of Education, Islamabad, Capital Administration and Development Division.	Second Class or Grade 'C' Master's degree or equivalent in the relevant subject.	Objective Type Test (MCQ) <u>Part-I</u> English = 20 marks <u>Part-II</u> Subject Test = 50 marks <u>Part-III</u> Professional Test = 30 marks Note: <ul style="list-style-type: none"> ▪ In Language Subjects (i.e English and Urdu), English part for 20 marks will not be included. ▪ There will be 70% subject Test and 30% Professional Test in Language Subjects. 	<u>For A (English)</u> <u>Part-I (Master's Level) (70 Marks)</u> <ul style="list-style-type: none"> • English Literature 14th to 20th Century. • Vocabulary • Structuring of Sentences. • Linguistics. • English Language Teaching. • Grammar. • Syntax. • Diction. <u>Part-II (30 Marks)</u> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan. <u>For B (Computer Science)</u> <u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring <u>Part-II (Masters Level)</u> <ul style="list-style-type: none"> • Introduction to Computing • Data Communication & Networking, • C/C++ Language, • Visual Basic, • Operating System Unix/Linux • Windows XP, 2000, • Oracle/PLSQL, • System Analysis & Design, • Computer Architecture, • Operating System Concepts, • Software Engineering, • Security and Ethical issues • Database Systems, • Management Information System, • Web Programming, <u>Part-III</u> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan

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					<p><u>For C (Mathematics)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Calculus/Differentiation, Integration, Limits of Continuity • Discrete Structures/Discrete Mathematics, • Communication Skills for Mathematicians, • Computing Tools for Mathematicians, • Classical Mechanics, • Mathematical Statistics, • Real Analysis, • Mathematical Spaces (Sets, Vector Spaces, Metric Spaces, topological spaces Tensors, • Differential Equations. <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan.
					<p><u>For D (Economics)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring.</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Micro Economics, • Macro Economics, • International Trade, • Economics Development, • WTO and Developing Economies, • Monetary Theory & Public Finance, • Agriculture Development in Pakistan • Industrial Development in Pakistan • Energy Crises and Policy in Pakistan • Interest Free Banking in Pakistan <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan

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					<p><u>For E (Biology)</u> <u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring. <u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Theories of Evolution, • Multiple Alleles, • Nucleic Acids, • Cell Division, • Nutrition, • Ecosystem, • Mendelian laws of Inheritance, • Diagnostic Characteristics of all the Phyla or Invertebrates and Chordates, • Division of Plants <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan <hr/> <p><u>For F (Physics)</u> <u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring <u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Heat and Thermodynamics, • Waves and Optics, • Electrostatic, • Electricity and Magnetism, • Atomic and Modern Physics, • Nuclear Physics, • Basic Solid State Physics, • Basic Electronics, • Electrodynamics, • Mechanics <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan

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					<p><u>For G (Chemistry)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Chemical Kinetics, • Chemical Equilibrium, • Quantum Theory of Atom, • Synthetic Chemistry & Polymers, • Reaction Mechanism, • Green Chemistry, • Spectroscopy, • Nano Technology, • Colloidal State. <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan
					<p><u>For H (Library Science)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Introduction to Library & Information Science • Information Sources and Services • Classification: Theory and Practice • Cataloguing: Theory and Practice • Procurement, Maintenance and Issuance of Library Books • Management of Libraries & Information Centres • 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 <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan

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					<p><u>For I (Applied Psychology)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Social Psychology • Educational Psychology and Student's Learning • Psychology of Mass Communication • Psychological Testing and Assessment • Neuro-Biological Basis of Behaviour • Industrial Psychology • Counseling Psychology • Developmental Psychology • Research Methodology • Abnormal and Clinical Psychology <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan
					<p><u>For J (Fine Arts)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • General Concepts of Art, • Techniques of Painting, • Ancient Civilizations, • Pakistani Art and Artists, • Muslim Architectures and Muslim Art, • Medieval Art- Renaissance-Baroque-Rococo, • Print making, • Graphic Art (Printing, Etching-Woodcut, Lithography) <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology • Classroom Management and Discipline • Testing and Evaluation • Development of Education in Pakistan

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					<p>For K (Sociology)</p> <p>Part-I Vocabulary, Grammar Usage, Sentence Structuring</p> <p>Part-II (Masters Level)</p> <ul style="list-style-type: none"> • Culture & Society, • Sociological Theory, • Methods of Sociological Research, • Social Institutions • Mechanism of Social Control • Social and Cultural Change & Social Policy. • Community Organization and Development • Social Problems in Pakistan <p>Part-III</p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan
					<p>For L (Urdu)</p> <p>Part-I (Master's Level) (70 Marks)</p> <p>اردو ذخیرہ الفاظ ☆</p> <p>اردو جملے کا ڈھانچہ ☆</p> <p>اردو قواعد کا استعمال ☆</p> <p>لسانیات ☆</p> <p>انیسویں اور بیسویں صدی کا اردو ادب اور اس کا تنقیدی جائزہ ☆</p> <p>اردو ادب کی نثری اصناف کا تحقیقی جائزہ ☆</p> <p>اردو ادب کی شعری اصناف کا تحقیقی جائزہ ☆</p> <p>غالبیات ☆</p> <p>اقبالیات ☆</p> <p>Part-II (30 Marks)</p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan.

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					<p><u>For M (Mass Communication)</u></p> <p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring</p> <p><u>Part-II (Masters Level)</u></p> <ul style="list-style-type: none"> • Introduction to Mass Communication • History of Journalism • Journalism in Sub-continent • Journalistic Writing • News Reporting & Writing • Feature, Column & Editorial Writing • Development of Communication/ Journalism • Copy Right Act • Press Laws in Pakistan & Government Media Relationship, Ethics of Journalism and Freedom of Press • Mass Media in Pakistan <p><u>Part-III</u></p> <ul style="list-style-type: none"> • Teaching Techniques and Methodology, • Classroom Management and Discipline, • Testing and Evaluation, • Development of Education in Pakistan