

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. 04/2016**

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
1.	86/2016	Assistant Private Secretary (BS-16), Ministry of Planning, Development and Reform.	i. Second Class or Grade 'C' Bachelor's degree from a University recognized by HEC. ii. Minimum shorthand speed 100 W.P.M. and typing speed 50 W.P.M. iii. Must be computer literate.	<ul style="list-style-type: none"> • Typing Test with minimum Speed of 50 W.P.M • Shorthand Test with minimum Speed of 100 W.P.M 	50 Marks 50 Marks
2.	88/2016	Research Officer (BS-17), Water Resources Section, Ministry of Planning, Development and Reform..	Second Class or Grade 'C' Bachelor's Degree or equivalent qualification in Civil Engineering or Agricultural Engineering.	Objective Type Test (MCQ) <u>Part-I</u> English = 20 marks <u>Part-II</u> Professional Test=80 marks	<u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring <u>Part-II (For Civil Engineer)</u> <ul style="list-style-type: none"> • Soil Mechanics & Foundation Engineering • Hydraulic & Hydrology • Surveying & Levelling • Construction Management • Building Material & Building Construction • Structural Design Applications • Engineering Materials • Concrete Technology & R.C.C Structure Design • Reinforced Concrete • Sewage Treatment • Water Resources and Water Supply Design • Steel Structure, Design and Analysis • Environmental Engineering • Principles of Planning • Research and Analysis • Report Writing • Presentation Skills • Public Procurement Rules, 2004

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
					<p><u>Part-II (For Agricultural Engineer)</u></p> <ul style="list-style-type: none"> • Soil Science • Basic Agriculture • Landscape Engineering • Farm Structures & Materials • Drainage Engineering • Soil & Water Conservation Engineering • Irrigation Engineering • Environmental Engineering • Farm Machinery & Earth Moving Equipment • GIS & Remote Sensing • Agricultural Processing Engineering • Principles of Planning • Research and Analysis • Report Writing • Presentation Skills • Public Procurement Rules, 2004
3.	89/2016	Research Officer (BS-17), Industries & Commerce Section, Ministry of Planning, Development and Reform.	<p>Second Class or Grade 'C' Master's Degree or equivalent qualifications in any of the following subjects: Economics (with Industrial Economics), Agricultural Economics, Physics, Chemistry, Mathematics, Mineral Science, Geology, Business Administration, Commerce and Accounting.</p> <p style="text-align: center;">OR</p> <p>Second Class or Grade 'C' Bachelor's Degree or equivalent qualifications in Production/ Mechanical/ Chemical/ Textile/ Electrical/ Mining Engineering.</p>	<p>Objective Type Test (MCQ)</p> <p><u>Part-I</u> English = 20 marks</p> <p><u>Part-II</u> Professional Test=80 marks</p>	<p><u>Part-I</u> Vocabulary, Grammar Usage, Sentence Structuring,</p> <p><u>Part-II</u></p> <ul style="list-style-type: none"> • Project Management, • Project Evaluation, • Research Methodology, • Economic Development of Pakistan, • Organization of Economic Research, • Collection and Compilation of Data, • Methods of Data Analysis, • Report Writing and Presentation Skill.

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
4.	92/2016	Boiler Engineer (BS-17), Remount Veterinary and Farms Corps, Ministry of Defence.	i. Three (3) years Diploma in Electrical or Mechanical Engineering from a recognized Institute. ii. 1 st Class Boiler Engineer Certificate iii. Three (3) years post qualification experience in the relevant field. OR i. 1 st Class Boiler Engineer Certificate. ii. Five (5) years post qualification experience in the relevant field	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"> • Boiler Mountings, Accessories and Auxiliaries • Draught System of Boilers • Boiler Performance • Steam Engines and Condensers • Boiler Operation & Maintenance • Boiler Safety • Design Fundamentals of Boiler • Boiler Metallurgy • Boiler Protection and Interlocks • Boiler Controls • Boiler Pollution Control • Liquid Fuel Handling • Solid Fuel Handling
5.	93/2016	Assistant Private Secretary (BS-16), Ministry of Ports and Shipping.	i. Second Class or Grade 'C' Bachelor's degree from a University recognized by HEC. ii. Minimum shorthand speed 100 W.P.M. and typing speed 50 W.P.M. iii. Must be computer literate.	<ul style="list-style-type: none"> • Typing Test with minimum Speed of 50 W.P.M • Shorthand Test with minimum Speed of 100 W.P.M 	50 Marks 50 Marks
6.	95/2016	Assistant Private Secretary (BS-16), Military Finance Wing, Finance Division.	i. Second Class or Grade 'C' Bachelor's degree from a University recognized by HEC. ii. Minimum shorthand speed 100 W.P.M. and typing speed 50 W.P.M. iii. Must be computer literate.	<ul style="list-style-type: none"> • Typing Test with minimum Speed of 50 W.P.M • Shorthand Test with minimum Speed of 100 W.P.M 	50 Marks 50 Marks
7.	96/2016	Assistant Private Secretary (BS-16), National Industrial Relations Commission (NIRC), Ministry of Overseas Pakistanis & Human Resource Development.	i. Second Class or Grade 'C' Bachelor's degree from a University recognized by HEC. ii. Minimum shorthand speed 100 W.P.M. and typing speed 50 W.P.M. iii. Must be computer literate.	<ul style="list-style-type: none"> • Typing Test with minimum Speed of 50 W.P.M • Shorthand Test with minimum Speed of 100 W.P.M 	50 Marks 50 Marks

S. No	Case No. F.4-	Particulars of Post(s)	Qualifications for Posts	Test Specification	Topics of Syllabi
8.	99/2016	Assistant Geophysicist (BS-17), Geological Survey of Pakistan, Ministry of Petroleum and Natural Resources.	Second Class or Grade 'C' M.Sc. degree in Geophysics or in Geology with specialization in Geophysics OR Second Class M.Sc. degree in Physics with Geology and Mathematics as subjects in B.Sc. course or equivalent qualification from a University recognized by the HEC.	Objective Type Test (MCQ) Part-I English =20 marks Part-II Professional Test=80 marks	Part-I Vocabulary, Grammar Usage, Sentence Structuring Part-II <ul style="list-style-type: none"> • Basic Geology • Basic Geochemistry • Structural Geology • Gravity Survey • Magnetic Survey • Seismic Survey (Refraction & Reflection) • Electrical Methods • Geophysical Bore hole Logging • Radioactive Survey • Earthquake Seismology
9.	102/2016	Assistant Director (BS-17), Directorate of Dock Workers Safety Headquarters, Karachi, Ministry of Ports and Shipping.	i. Bachelor's degree in Mechanical or Electrical Engineering. ii. Two (2) years post qualification experience of testing appliances/ inspection of loading/ discharging of cargo on ports. iii. Knowledge of Labour Laws, Dock Labourers Act and the Pakistan Dock Labourers Regulations.	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"> • Safety and Efficiency Measures • Common Types of Electrical and Mechanical Hazards • Destructive and Non-Destructive Methods of Wire Testing • Methods of testing of safe working load of a crane • Labour Laws (National/International/ Maritime), • Dock Labourers Act 1934 • Pakistan Dock Labourers Regulations, 1948

**Schemes and Syllabi for Written Examination (Descriptive)
for All Posts in BS-18 & BS-19 included in Consolidated
Advertisement No. 04/2016**

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 précising and suggesting an appropriate title.
Reading Comprehension (10 marks)
A selected passage that is rich in substance but not very technical or discipline-specific shall be given, followed by five questions, each carrying 2 marks.
Grammar and Vocabulary (10 marks): Correct usage of Tense, Articles, Prepositions, Conjunctions, Punctuation, Phrasal Verbs, Synonyms and Antonyms etc.
Sentence Correction (5 marks): Ten sentences shall be given each having a clear structural flaw in terms of grammar or punctuation. The candidates shall be asked to rewrite them with really needed correction only, without marking unnecessary alterations. No two or more sentences should have exactly the same problem, and 2-3 sentences shall be based on correction of punctuation marks.
Grouping of Words (5 marks): A random list of ten words of moderate standard (neither very easy nor utterly unfamiliar) shall be given, to be grouped by the candidates in pairs of those having similar or opposite meaning, as may be clearly directed in the question.
Pairs of Words (5 marks): Five pairs shall be given of seemingly similar words with different meanings, generally confused in communication, for bringing out the difference in meaning of any five of them by first explaining them in parenthesis and then using them in sentences.
Translation (5 marks): Ten short Urdu sentences involving structural composition, significant terms and figurative/idiomatic expressions shall be given, to be accurately translated in English.

SUGGESTED READINGS

Sr. No.	Title	Author
1.	English Grammar in Use	Raymond Murphy (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.4-41/2016-R
Particulars of post	Assistant Professor (Commerce) (Female) (BS-18), Islamabad Model Colleges, Capital Administration & Development Division
Minimum Qualification & Experience:	<p>Ph.D. Degree in Commerce with one (1) year post qualification teaching experience at College/ University level.</p> <p style="text-align: center;">OR</p> <p>M. Phil Degree in Commerce with three (3) years post qualification teaching experience at College/ University level.</p> <p style="text-align: center;">OR</p> <p>Second Class or Grade 'C' Master's Degree in Commerce with five (5) years post qualification teaching experience at College/ University level.</p>

Part-I: (Commerce)**50 Marks**

- I. **Introduction to Business Finance:** Nature and Scope of a Business Entity, Contemporary Challenges posed to a Business; Common Legal Forms of a Business Entity, Meaning, Nature and Scope of Finance, and Financial Management; Common Modes (Types) of Business Finance – Short-, Medium-, and Long-term Financing; Nature and Scope of Financial Markets and Institutions; Features and Classification of Financial Markets; Financial Management Techniques for Decision-making
- II. **Auditing:** Nature and Purpose of Auditing, Audit Planning and Control, Audit Procedures and Techniques, Audit Evidence and Documentation, Completion of an Audit, Performance of Audit, The Reporting of Audit, Internal Audit:
- III. **Role and Responsibilities of an Auditor:** Auditor's professional and legal Rights, Responsibilities & Duties, and Liabilities; Auditor's Opinion and Report, and their classification (Types); - as specified under the Companies Ordinance 1984, and in the handbook of IFAC.
- IV. **Fundamental Accounting Principles, Concepts, Assumptions and Conventions:** Nature and Scope of Accounting, Accrual/Matching Concept, Consistency of Presentation and Comparability, True and Fair View, Neutrality, Materiality, Prudence, Completeness, Understandability and Usefulness, Going Concern, and Substance over Form.
- V. **Cost Accounting:** Concepts and Scope of Cost Accounting, Cost Classification and Flows, Material Costing and Control, Labour Costing and Control, Factory Overhead Costing and Control, Types of Costing Systems
- VI. **Managerial Economics:** The Nature and Scope of Managerial Economics, Optimization Techniques and new Management Tools, Demand Theory, Demand Estimation, Demand Forecasting, Production and Cost Analysis, Cost Theory and Estimation, Linear Programming, Risk Analysis
- VII. **Financial Management:** Elements of Financial Administration, Performance and Programmed Budgeting, Capital Budget, Principles of Budgeting, Auditing and Accounting.

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.	Fundamentals of Accounting Principles	Wild. Larson. Chiappetta
2.	Principles of Accounting, and Advanced Accounting	Sohail Afzal
3.	Cost Accounting	Nisar ur Din.
4.	Advanced Auditing	Prof. Dr. Khuaja Amjad Saeed
5.	Managerial Economics	Micheal Baye
6.	Research in Education	JW Best
7.	Integrating Education Technology into Teaching	Roblyer
8.	Curriculum Development	S. M. Shahid
9.	Educational Measurement and Evaluation	S. M. Shahid
10.	Educational Administration	S. M. Shahid

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

Case No.	F.4-69/2016-R
Particulars of post	Assistant Chief (BS-18), Demography/Population & Social Planning Section, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree or equivalent qualification in any of the following subjects:- Economics with Statistics, Business Administration, Public Administration, Demography, Sociology, or Social Work</p> <p>ii. Three (3) years post qualification experience of work and/or research relating to social welfare, population welfare or demography or planning or development in these fields.</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: (Social Welfare)**50 Marks****I. General Sociology**

Individual, Culture, Society, Social Interaction, Social Control, Social and Cultural Change and Social Policy, Public Opinion, Community, Social Institutions, Social Problems in Pakistan:

II. Sociological Theory:

Three sociological perspectives: Structural Functionalism, Symbolic interactions and Conflict. Theorists: Ibn-i-Khaldun, Spencer, August Comte, Emile Durkheim, Max Weber, Karl Marx, Parson.

III. Methods of Sociological Research:

Scientific Method, Steps in research, Types of Questionnaire Research Design, Surveys, Observation and Case Studies.

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 Françoise 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 Scharon.
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.	Methods of Social Research	Baily
13.	The Sociology of Rural Life	Lynn Smith, T.
14.	Pakistani Society	Akbar Ahmad, S.
15.	Contemporary Sociological Theories	Pitrim Sorokin
16.	Sociological Theory	Ritzer, Georg, (1988).

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

Case No.	F.4-70/2016-R
Particulars of post	Assistant Chief (BS-18), Education Section, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree or equivalent qualification in Education or Second Class or Grade 'C' Master's Degree or equivalent qualification in any discipline with Bachelor's Degree or equivalent qualification in Education.</p> <p>ii. Three (3) years post qualification experience of work and/or research relating to Education or in planning or development in Education.</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: (Education) 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.	Practical English Grammar	A.J. Thomson and A.V. Martinet.
2.	Writing. Intermediate	Marie-Christine Boutin, Suzanne Brinand and Françoise 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.

S. No.	Title	Author
9.	The Mercury Reader. A Custom Publication.	Janice Neulib; Kathleen Shine Cain; Stephen Ruffus and Maurice Scharon.
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.	Research in Education	JW Best
13.	Integrating Education Technology into Teaching	Roblyer
14.	Curriculum Development	S. M. Shahid
15.	Educational Measurement and Evaluation	S. M. Shahid
16.	Educational Administration	S. M. Shahid

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

Case No.	F.4-73/2016-R
Particulars of post	Assistant Chief (BS-18), Health Section, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's Degree or equivalent qualification in Health Planning, Nutrition Planning OR MBBS or equivalent ii. Three (3) years post qualification experience of work and/or research relating to medicine, surgery or public health or in planning and development in these fields.

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: (Public Health)**50 Marks**

- i. Meaning and Significance of Health Education**
 - a. Definition of Health
 - b. Definition and scope of Health Education
 - c. Relationship of Health Education with Physical Education
 - d. Importance of Health Education in Community
- ii. Personal Hygiene**
 - a. Islamic concepts of personal Hygiene
 - b. Cleanliness and Health
 - c. Health Hazards (Tobacco, Naswar, Sleeping Pills, Opium, Morphine, Hashish, Heroin, Charas, Alcohol and other drugs.
- iii. Community Health**
 - a. Concepts in Community Health
 - b. Health & Welfare
 - c. Health & Development
 - d. Infectious diseases, Epidemiology
 - e. Disease Transmission
 - f. Immunity
 - g. Disease prevention and control
 - h. Disinfection
 - i. Symptoms, causes and prevention of most common communicable diseases
 - j. Epidemiology of non-communicable diseases and condition
- iv. Environment and Human Health**
 - a. Toxic pollutants and their effect on health
 - b. Mechanisms of action of drugs producing toxic effects of drugs on human body
 - c. Carcinogenic agents
 - d. Chemicals in food
 - e. Biological effects of Radiation
 - f. Sources of pollution: Air, Water, Noise

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. Kirschner and Stephen R. Mandell.

S. No.	Title	Author
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.	Global Climatic Change,.	Honghton and R A,
13.	Health Factors for College Students.	Maude Lee & Heredge E T.
14.	Synopsis of Hygiene and Public Health.	Dr Jabalpur K S Shah
15.	Community Health.	Anderson and Mortengreen
16.	Environmental Health,	Willgoose

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

Case No.	F.4-76/2016-R
Particulars of post	Assistant Chief (BS-18), Social Welfare Section, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	i. Second Class or Grade 'C' Master's Degree or equivalent qualification in any of the following subjects:- Social Welfare, Social Work, Sociology ii. Three (3) years post qualification experience of work and/or research relating to social welfare or in planning or development in the field of social welfare.

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 Managementa) **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: (Social Welfare)**50 Marks****I. General Sociology**

Individual, Culture, Society, Social Interaction, Social Control, Social and Cultural Change and Social Policy, Public Opinion, Community, Social Institutions, Social Problems in Pakistan:

II. Sociological Theory:

Three sociological perspectives: Structural Functionalism, Symbolic interactions and Conflict. Theorists: Ibn-i-Khaldun, Spencer, August Comte, Emile Durkheim, Max Weber, Karl Marx, Parson.

III. Methods of Sociological Research:

Scientific Method, Steps in research, Types of Questionnaire Research Design, Surveys, Observation and Case Studies.

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 Françoise Grellet.
3.	Writing. Upper-Intermediate	Rob Nolasco.
4.	Reading. Advanced	Brian Tomlinson and Rod Ellis.
5.	Study Skills	Riachard Yorcky
6.	Writing. Advanced	Ron White.
7.	College Writing Skills	John Langan.
8.	Patterns of College Writing	Laurie G. Kirsznner 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.	Methods of Social Research	Baily
13.	The Sociology of Rural Life	Lynn Smith, T.
14.	Pakistani Society	Akbar Ahmad, S.
15.	Contemporary Sociological Theories	Pitrim Sorokin
16.	Sociological Theory	Ritzer, Georg, (1988).

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

Case No.	F.4-90/2016-R
Particulars of post	Deputy Chief (BS-19), Energy Information System & Computer Section, Energy Wing, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	<p>i. B.Sc. Engineering in Chemical, Electrical (Power), Petroleum or Energy or M.S. in Computer Science or MBA or Industrial Engineering.</p> <p>ii. Ten (10) years post qualification experience inclusive of at least one (1) year of working in a responsible position in extensive use of computers in Energy Sector and Planning, design, installation and management of modern information systems in Energy Sector.</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: (Computer Application)

50 Marks

I. Computer Organization & Architecture

Fundamental concepts, Overview of a Computer System, Management Information System (MIS), Evolution & Performance of System, Languages, Architectural levels, Virtual machines, Processor types, Metrics, Machine instructions, Instruction execution cycle, CISC vs. RISC, Parallelism, Internal/External data representation, Computer Function and Interconnections, Cache Memory, Internal Memory, External Memory, Input /Output System, Computer Arithmetic Microprocessor and its Bus Structure, I/O Types, Types of Buses, Memory Organization and Structure, information flow and execution in Machine, Instruction Representation, Machine Instruction Characteristics, Instruction Processing, Processor Structure & Function, Control Unit Operation, Micro-programmed Control, Instruction-Level Parallelism And Superscalar Processors, Parallel Processing, Multi-Processor and Multi-core Systems

II. Computer Communications & Networks

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

III. Database Systems

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

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.

S. No.	Title	Author
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 Scharon.
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.	Computer Organization & Architecture	William Stallings
13.	Computer Networking: A Top Down approach featuring the Internet	James F. Kurose and Keith W. Ross
14.	Data and Computer Communications	William Stallings
15.	Fundamentals of Database Systems	Ramez Elmasri and S. B
16.	Database Systems Concepts	Silberchatz, Abraham & Korth, Sudarshan

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

Case No.	F.4-94/2016-R
Particulars of post	Deputy Director (BS-18), Management Services Wing, Establishment Division
Minimum Qualification & Experience:	<p>i. Second Class OR Grade 'C' Master's degree in Public Administration/ Business Administration/ Administrative Science/ Economics/ Statistics/ Computer Science/ ACMA.</p> <p>ii. Five (5) years post qualification experience in Management Analysis/ Financial Management/ Project Management/ Personnel Management/ Administrative Research/ Collection, Analysis, Interpretation of Statistical Data and Report Writing.</p>

Part-I: 50 Marks

(Public Administration & Office Management)

- I. **Public Administration:** Nature and scope, Role of Public Administration in a modern Welfare State;
- II. **Bureaucracy:** Concept of Bureaucracy, Theories of Bureaucracy, Ecology of Bureaucracy; Bureaucracy of Pakistan as a Change Agent;
- III. **Administrative Leadership:** Approaches to the study of Leadership, Forms of Leadership, Leadership qualities;
- IV. **Administrative Accountability:** Internal and External Controls; Executive Control, Legislative Control, Judicial Control, Ombudsman, Public Opinion and Pressure Groups; Problems of Administrative Accountability in Pakistan;
- V. **Planning:** Types of Plans, Planning Process; Principles of Planning, Planning Machinery in Pakistan;
- VI. **Controlling and Co-Ordination:** Forms of Controls, Control Mechanism, the process of Control, Principles of Controlling; Principles of Coordination; Machinery for Coordination; Problems of Coordination in Public Administration in Pakistan.
- VII. Civil Servant Act 1973 and Rules made thereunder;
- VIII. Federal Public Service Commission Ordinance 1977 and Rules made thereunder;
- IX. Rules of Business 1973;
- X. Secretariat Instructions and Office Procedures;
- XI. PPRA Ordinance 2002 and Rules 2004.

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.	An Introduction to the Public Administration	E.N. Cladden
2.	Bureaucracy: Modern Society	Pebr, M.Blau.
3.	Public Administration for a Welfare State	Paul Ableby
4.	The Bureaucracy of Pakistan	Charles F. Kennedy
5.	Human Resource Management	H.T.Graham & Roger Bennett
6.	Management	James A.F.Stoner, R.Eward Freeman, Daniel R.Gilbert Jr.
7.	Understanding Computer: Today and Tomorrow	Deborah Morley, Charles Parker
8.	MS Office 365 Handbook: 2013 Edition	Kevin Wilson

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

Case No.	F.4-97/2016-R
Particulars of post	Deputy Mint Master (BS-19), Pakistan Mint Lahore, Finance Division
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 HEC.</p> <p style="text-align: center;">OR</p> <p>Second Class OR Grade 'C' Master's degree in Chemistry with Metallurgy from a university recognized by HEC.</p> <p>ii. Twelve (12) years post qualification practical experience as an Electrical/Mechanical/Metallurgical Engineer or Metallurgist in an Industrial Institution processing non-ferrous metal and alloys.</p>

Part-I: 50 Marks

(Public Administration & Office Management)

- I. **Public Administration:** Nature and scope, Role of Public Administration in a modern Welfare State;
- II. **Bureaucracy:** Concept of Bureaucracy, Theories of Bureaucracy, Ecology of Bureaucracy; Bureaucracy of Pakistan as a Change Agent;
- III. **Administrative Leadership:** Approaches to the study of Leadership, Forms of Leadership, Leadership qualities;
- IV. **Administrative Accountability:** Internal and External Controls; Executive Control, Legislative Control, Judicial Control, Ombudsman, Public Opinion and Pressure Groups; Problems of Administrative Accountability in Pakistan;
- V. **Planning:** Types of Plans, Planning Process; Principles of Planning, Planning Machinery in Pakistan;
- VI. **Controlling and Co-Ordination:** Forms of Controls, Control Mechanism, the process of Control, Principles of Controlling; Principles of Coordination; Machinery for Coordination; Problems of Coordination in Public Administration in Pakistan.
- VII. Civil Servant Act 1973 and Rules made thereunder;
- VIII. Federal Public Service Commission Ordinance 1977 and Rules made thereunder;
- IX. Rules of Business 1973;
- X. Secretariat Instructions and Office Procedures;
- XI. PPRA Ordinance 2002 and Rules 2004.

Part-II: 50 Marks

(Professional)

I. Industrial Materials & Electronics:

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

II. Industrial Electronics & Applied Electricity

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

III. Production Management & Inspection:

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

IV. Strength of Materials:

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

V. Thermodynamics:

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

SUGGESTED READINGS

S. No.	Title	Author
1.	An Introduction to the Public Administration	E.N. Cladden
2.	Bureaucracy: Modern Society	Pebr, M.Blau.
3.	Public Administration for a Welfare State	Paul Ableby
4.	The Bureaucracy of Pakistan	Charles F. Kennedy
5.	Metallurgy	Rollason
6.	Electrical Technology	B.L. Theraja
7.	Strength of materials	G.H. Ryder
8.	Strength of materials	F.V. Warnock and PP Benham
9.	Electronic Devices	Robert L. Boylestad and Louis Nashelsky
10.	Production Management	Keith Lockyer
11.	Production Tooling	SAJ Parson
12.	Quality Control	Basterfield

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

Case No.	F.4-98-A/2016-R
Particulars of post	Associate Professor (Male) (Economics) (BS-19), F.G. Colleges, Directorate of Federal Government Educational Institutions (Cantts/ Garrisons), Ministry of Defence
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with eight (08) year post qualification teaching and administrative experience at College/ University level. OR M.Phil. Degree in the relevant subject with ten (10) years post qualification teaching and administrative experience at College/ University level. OR Second Class or Grade 'C' Master's Degree in the relevant subject with twelve (12) years post qualification teaching and administrative experience at College/ University level.

Part-I: (Economics)**50 Marks****I. Micro Economics**

Consumer behaviour, Determination of market demand and supply i.e. concept of elasticity of Demand & Supply, Static, Comparative Static Analysis, Distinction between partial and general equilibrium analysis (basic level) theory of the Firm, Producer's equilibrium, Pricing factors of production

II. Macro Economics

Basic Economic Concepts, National Income Accounting, Consumption Function, Multiplier, Accelerator, Component of Aggregate Demand, Labour Demand and Supply, Un-Employment, Determination of equilibrium level of income and output (at least with reference to two or three school of thought), Inflation.

III. Public Financing

Government expenditure, Sources of Government Revenue, Privatization, Taxes and non-taxes, Incidence of different taxes, Public Debt, Objectives, methods of repayment, Deficit financing, General Equilibrium Analysis, Welfare Economics, Fiscal Policy.

IV. Role of Foreign Trade and Aid in Economic Development

Trends in Pakistan's Balance of Payments, Terms of Trade, Changes in direction of trade, Trends in Pakistan's major exports and imports, Causes of significant changes in the trends, the role of migration and remittances in Pakistan's economy, costs and benefits of Foreign Aid, Role of Foreign Investment.

V. Major Issues in Pakistan Economy

Energy crisis, Corruption, Bad governance, External debt accumulation and dependency, Unemployment, Income inequality, Inflation, Fiscal and trade deficits, Balance of payment issues, Shortage of irrigation water.

Part-II: (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.	A Text-book of Economics Theory	Stonier & Hague
2.	Government Finance—An Economic Analysis	Due John, F.
3.	Microeconomic	Ferguson, C.E. & Gould, J.P., Nicholson, Mankiw
4.	Macroeconomics	Rudigar Dorubush and Stanley Fisher Blanchard
5.	Foreign Aid Theory and Practice in Southern Asia	Wolf, Jr. DC
6.	History of International Trade	Findlay, R and O' Rourke, K
7.	Research in Education	JW Best
8.	Integrating Education Technology into Teaching	Roblyer
9.	Curriculum Development	S. M. Shahid
10.	Educational Measurement and Evaluation	S. M. Shahid
11.	Educational Administration	S. M. Shahid

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

Case No.	F.4-98-B/2016-R
Particulars of post	Associate Professor (Male) (History) (BS-19), F.G. Colleges, Directorate of Federal Government Educational Institutions (Cantts/ Garrisons), Ministry of Defence
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with eight (08) year post qualification teaching and administrative experience at College/ University level. OR M.Phil. Degree in the relevant subject with ten (10) years post qualification teaching and administrative experience at College/ University level. OR Second Class or Grade 'C' Master's Degree in the relevant subject with twelve (12) years post qualification teaching and administrative experience at College/ University level.

Part-I: (History)**50 Marks**

- I. **Muslim Rule and Heritage in India (712-1857):** Political History Arrival, foundation and consolidation of Muslim rule in India, important rulers of the Slave Dynasty and the Mughals. The Spirit and legacy of Muslim civilization, Art, Architecture and literature, Public Administration under Muslim Rules. Sultans, Kings, Economic, Social, Judicial, Civil and Military system during the Muslim rule, Industry, trade and commerce under the Muslim patronage, Financial Administration.
- II. **British Rule in India: 1857-1947:** British Imperialism, origin and growth of the East India Company, Causes and effects of downfall of the Mughal Empire in India, War of Independence in 1857: Causes and effects.
- III. **Muslim Struggle for Independence:** Role of Shah Wali Ullah, Syed Ahmad Shaheed and Sir Syed Ahmed Khan towards regeneration of the Muslim of South Asia, All India Muslim League, Partition of Bengal, Simla Deputation, Lucknow pact; Khilafat movement. Nahru Report, Quaid-i- Azam's Fourteen Points.
- IV. **Pakistan Movement:** Allama Iqbal's Allahabad Address 1930, and Round Table Conference. The Congress Rule in the provinces-1937-1939, Lahore Resolution 1940, various Missions and Plans for the partition of the South Asia. Founders of Pakistan: Quaid-i-Azam, Mohsin-ul-Mulk, Syed Amir Ali, Ali Brothers. Sir Agha Khan, Ch. Khaliq uz Zaman, Chaudhry Rahmat Ali, etc.
- V. **Separation of East Pakistan:** Causes and Effects.
- VI. **Working of Democracy in Pakistan:** Liaquat Ali Khan to Firoz Khan Noon (1947-1958), Zulfikar Ali Bhutto's Period,(1971-1977), Benazir, Nawaz Sharif, Revival of Democracy: 1988-1999, Restoration of Democracy (2008 to date), Role of Major Political Parties and Pressure Groups in the history of Pakistan.

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.	India's Struggle for Independence	Chandre Bipin, 1989
2.	Wavell and the Days of the Raj: Britain's Penultimate Viceroy in India,	Chawla, Muhammad Iqbal, 2011
3.	The Charismatic Leader: Jinnah and the Creation of Pakistan	Hayat, Sikandar, 2007
4.	Muslim Civilization of Indo-Pakistan.	Ikram, Shaikh Muhammad, 1966
5.	Constitutional and Political History of Pakistan	Khan, Hamid, 2005
6.	The Military and Politics in Pakistan 1947-86	Rizvi Hassan Askari
7.	Research in Education	JW Best
8.	Integrating Education Technology into Teaching	Roblyer
9.	Curriculum Development	S. M. Shahid
10.	Educational Measurement and Evaluation	S. M. Shahid
11.	Educational Administration	S. M. Shahid

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

Case No.	F.4-103/2016-R
Particulars of post	Deputy Chief (Fuel) (BS-19), Energy Appraisal & Plan Formulation Section, Energy Wing, Ministry of Planning, Development and Reform.
Minimum Qualification & Experience:	<p>i. Second Class or Grade 'C' Master's Degree or equivalent qualification in Petroleum Geology or Geology with specialization in Coal Resources.</p> <p style="text-align: center;">OR</p> <p>Bachelor's Degree of Engineering or equivalent qualifications in Petroleum, Gas Reservoir, Chemical, Energy, or Mining Engineering with specialization in Coal mining/technology.</p> <p>ii. Ten (10) years post qualification experience in exploration of fuel and energy resources and/or production planning and designing in this field.</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: (Exploration of Fuel and Energy)

50 Marks

i. Petroleum Geology & Exploration

Geological history of Petroleum. The origin, migration and accumulation of petroleum, Reservoirs with abnormal pressure and temperature. Geological distribution of petroleum in the world. Geological basins of Pakistan. Geology of existing oil and gas fields in Pakistan. Surface geological methods for petroleum exploration. Use of topography and surface features for oil prospecting. Geophysical exploration methods with emphasis on seismic methods. History of exploration in Pakistan.

ii. Coal Geology

Definition, composition, classification and origin of coal. Lithotypes and coal macerals. Chemical and petrographical analysis. Application of coal petrography. Depositional environments of coal and coal bearing strata, coalification process, types of coal basins and their tectonic setting, concepts of cyclic deposition in coal basin, origin of splits and partings in coal seams. Comparison between modern and ancient coal forming environments, structural problems relevant to exploration & mining. Coal utilization and resource evaluation. Coal bearing sequences of Pakistan. Methods of coal exploration: geological, geophysical and drilling. Coal mining and its environmental issues.

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 Scharon.
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.	Geology of Petroleum	A. I. Levorsen.
13.	Basic Petroleum Geology	Peter K. Link.
14.	Petroleum Geology of Pakistan	Iqbal B. Kadri.
15.	Geophysical Prospecting	Milton, B. Dobrin.
16.	Basic Exploration Geophysics	Robinson
17.	Significance of Coal Resources of Pakistan	Kazmi
18.	Sedimentology of Coal and Coal Bearing Sequences	Rehmani & Flores

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

Case No.	F.4-104/2016-R
Particulars of post	Assistant Professor (Male) (Economics) (BS-18), Federal Government Educational Institutions (FGEI) (Cantts/Garrisons), Ministry of Defence
Minimum Qualification & Experience:	Ph.D. Degree in the relevant subject with one (1) year post qualification teaching experience at College/ University level. OR M.Phil. Degree in the relevant subject with three (3) years post qualification teaching experience at College/ University level. OR Second Class or Grade 'C' Master's Degree in the relevant subject with five (5) years post qualification teaching experience at College/ University level.

Part-I: (Economics)**50 Marks****I. Micro Economics**

Consumer behaviour, Determination of market demand and supply i.e. concept of elasticity of Demand & Supply, Static, Comparative Static Analysis, Distinction between partial and general equilibrium analysis (basic level) theory of the Firm, Producer's equilibrium, Pricing factors of production

II. Macro Economics

Basic Economic Concepts, National Income Accounting, Consumption Function, Multiplier, Accelerator, Component of Aggregate Demand, Labour Demand and Supply, Un-Employment, Determination of equilibrium level of income and output (at least with reference to two or three school of thought), Inflation.

III. Public Financing

Government expenditure, Sources of Government Revenue, Privatization, Taxes and non-taxes, Incidence of different taxes, Public Debt, Objectives, methods of repayment, Deficit financing, General Equilibrium Analysis, Welfare Economics, Fiscal Policy.

IV. Role of Foreign Trade and Aid in Economic Development

Trends in Pakistan's Balance of Payments, Terms of Trade, Changes in direction of trade, Trends in Pakistan's major exports and imports, Causes of significant changes in the trends, the role of migration and remittances in Pakistan's economy, costs and benefits of Foreign Aid, Role of Foreign Investment.

V. Major Issues in Pakistan Economy

Energy crisis, Corruption, Bad governance, External debt accumulation and dependency, Unemployment, Income inequality, Inflation, Fiscal and trade deficits, Balance of payment issues, Shortage of irrigation water.

Part-II: (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.	A Text-book of Economics Theory	Stonier & Hague
2.	Government Finance—An Economic Analysis	Due John, F.
3.	Microeconomic	Ferguson, C.E. & Gould, J.P., Nicholson, Mankiw
4.	Macroeconomics	Rudigar Dorubush and Stanley Fisher Blanchard
5.	Foreign Aid Theory and Practice in Southern Asia	Wolf, Jr. DC
6.	History of International Trade	Findlay, R and O' Rourke, K
7.	Research in Education	JW Best
8.	Integrating Education Technology into Teaching	Roblyer
9.	Curriculum Development	S. M. Shahid
10.	Educational Measurement and Evaluation	S. M. Shahid
11.	Educational Administration	S. M. Shahid