



PUBLIC SERVICE COMMISSION, WEST BENGAL

West Bengal Audit and Accounts Service Recruitment Examination, 2021

ADVERTISEMENT No.- 12/2021

The Public Service Commission, West Bengal will hold the West Bengal Audit and Accounts Service Recruitment Examination, 2021 on the results of which recruitment will be made to the posts in the West Bengal Audit and Accounts Service. The rules of the examination and other particulars are stated in the following paragraphs. A candidate should verify from these rules whether he/she is eligible for admission to the examination. The conditions prescribed cannot be relaxed.

The West Bengal Audit and Accounts Service Recruitment Examination will be held in two successive stages, viz., (i) Preliminary Examination (Objective Multiple Choice Question) and (ii) Main Examination (Conventional Type) followed by Personality Test. Candidates selected on the results of the Preliminary Examination will be allowed admission to the Main Examination and those selected on the basis of results of the Main Examination will be called to appear at the Personality Test.

The Preliminary Examination will be held in Kolkata and Darjeeling centres in the month of **May '2022** or thereabout. **Only candidates of Kalimpong district and three hill sub-divisions of Darjeeling district, namely Darjeeling Sadar, Mirik and Kurseong will be allowed to appear at Darjeeling centre.** The Main Examination will be held in **Kolkata only**. **The schedule for the Main Examination will be announced later.** The Personality Test will be held thereafter in the office of the Public Service Commission, West Bengal, in Kolkata.

NAME OF THE EXAMINATION	WEST BENGAL AUDIT AND ACCOUNTS SERVICE RECRUITMENT EXAMINATION, 2021
SERVICE/ CADRE	WEST BENGAL AUDIT AND ACCOUNTS SERVICE
DEPARTMENT	FINANCE DEPARTMENT, GOVERNMENT OF W. B.
DIRECTORATE	N.A.
PAY SCALE:	Level 16, Rs. 56,100-1,44,300 as per WBS (ROPA) Rules, 2019
VACANCIES	36 [Fresh vacancies – 29 & Backlog vacancies – 07]
RESERVATION	Fresh vacancies : 29 [Unreserved – 16, SC - 06, ST – 02, OBC (A) [non-creamy layer] – 03, OBC(B) [non-creamy layer] – 02] Backlog vacancies: 07 [Deaf and hard of hearing(DHH) – 05, Autism/Intectual Disability/Specific Learning Disability/Mental Illness/Multiple Disabilities – 02] N.B. : 1. Having regard to the nature of jobs of officers of the W.B.A & A.S., the Governor, in exercise of the powers conferred under section – 33 of the Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participation) Act, 1995 has been pleased to exempt Finance Department from making reservation of posts in the cadre of the W.B.A. & A.S. for persons suffering from blindness or low vision [vide Finance (Audit) Department Notification No.2768-F dated 06.04.2006]. 2. The benefits of reservation of vacancies are admissible to: S.C./S.T./B.C (Non Creamy Layer) candidates of West Bengal only. BC candidates should renew/revalidate their BC certificate in due time. The S.C./S.T./B.C. candidates of other States shall be treated as general candidates.
ESSENTIAL QUALIFICATIONS:	A candidate must have the following qualifications and Candidates must meet such qualifying criteria by the closing date of submission of application. Bachelor's degree in Commerce from a recognized University or must be a Member of the "Institute of Chartered Accountants of India" or must be a Member of the "Institute of Cost Accountants of India" or MBA/PGDM (FINANCE) or equivalent post graduation degree in Finance under 2 (Two) years full time regular course approved by All India Council for Technical Education.
AGE	Not more than 36 years as on 01.01.2021 (i.e. born not earlier than 2 nd January, 1985).
CONCESSION IN AGE	The upper age limit is relaxable by 5 years for S.C. & S.T. candidates and by 3 years for B.C. [non-creamy layer] candidates. In the case of Persons with Disabilities (PWD), the upper age limit is relaxable upto 45 years. <u>No relaxation is applicable to S.C./S.T./B.C. candidates of other States as they shall be treated as general candidates.</u> Note : Date of birth as recorded only in the Madhyamik or equivalent certificate will be accepted. The age limits apply to all candidates whether in Government Service or not.

RULES REGARDING PWD CANDIDATES	Candidates having Benchmark disabilities with limitation in writing including that of speed may be allowed the help of Scribe, if required. The Commission, however, will not provide scribe for the candidates. Scribe will have to be arranged by candidates themselves. The Scribe should possess educational qualification one step below the qualification of the candidate taking examination. The persons with benchmark disabilities opting for own scribe should submit details of the scribe as per proforma supplied by the Commission at the time of examination. In case of category of persons with benchmark disabilities, the provisions of scribe can be allowed on production of a certificate to the effect that the person concerned has physical limitation to write, and scribe is essential to write examination on his behalf, from the Chief Medical Officer/Medical Superintendent of a Government health care institution as per proforma at APPENDIX-I (available at the end of this advertisement). The facility of Scribe would be allowed to any person with benchmark disability as defined u/s. 2(r) of the RPwD Act, 2016 and has limitation in writing including that of speed. In case persons with benchmark disabilities in the category of blindness, locomotor disability (both arm affected – BA) and cerebral palsy, the facility of scribe shall be given, if so desired by the person. Engagement of scribe shall not be accepted after submission of the application (i.e. after closing date for “Edit Window”).						
COMPENSATORY TIME	CANDIDATES WITH BENCHMARK DISABILITIES HAVING WRITING EXTREMITY WILL BE ALLOWED COMPENSATORY TIME OF 20 MINUTES PER HOUR.						
MODE OF APPLICATION	Applications can be submitted in online mode only. HOWEVER SUBMISSION OF MORE THAN ONE APPLICATION BY THE SAME CANDIDATE IS STRICTLY FORBIDDEN AND SUCH APPLICATIONS ARE LIABLE TO CANCELLATION.						
OTHER REQUIREMENTS	(i) A citizenship of India or such a person of other nationality as declared eligible by Govt. of India. (ii) Ability to read, write and speak in Bengali (not required for those candidates whose mother tongue is Nepali) – vide Finance Department’s Notification No.1243-F(P) dated 02.03.2016.						
FEE	<p>Rs. 210/- (Rupees two hundred ten) only</p> <p style="text-align: center;"><u>Candidates may in addition have to bear the following charges:</u></p> <table border="1" data-bbox="464 1328 1493 1518"> <tr> <td data-bbox="464 1328 815 1406">For online payment through debit/credit cards:</td> <td data-bbox="815 1328 1493 1406">Convenience fee @ 1% of the examination fee subject to a minimum of Rs. 5/- (Rupees Five) only plus 18% G.S.T. on such convenience fee.</td> </tr> <tr> <td data-bbox="464 1406 815 1462">For online payment using net banking facility:</td> <td data-bbox="815 1406 1493 1462">Convenience fee of Rs. 5/- (Rupees Five) only plus 18% G.S.T. on such convenience fee.</td> </tr> <tr> <td data-bbox="464 1462 815 1518">For offline payment through Bank Counter:</td> <td data-bbox="815 1462 1493 1518">Service Charge of Rs. 20/- (Rupees Twenty) only.</td> </tr> </table> <p><u>SC/ST candidates of West Bengal and Persons with disabilities (PWD) having physical disability of 40% and above are not required to pay any fee.</u> BC candidates of West Bengal are, however, required to pay usual fee as aforesaid. NO EXEMPTION OF FEE IS AVAILABLE TO SC/ST/BC CANDIDATES OF OTHER STATES. No claim for refund of the fee will be entertained nor will it be held in reserve for any other examination.</p>	For online payment through debit/credit cards:	Convenience fee @ 1% of the examination fee subject to a minimum of Rs. 5/- (Rupees Five) only plus 18% G.S.T. on such convenience fee.	For online payment using net banking facility:	Convenience fee of Rs. 5/- (Rupees Five) only plus 18% G.S.T. on such convenience fee.	For offline payment through Bank Counter:	Service Charge of Rs. 20/- (Rupees Twenty) only.
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For offline payment through Bank Counter:	Service Charge of Rs. 20/- (Rupees Twenty) only.						

<p>PARTICULARS AND CERTIFICATES REQUIRED</p>	<p>(a) A candidate claiming to be S.C., S.T., B.C. (Non Creamy Layer) or Persons with Disabilities (40% and above) must have a certificate in support of his / her claim obtained on or before the closing date of receipt of application from a competent authority of West Bengal as specified below :</p> <p><u>For S.C., S.T. & B.C. [non-creamy layer] Candidates :-</u></p> <p>i) In the district, the Sub-Divisional Officer of the Sub-Division concerned, and</p> <p>ii) In Kolkata, the District Magistrate, South 24-Parganas or such Additional District Magistrate, South 24-Parganas, as may be authorized by the District Magistrate, South 24-Parganas, in this behalf and the District Welfare Officer, Kolkata and Ex-officio Joint Director, Backward Classes Welfare.</p> <p><u>[vide the W.B.S.Cs. & S.Ts. (Identification) Act, 1994 and S.Cs. & S.Ts. Welfare Deptt. Order No. 261-TW/EC/MR-103/94 dated 6.4.95 read with B.C.W. Deptt. Order No.6320-BCH/MR-84/10, dated 24.09.2010 and No.2420-BCW/MR-61/2012 (Pt.), dated 12.07.2013]</u> and recent amendment thereto (if any).</p> <p>b) B.C. CANDIDATES SHOULD SUBMIT RENEWED /REVALIDATED CERTIFICATES REGARDING NON-CREAMY LAYER STATUS AT THE TIME OF APPOINTMENT AS PER EXISTING GOVT. RULES.</p> <p><u>For Persons with Disabilities (PWD) :-</u></p> <p>A Medical Board constituted at Government Medical College Hospitals in Kolkata, District Hospitals and Sub-divisional Hospitals.</p> <p><u>[vide West Bengal Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Rules, 1999]</u></p> <p>(b) The Public Service Commission may require such further proof or particulars from the candidates as it may consider necessary and may make enquiries about their character and other particulars regarding suitability and eligibility</p>
<p>PENALTY</p>	<p>a) Penalty for disclosure of identity shall be imposed as per the rules of the Commission.</p> <p>b) There shall be negative marking for each wrong answer to multiple choice questions (MCQ Type).</p>
<p>LANGUAGE OF THE EXAMINATION</p>	<p>Answer in all the papers, compulsory and optional, except the language paper may be written either in English or in Bengali (unless otherwise directed in these rules or in the question papers).</p> <p>NOTE : Candidate shall write their answers to all the questions in only one and the same language in any particular paper.</p>
<p>CAUTION</p>	<p>i. The candidates must abide by the instructions as may be given by Supervisors / Invigilators of the Examination. If the candidate fails to do so or indulges in disorderly or improper conduct, he / she will render himself / herself liable to expulsion from the Examination Hall and / or such other punishment as the Commission may deem fit to impose.</p> <p>ii. A candidate who has been reported against by the Supervisor of the Examination Centre for violating any of the instructions will be punished with cancellation of candidature and also debarment from future examinations and selections as may be decided by the Commission according to the circumstances of the case.</p> <p>iii. If at any stage even after issue of the letter of appointment, a candidate is found ineligible in terms of advertisement his / her candidature will be cancelled without further reference to him / her.</p> <p>iv. The conditions prescribed cannot be relaxed in any case other than those mentioned in this "Advertisement".</p> <p>v. A candidate should note that his / her admission to the examination will be deemed provisional subject to determination of his / her eligibility in all respects. If at any</p>

	<p>stage after issue of the admit card a candidate is found ineligible for admission for this examination, his / her candidature will be cancelled without further reference to him / her. No candidate shall be allowed to take the examination unless he / she holds an admit card.</p> <p>vi. <u>The Public Service Commission, West Bengal shall have the discretion to fix qualifying marks in any or all the papers of the main examination for all categories of vacancies. If a candidate fails to secure qualifying marks in any paper/subject the marks in that paper/subject will not be considered in calculating his/her aggregate. There shall be no separate qualifying marks for Personality Test. Final Merit List shall be prepared on the basis of aggregate marks obtained by the candidates in Main Examination and Personality Test.</u></p> <p>vii. <u>Candidates are not allowed to carry mobile phones or any other gadget of communication inside the examination halls. This instruction must be strictly enforced.</u></p> <p>viii. <u>There will be arrangements for frisking of the candidates at entry points of venues .</u></p> <p>ix. <u>Candidates allotted in a particular venue will in no case be admitted to a venue other than that indicated in the admit card issued by the Commission.</u></p> <p>x. <u>PERSONS WITH BENCHMARK DISABILITIES ARE ADVISED TO BRING A CERTIFICATE FROM THE COMPETENT AUTHORITY IN THIS REGARD AND PRODUCE THE SAME IN THE EXAMINATION HALL ON DEMAND FOR VERIFICATION.</u></p>
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MEDICAL EXAMINATION	Candidates who will be selected for appointment will be required to appear before a Medical Board for certificates of their fitness for Government service in the form prescribed for the purpose.
CANVASSING	Any attempt on the part of a candidate to enlist support for his / her application through persons, officials of Government, or agencies will disqualify him / her for appointment. Spontaneous recommendations from persons interested in the candidates, or otherwise known to them, will be disregarded and will render the candidates ineligible.
RESULTS OF THE EXAMINATION	The names of the candidates called to Personality Test and those recommended for appointment will be published provisionally subject to determination of eligibility of the candidates in all respects and verification of original certificates etc. If at any stage of such verification, any candidate is found ineligible, his / her candidature / allotment will be cancelled.

Commencement of submission of online application : **The 7th February,2022**
Closing date for submission of online application : **The 27th February,2022 (upto 12-00 midnight)**
Closing date for submission of fees through online : **The 27th February,2022 (upto 12-00 midnight)**
Edit window will remain open : **From 8th March,2022 to 14th March,2022 (upto 12-00 midnight)**
Closing date for submission of fees through offline : **The 28th February,2022**

*** However, the Challan must be generated by the 27th February,2022 positively.**

IMPORTANT INSTRUCTION REGARDING EDIT WINDOW

1. The applicants would be allowed to edit some of the fields other than those used for enrollment.
2. The Edit Window may be accessed by the applicants by logging into their individual accounts at **<https://wbpsc.gov.in>**
3. All applicants are advised to verify the details provided in the online application very carefully and applicants who have not filled in the forms personally are particularly advised to obtain a printout of the form to identify the discrepancies, if any.
4. Applicants willing to change their address may first change the same in the Profile Section and then use the Edit option.
5. The Edit option can be availed only **once** during the aforesaid period.
6. No request for any change would be entertained after the above mentioned period.

For further details and assistance the candidates may contact the following numbers on any working day from 11-00 a.m. to 4-00 p.m.

(033) 2262-4181 [Related to Offline Payment]

(033) 4003-5104 [Related to Online Payment]

(033) 2419-8185 [For general information]

CERTIFICATE REGARDING PHYSICAL LIMITATION IN AN EXAMINEE TO WRITE

This is to certify that, I have examined Mr/Ms/Mrs _____ (name of the candidate with disability), a person with _____ (nature and percentage of disability as mentioned in the certificate of disability), S/o/D/o _____, a resident of _____ (Village/District/State) and to state that he/she has physical limitation which hampers his/her writing capabilities owing to his/her disability.

Signature

Chief Medical Officer/Medical Superintendent of a Government health care institution

Name & Designation.

Name of Government Hospital/Health Care Centre with Seal

Place:

Date:

Note:

Certificate should be given by a specialist of the relevant stream/disability

(e.g. Visual impairment-Ophthalmologist, Locomotor disability – Orthopaedic specialist/PMR).

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WEST BENGAL AUDIT AND ACCOUNTS SERVICE RECRUITMENT EXAMINATION, 2021

ADVERTISEMENT NO. 12/2021

SCHEME AND SYLLABUS

(i) Preliminary Examination

The Preliminary Examination will consist of only one paper on "General Studies". The question paper will be of objective type consisting of 200 multiple choice questions. The paper will carry 200 marks and will be of 2½ hours duration. The standard of the paper will be of the level of knowledge as expected of a Bachelor of Commerce of a recognized Indian University/Institute. The paper will consist of two (2) groups, viz. Group – A & Group – B. The paper will include questions covering the following fields of knowledge :

SL. NO.	PAPER (GENERAL STUDIES)	MARKS
Group – A		
1.	English Composition.	50
2.	General Knowledge, Current Affairs of National & International Importance, History of India & Indian National Movement, Geography, Reasoning.	40
3.	Constitution of India with special reference to NITI Aayog, (erstwhile Planning Commission), Finance Commission, Finance, Accounts & Audit.	35
Group – B		
1.	Business Mathematics & Statistics	35
2.	Accountancy & Costing	40
TOTAL		200

Note :-The Preliminary examination shall be meant to serve as a screening test only. Marks obtained in this examination by the candidate will not be considered for final selection. Only those candidates who will be declared qualified at the Preliminary examination in a particular year will be eligible for admission to the West Bengal Audit and Accounts Service Recruitment (Main) Examination of that year.

(ii) Main Examination

The Main Examination will be held in two parts viz.

(1) Written Examination and (2) Personality Test.

1. The Written Examination will consist of (a) Compulsory Papers and (b) Optional Papers.

SL. NO.	MAIN EXAMINATION (DESCRIPTIVE)	MARKS
1(a)	Compulsory Papers (100 marks each paper) : A. English Essay, Precis Writing & Composition. B. Bengali/Hindi/Urdu/Nepali/Santali Essay, Precis Writing & Composition. C. General Knowledge & Current Affairs. D. Business Mathematics & Statistics. E. Auditing.	500
1(b)	Optional Papers (100 marks for each paper) : Candidates shall have to choose three (3) papers taking one from each group, viz. Group – A, Group – B & Group – C. Group – A : A 1 : Macroeconomics & Public Finance. A 2 : Indian Financial System. A 3 : Economic Principles & Indian Economic Problems.	300

	Group – B : B 1 : Business Regulatory Framework. B 2 : Cost & Management Accounting. B 3 : Advanced Accountancy. Group – C : C 1 : Business Management. C 2 : Direct & Indirect Taxation. C 3 : Information Technology & its application in Business.	
	SUB TOTAL	800
2	PERSONALITY TEST	200
	TOTAL	1000

Each of the Compulsory and Optional papers will carry 100 (hundred) marks and will be of 3 hours duration. The standard of Optional Papers will be approximately that of an Honours Degree Examination as prescribed by the recognized Indian University / Institute.

Detailed syllabi of Compulsory Papers (Business Mathematics & Statistics, Auditing) and Optional Papers are enclosed in the ANNEXURE – I & ANNEXURE – II respectively..

2. **Personality Test** : There shall be a Personality Test carrying 200 (two hundred) marks. A number of candidates selected in order of merit on the results of the Written Examination, will be called to the Personality Test.

Answer in all the papers may be written either in English or in Bengali (unless otherwise directed in the question papers) except in the Language Papers. Candidates should write answers to all questions in only one and same language in any particular paper.

The Public Service Commission, West Bengal shall have the discretion to fix qualifying marks in any or all the Papers of the Main Examination for all categories of vacancies. If a candidate fails to secure qualifying marks in any Paper / Subject, the marks in that Paper / Subject will not be considered in calculating his/her aggregate. There shall be no separate qualifying marks for Personality Tests. Final Merit List shall be prepared on the basis of aggregate marks obtained by the candidates in Main Examination and Personality Test.

Candidates may use the Devnagari script in answer papers on Hindi or Nepali. Questions for **Santali Paper will be set in Olchiki script and answers should also be written in Olchiki script.**

Detailed Syllabus of Compulsory Papers

ANNEXURE – I

Compulsory Paper – D

Business Mathematics & Statistics

1. Ratio and Proportion with simple applications.
2. A.P., G.P., Convergence and Divergence of G.P. series.
3. Permutations:- Definition, Factorial notation, Theorems on permutation, Permutations with repetitions, Restricted permutations.
4. Combinations:- Definition, Theorems on combination, Basic identities, Restricted combinations.
5. Logarithm:- Definition, Base and index of logarithm, General properties of logarithm, Common problems.
6. Compound interest and Annuities:- Different types of interest rates; Concept of present value and amount of sum; Types of annuities; Present value and amount of an annuity including the case of continuous compounding; Valuation of simple loans and debentures; Problems relating to sinking funds.
7. Set Theory:- Definition of Set; Presentation of Sets; Different types of Sets-Null Set, Finite and Infinite Sets, Universal Set, Subset, Power Set etc.; Set Operations; Laws of Algebra of Sets.
8. Correlation and Regression:- Scatter diagram; Simple correlation coefficient; Simple regression lines; Spearman's rank correlation; Measures of association of attributes.
9. Index Numbers:- Means and types of index numbers; Problems in constructions of index numbers; Methods of construction of price and quantify indices; Tests of adequacy; Errors in index numbers; Chain-base index numbers; Base shifting, splicing, deflating; Consumer price index and its uses.

10. Interpolation:- Finite differences; Newton's forward and backward interpolation formula; Lagrange's interpolation formula.
11. Measures of Central Tendency:- Common measures of central tendency – mean, median and mode; partition values-quartiles, deciles, percentiles.
12. Measures of dispersion:- Common measures of dispersion-range, quartile deviation, mean deviation and standard deviation; Measures of relative dispersion.

Compulsory Paper – E

Auditing

1. Definition & Scope of Auditing : Relation of Auditing with Book keeping and Accounting – Objectives of Auditing-Error (different types-their detection); Frauds-manipulation of accounts with or without misappropriation of cash and goods and auditor's positions in relation thereto – Advantage and limitation of audit-Ethics in auditing-Auditor's independence.
2. Classification of Audit; Statutory and Non-statutory Audit, Continuous Audit and Periodical Audit; Internal audit and Interim Audit-Limited Review.
3. Preparation before the commencement of Audit and Procedure of Audit : Steps before the commencement of Audit of sole proprietorship, partnership firm & company-Preparation by Auditor's (Audit Planning-Audit Programme-Audit Files-Audit Note Book & Working Papers) & Procedures (Routine Checking and Test Checking – Sampling Procedure – Audit-in Depth – Analytical procedure) – Concept of Audit Risk-Assessment of Audit Risk-Auditing Standard (Basic concepts).
4. Internal audit, Internal Check and Internal Control; Concepts & Principles; Auditors' position in relation thereto-Internal check as regards (a) Sales, (b) Purchases (c) Stores and (d) Wages-Regulatory requirement of Internal Audi (Company Act, 2013).
5. Vouching: Concepts-Objectives-Importance; vouching of cash Receipts and Payments, Outstanding assets and liabilities.
6. Verification and Valuation: assets & Liabilities including Contingent Asset and Liabilities.
7. Company Audit: Qualification, Appointment, Remuneration & Removal of Company Auditor-Rights and Duties of Company Auditor (Under the provision of Company Act, 2013) – Branch Audit – Joint Audit – Special Audit.
8. Divisible Profits and Dividend-Concept, Treatment of Depreciation, Reserve and Provision (Companies Act, Relevant Accounting Standards and Relevant Case Laws).
9. Auditor's Report and Certificate: Concept of True and Fair view-Materiality (Concepts & Relevance) – Certificate of Corporate Governance-Cash flow statement – Reporting and Audit.
10. **Audit of different Institutions :**
 - Bank-Legislation Relevant to Audit of Banks, Approach to bank Audit, Internal Control Evaluation, Non-Performing Assets (Concept, Provision), Long form Audit Report.
 - Insurance Companies-Legislation Relevant to Audit of Insurance Companies (Life and General Insurance), Review of Internal Control and Audit Report (Matters as per IRDA).
 - Educational Institution and Hospital.
 - Features and basic principles of Government Audit-Local Bodies and Non-Profit Seeking organizations (including NGOs).
 - Comptroller and Auditor General (CAG) and its Constitutional Role.
11. **Investigation :**
 - Meaning, purpose-Distinction between Investigation and Auditing approach to Investigation- Types of Investigation.
 - Assessing a Business (Due Diligence Review, Valuation).
 - Investigations to detect Fraud, Misappropriation and Defalcations.
 - Investigations with respect to Business Combinations.
12. **Special Audit and Other Issues :**
 - Cost Audit – Concepts, Objectives, Advantages, Relevant Provisions of Companies Act.
 - Management Audit-Tax Audit-Systems Audit-Social Audit-Environment Audit-Energy Audit-Forensic Audit.
 - Auditing in CIS Environment.
 - Ethics in Auditing – Auditor's Independence.
 - Peer Review.

ANNEXURE – II

Optional Paper

Group – A

Paper A1 :- Macroeconomics & Public Finance

Macroeconomics :

1. Macroeconomics-Scope and basic concepts.
2. National Income Accounting-Concept and measurement of GDP,GNP,NNP,NI and DPI-Circular flow of income-Real and nominal GDP-Implicit deflator.
3. Theory of Equilibrium Income Determination: Simple Keynesian Model; Consumption, Saving and Investment functions-National Income Determination; Investment and government expenditure multipliers.
4. Commodity market and Money market equilibrium; Derivation of IS and LM curves-Shifts of IS and LM curves-equilibrium in IS-LM model-Effectiveness of monetary and fiscal policies.
5. Concept of demand for and supply of money. Quantity theory of money and Keynesian theory of demand for money. Measures of money supply – High powered money- Money multiplier. Concept of Inflation-Demand –pull and Cost-push theories of inflation-Monetary and fiscal policies to control inflation-Instruments, objectives and limitations.

Public Finance :

1. Origin and Development of Public Finance-Meaning, public finance and federal finance, public finance and private finance, principle of maximum social advantage.
2. Principles of Taxation and government Expenditure-Benefit approach, allocation of public goods, ability to pay approach, excess burden of taxes.
3. Raising of Public Funds-Sources and classification of public revenues, incidences and shifting of taxes.
4. Development of Federal Finance in India-The constitutional arrangements, Finance commissions.
5. Central Finances-sources and uses of funds-effect of fiscal Policy- relation between planning and central budgeting.
6. State finances-sources and uses of funds- issues of federalism.
7. Indian Fiscal Policy and Deficit Financing.

Group – A

Paper A2 :- Indian Financial System

1. **Financial System :**

Meaning and significance, Role of finance in an economy, Components (instruments, markets etc.); Kinds of finance-Rudimentary finance, Micro finance, Direct and Indirect finance; Role of financial intermediaries. The structure of Indian Financial System-Role of Regulators.

2. **Money and Indian banking System :**

Functions; Alternative measures to money supply in India-Their different components; Commercial banks-Importance and functions; Structure of Commercial Banking System in India; Distinction between Commercial and Central Bank; Credit Creation process of Commercial Banks; High powered money- meaning and uses-Concept of Money Multiplier- Payment Bank (Concept only).

The Reserve Bank of India; Functions; Instruments of Monetary and Credit control, Main features of Monetary Policy since Independence.

3. **Other Financial Institution :**

Other Financial Institutions; Introduction; Life Insurance Corporation of India, General Insurance Corporation of India, Unit Trust of India, Development Banks (Concept)-IRDA.

4. **Interest Rate Structure :**

Meaning – Gross and Net interest rate- their difference, Nominal and Real interest rate- their difference, differential interest rate, causes of variation of interest rate, relationship between interest rate and economic progress, Administered and Market determined interest rate, recent changes in interest structure in India.

5. **Money Market :**

Concept, structure of Indian Money Market, Acceptance Houses, Discount Houses, Call Money Market, Recent trends of Indian Money markets.

6. **Capital Market :**

Concept, Security market, Primary and Secondary markets – Functions & Role, Functionaries of Stock exchanges – Brokers, Sub-Brokers, Jobbers, Consultants, Institutional Investors & NRIs.

7. **Investors; Protection :**

Grievances concerning Stock Exchange dealing & their removal, Grievance Redressal Cell in Stock Exchanges, Role of the SEBI, Company Law Board Judiciary & Media.

8. **Financial Services :**

Fund based and fee based services and their differences, Merchant Banking-Functions & Roles, SEBI guidelines, Credit Rating- concept & types, Functions & limitations, Profile of Indian Rating Agencies, Leasing and other services.

Group – A

Paper A3 :- Economic Principles and Indian Economic Problems

1) **Introduction :**

Economics- Scope and subject matter. Distinction between Economics and Business Economics.

Tools required – Functional relationship, schedule, graphs, concept of slope and its measurement etc.

Resources- Scarcity and efficiency- Production Possibility Frontier- It's shifting.

2) **Basics of Demand and Supply :**

The concept of demand and demand function- Derivation of Individual demand curve and Market demand curve- Shifting of the demand curve- The supply function and the supply curve - Derivation of individual supply curve and market supply curve- Shifting of the supply curve- Determination of equilibrium price-Concept of Elasticities of demand- Measurement of various elasticities of demand- Distinction between slope of a demand curve and the elasticity of demand – Elasticity of supply- Measurement.

3) **Theory of Consumer Behaviour :**

Cardinal Analysis – Law of diminishing marginal utility-consumer surplus-Ordinal approach-Indifference curve analysis- Budget line- Consumer Equilibrium- Income consumption curve and Price consumption curve- Hicksian decomposition of price effect into substitution effect and income effect- Demand curve for Normal, Inferior and Giffen goods.

4) **Theory of Production :**

Production Function- The Law of variable proportions- Relationship among TP, AP and MP.

Concept of Isoquant and Isocost- Finding the optimal employment of inputs- Ridge Lines: the economic region of production- Output expansion path and homogeneous production function.

5) **Theory of Cost :**

Cost analysis- different concepts-Accounting and economic costs, opportunity cost, Private and social costs; Short run and long run costs.

- 6) **Market for Commodities :**
 Perfect Competition – Short run and long run equilibrium- Supply curve in the short run (shutdown and breakeven point concept). Monopoly- Short run and long run equilibrium- Concept of Price discrimination. Monopolistic Competition – Oligopoly Market- Short run and long run equilibrium.
- 7) **Factor Price Determination :**
 Theory of wage Determination – Backward Bending Supply curve of labour; Determination of Rent, Profit and Interest rate.
- 8) **Overview of Indian Economic Trends :**
 National Income; Concept- Methods of measurement of national income in Indian economy- Trend of National income & per capita income – trend in structural composition of national income. Trend in occupational structure. Trends in Savings and Investment in Indian economy.
- 9) **Issues in Indian Economy :**
 Problems of Growth; Unemployment, Poverty, Inequality in Income distribution, Inflation, Concept of Parallel economy.
- 10) **Problems and Policies of Indian Economy :**
 A) Basic features of Indian agriculture; Low productivity; Land reform; Green Revolution; Rural Credit; Agricultural Marketing; Impact of New Agricultural Policy (NEP) on Indian Agriculture with special reference to Food Security.
 B) Industry : Role of Government – Fiscal Policy – Industrial policies in the Pre-reform and Post-reform period in 1991 – Industrial sickness- Privatization- Disinvestment of Public Enterprises- Foreign Capital in India.
 C) Globalization and the Policies of the Indian Economy under WTO regime- Problems of developing countries.
- 11) **Indian Economic Planning :**
 Concepts of Economic planning; Objectives and achievements of Indian Five-year Plans (Plan period I to XII). Import Substitution –vs- Export Promotion Strategy-Planning Commission & NITI Ayog.

Group – B

Paper B 1 : Business Regulatory Framework

Indian Company Law

- a) Introduction- definition, features and types of companies; Private Company and Public Company- Differences, conversions of private company into public company and Vice Versa – One person company- Small company.
- b) Memorandum of Association and Article of Association, distinction, alteration of Memorandum and Article of Association, Doctrine of Ultra Vires and Indoor Management; Prospectus- form and content- statutory requirement of a prospectus; additional disclosures in prospectus statement in lieu of prospectus statement by experts, Shelf prospectus, red-herring prospectus, abridged prospectus, misstatement in prospectus and its consequences; minimum subscription, Dematerialized share.
- c) Formation of Company: Essential steps, procedure for registration and incorporation, certificate of incorporation and commencement of business; Promoters- legal status, duties, liabilities and remuneration; allotment of shares.
- d) Share capital- equity and preference shares; stocks; sweat equity shares; ESOP (Employees Stock Option Scheme), right issues; share certificate and share warrants – distinction; bonus shares; transfer and transmission of shares; buy back of shares; debentures – classification.
- e) Board of Management – Directors – qualification, disqualification, appointment, legal position; number of directorship ; Removal ; Registration of Director ; Duties ; liabilities ; power of board of directors; managing director – qualification, appointment ; key managerial personnel; Company meeting – quorum, resolution, Minutes ; Winding up-modes, Ground for compulsory and voluntary winding up.

The Sale of goods Act, 1930

- a) Introduction: definition; goods and their classification; sale and agreement to sell; essential elements of contract of sale; sale distinguished from hire purchase and installment sale.
- b) Condition and Warranties : Distinction between condition and warranty; implied conditions and warranties.
- c) Doctrine of Caveat Emptor and its exceptions.
- d) Transfer of Ownership : Passing of property from the seller to the buyer.
- e) Transfer of Title by Non-owners : Unpaid seller and his rights.

Indian Partnership Act, 1932

- a) Partnership : Meaning- partner, firm and firm name; essential elements; true test of partnership.
- b) Types of Partner: Partnership distinguished from co-ownership, company, club, partnership by- (a) estoppels or holding out (b) limited partnership.
- c) Registration of Partnership Firm : Consequences of non-registration.
- d) Minor's position in partnership.
- e) Rights and Duties of the Partner: Relation of partners with third parties; implied authority of partner – restrictions on the implied authority of a partner.
- f) Dissolution of Firms : Meaning and ground of dissolution.
- g) Limited Liability Partnership, 2008 : Similarity and difference with Partnership Ac, 1932.

The Negotiable Instrument Act, 1881

- a) Negotiable instruments : Definition, features; Promissory Note, Bill of Exchange and Cheque-Essential elements; distinction between Promissory Note, Bill of Exchange and Cheque.
- b) Types of Cheques- modes of crossing cheques; inchoate stamped instrument; accommodation bill ;
- c) Fictitious bill.
- d) Endorsement- Types of endorsement.
- e) Holder and Holder in due Course: Right of holder in due course.
- f) Dishonour of Negotiable instruments: Modes of dishonor; consequences; notice of dishonour.

The Indian Contract Act, 1872

- a) Essential elements of a valid contract, classification of contracts.
- b) Offer and acceptance : meaning, rules relating to valid offer and acceptance; communication of offer and acceptance; revocation of offer and acceptance.
- c) Consideration : definition, essential elements, types of consideration; “no consideration no contract” and its exceptions.
- d) Capacity of Parties : Competency to contract; minor; persons of unsound mind; persons disqualified by other laws.
- e) Consent : Definition of consent and free consent; coercion; undue influence; fraud; misrepresentation; mistake.
- f) Void and Voidable Agreement : Definition; distinction between void and illegal agreement; wagering agreement.
- g) Discharge of Contracts : Meaning; methods of termination or discharge of contract.
- h) Special Contract : Definition only; contingent contract; quasi contract; contract of indemnity; contract of guarantee; bailment; pledge.

Consumer Protection Act, 1986

- a) Introduction : Objective of the Act, definition of complaint, consumer; consumer dispute, goods, services etc.
- b) Objectives of Central Council and state Council.
- c) Consumer Dispute Redressal Agencies; Composition and jurisdiction of district forum, State Commission and National Commission.
- d) Manner of Lodging a Complaint: Procedure of complaint; findings of District Forum, Appeal.

Employees Welfare Acts (General Idea)

- a) Payment of Bonus Act, 1965.
- b) Payment of Gratuity Act, 1972.
- c) Employees Provident Funds and Miscellaneous Provisions Act, 1952.

Group – B

Paper B2 : Cost & Management Accounting

1. Introduction : Nature and scope of Cost Accounting- Concept of Cost- Classification of Cost – Cost Accounting Vs. Financial Accounting – Cost Accounting Vs. Management Accounting – methods of Costing – Installation of Costing System.

Cost concepts, terms and classification of costs: Cost, Cost object, Cost units and Cost Centres. Types of costs, classification of costs, cost sheet (introduction only), total cost and unit costs, Costing Methods and Techniques – Activity Based Costing.
2. Material Cost : Definition of Material Cost – Classification of Material Cost – Materials purchase procedures – Different types of Stock Levels – Economic Order Quantity – Methods of Pricing of Issues of Materials (FIFO, LIFO and Weighted Average).
3. Labour Costs : Definition of Labour Costs – Classification of Labour Costs – Methods of Time Keeping and Time Booking – Idle time and Overtime (Causes) – Methods of Wage Payment – Time and Piece Rates – Halsay and Rowan System of Wage Payment – Incentive Plans.
4. Overhead : Definition – Classification – Departmentalization of Overhead Costs-Absorption of Overhead Costs-Determination of Overhead Absorption Rates- Application of Different Methods of Absorption of Overhead Costs-Treatment of under/over absorption overhead.
5. Job Costing (Job cost cards and databases, Collecting direct costs of each job, Attributing overhead costs to jobs, Application of job costing). Batch Costing.

Contract Costing : Features of Contract Costing – Progress payment, Retention money, Escalation clause, Contract accounts, Accounting for material, Accounting for plant used in a contract, Contract Profit and balance sheet entries.

Service Costing and Output Costing- Introduction : Motor Transport Costing, Hotel Costing (Staff Canteen Costing, Hospital Costing, Boiler House Costing- brief idea only). Single or Output costing.
6. Process Costing : Meaning, Features, Process Vs. Job Costing, Principles of cost ascertainment for Materials, Labour & Overhead, Normal Loss, Abnormal loss and gain and preparation of process accounts.

Need for valuation of WIP, Equivalent Production (units) and preparation of process and other relevant accounts valuing WIP under average method and FIFO method (simple cases).

Inter-process profit (simple cases)- Meaning. Advantages and disadvantages and determination of stock value for the purpose of balance sheet – By-products & Joint products (Meaning and Distinction).
7. CVP Analysis : Introduction; CVP Assumption and uses; Break-Even Analysis; BE Point and Margin of Safety, Graphical presentation of CVP Relationship; Profit Graph.

Marginal Costing and Management Decision- Marginal Costing vis-à-vis Absorption Costing; Marginal costing techniques; Marginal Cost and Product Pricing; Product Mix and Make or Buy Decision, Shut Down Decision (with simple type problems on different areas of decision making).
8. Budgetary Control : Budget and Budgetary Control : the Budget manual. Principal budget factor, preparation and monitoring procedures, preparation of functional budgets (Production, Sales, materials). Cash Budget (idea of master budget), flexible budget, Zero-Based-Budgeting (ZBB).
9. Standard Costing : Standard Costs and Standard Costing; Uses & Importance; Differences with Budgetary Control, Preliminary Steps. Classification of Standards. Analysis and computation of materials, Labour and Overhead Costs Variances (elementary level).

Group – B

Paper B3 : Advanced Accountancy.

1. Nature of Accounting: Users of accounting information; Financial & Management accounting; Qualitative characteristics of accounting information.

Double entry book keeping system- Basic accounting equation, meaning of assets, liabilities, equity, revenue and expenses. Accounting Cycles- Recording of transaction: Journal, Ledger and preparation of Trial Balance.

Bases of accounting; cash basis and accrual basis.

Basic concepts and conventions : equity, money measurement, going concern, cost, realization, accruals, periodicity, consistency, prudence (conservatism), materiality, matching and full disclosure- Fundamental Accounting assumption.
2. **Insurance Claims** : Loss of stock; Physical and ownership concept; concept of under insurance and average clause; computation of claim with price change; consideration of unusual selling line; price reduction etc.

Loss of profit- Concept- Insured & uninsured standing charges, GP rate, short sales and increased cost of working, average clauses and computation of claim (simple type).
3. **Branch Accounting** : Concept of Branch; different types of branches. Synthetic method – preparation of Branch Account. Preparation of Branch Trading and P/L account (at cost & at IP)- normal and abnormal losses. Analytical method-preparation of Branch Stock, Adjustment etc. Account (at cost & at IP)- normal and abnormal losses, Independent branch- concept of wholesale profit and basic idea of incorporation.
4. Partnership Accounts- P/L Appropriation Account ; capital and current Account; Guarantee- by firm, by partner and both; Correction of Appropriation items with retrospective effect. Changes in constitution of firm- change in profit sharing ratio, admission, retirement, retirement cum admission- treatment of goodwill- Revaluation of Asset & Liabilities- Treatment of Joint Life Policy- Death of Partner- Accounting for Dissolution of firm- Insolvency of partner- Piecemeal Distribution.
5. **Company- Introduction and Accounting for Shares & Debentures** :
 - Meaning of Company; Maintenance of Books of Accounts; Statutory Books; Annual Return.
 - Issue of Shares- issue, forfeiture, reissue, issue other than in cash consideration and issue to the promoter; Pro-rata issue of shares. Issue of debenture. Sweet equity.
 - Right and Bonus Share- Rules, Accounting.
 - Alteration of Share Capital; Conversion of fully paid shares into stock; Equity Shares with different rights.
 - Underwriting of shares and debentures; Rules; determination of Underwriter's Liability- with marked, unmarked & firm underwriting; Accounting.
 - Redemption of Preference Shares- Redemption of Debentures- Buy-back of Securities.
6. **Valuation** :

Goodwill- Valuation using different methods, i.e. Average Profit, Super Profit, Capitalization and annuity.

Shares-Valuation using different methods; Intrinsic, Earning, Dividend Yield, Earning-Price, Cum-div and Ex-div, Majority and Minority view and Fair value.
7. **Introduction to Accounting standards** :

Financial Accounting Standards : Concept, benefit, procedure for issuing accounting standards in India-IFRS & IAS (concept only).
8. **Company Final Accounts** :

Introduction to Schedule III under the Companies Act, 2013- Preparation of Profit & Loss Account and Balance Sheet- Managerial remuneration- Transfer to reserves- Treatment of Proposed Dividends.
9. **Accounting for Mergers & Reconstruction** :

Accounting for Amalgamation & Absorptions (including provisions of relevant Standards)- Accounting for Internal Reconstruction.

10. **Consolidated Financial statement :**

Meaning of Holding Company & Subsidiary Company; relevant standard; Consolidation of Balance Sheet of Parent & Subsidiary (only one); Minority Interest – Basic principles and preparation of CBS; CBS with loss balance of Subsidiary.

Treatment for : Revaluation of Asset of subsidiary, Intra group Transactions, Holding of different securities; consideration of dividend paid or proposed by subsidiary, CBS; Bonus shares issued or proposed to be issued by Subsidiary (excluding shares acquired on different dates by the parent company, chain and cross holding).

11. **Ratio Analysis :**

Meaning, objectives, classification of accounting ratios, Advantages & Limitations, Preparation of Financial Statement and statement of Proprietor's Fund from the given ratios.

Computation, Analysis and interpretation of important ratios for measuring- - Liquidity, Solvency, Capital structure, Profitability and Managerial Effectiveness.

12. **Cash Flow Statement :**

Meaning, objectives, difference with Fund Flow Statement; classification of cash flow on the basis of nature of activities- preparation and presentation as per AS-3.

Group – C

Paper C1 : Business Management

- 1) Introductory Concepts: Concept, definition and nature of Management. Concept of organization. Elements of Organization- Importance of management. Management Science or art or both-Management as a profession – Professional management in India- Functions and levels of management – Managerial skills and organizational hierarchy. Functional Managers and General Managers – Universality of management concept and nature of coordination – Coordination as the essence of management.
- 2) Evolution of Management Thought: Meaning of management thought and theories. Schools of management theory – Scientific management : elements, principles and criticisms – Contributions of Henri Fayol – Management principles and their criticisms – Human Relations Approach – Hawthorne Experiments and their findings systems and contingency approach to management.
- 3) Management and Society : Elements of organizational environment- economic, social, technological, political and legal : Social responsibilities of managers Managerial ethics – Ethical theories – Code of Ethics.
- 4) Planning : Definition, nature and importance of planning – Hierarchy of planning – Types of Plan – Steps in Planning Process – Planning Premises – Meaning of forecasting – Techniques of forecasting – benefits and limitations of Planning – Management by Objectives (MBO) meaning, features and objectives – Steps in MBO process – Benefits and weakness of MBO.
- 5) Organizing : Concept and meaning of organizing – Process of organizing – Methods of Departmentation – Span of management : factors determining an effective span – concepts of authority, responsibility and accountability – Delegation of authority concept and principles - Measures for making delegation effective – Centralization and decentralization of authority – Line and staff concepts.
- 6) Staffing : Definition, features and importance of staffing – Elements and functions of staffing – Manpower planning – Job analysis, job description and job specification – sources of recruitment – Selection and placement procedure – Training and development of managerial and non managerial personnel.
- 7) Leading : Concept features and importance of leadership – Ingredients of leadership – Functions of Leadership – Differences between Leadership and Management. Leadership styles : autocratic, democratic and free-rein leadership – Trait theory of leaders.
- 8) Motivation : Definition, features and importance of motivation – Motivation and morale – job enrichment and job enlargement – Theories of motivation – Mc Gregor's Theory X & Y. Maslow's Theory, Herzberg's Theory, Maclelland's Need Theory-Critical appraisal of Motivation theories.
- 9) Control : Definition, nature and importance of managerial control – Relationship between planning and control – Types of control – Steps in control process – Resistance to control – Requirements for effective control system – Important control techniques; budgetary control, performance budgeting, zero-base budgeting, management audit.

Group – C

Paper C2 : Direct and Indirect Taxation

INCOME TAX ACT, 1961

1. Basic Concepts and Definitions Under IT Act : Assessee, Previous year, Assessment year, Sources of Income, Heads of Income, Gross total income, Total income, Tax Evasion, Tax avoidance, Tax planning, Residential Status and incidence of Tax - Residential status of all persons except company Incomes which do not form part of Total Income.
2. Income from Salaries.
3. Income from House Property.
4. Profits and Gains from Business and Profession.
5. Capital Gain – Meaning and types of capital assets, basic concept of transfer, cost of Acquisition, cost of improvement and indexation, computation of STCGT and LTCG, exemptions u/s 54 and 54F, taxability of STCG and LTCG.
6. Income from other sources (Basic concept excluding deemed dividend).
7. Income of other persons included in Assessee's Total Income – Remuneration of spouse, Income from assets transferred to spouse and Son's wife, income of minor.
8. Set off and carry forward of Losses – Mode of set off and carry forward, inter source and inter head set off, Carry forward and set off losses u/s 71B, 72, 73, 74, 74A.
9. Deductions from Gross Total Income (Basic concepts), deduction u/s 80C, 80CCC, 80CCD, 80CCE, 80CCF, 80D, 80DD, 80DDB, 80E, 80G, 80GG, 80GGA, 80GGC, 80U.
10. Relief of Income Tax : U/s 89.
11. Computation of Total Income and Tax payable –
 - a) Rate of tax applicable to different assessee (except corporate assessee)
 - b) Computation of tax liability of an individual and firm.
12. Provision for Filing of Return – Assessment (Self assessment, assessment u/s 143(1), scrutiny assessment u/s 143(3) and best judgment assessment u/s 144).

WB VAT ACT, 2003 :

Definition and origin of VAT, objectives of VAT, Registration of Dealer, Rates Structure of VAT, Methodology of VAT Computation (Addition Method, Subtraction Method & input Tax Credit Method), Advantage and Disadvantage of VAT.

CENTRAL SALES TAX ACT, 1956 :

Importance terms and definition under Sales Tax Act Dealer, declared goods, place of business, sale, sale price, turn over, Year, Formulation of principle for determining when a sale or purchase of goods takes place in the course of inter state trade or commerce or outside a state.

CENTRAL EXCISE ACT, 1944

Basic concepts, conditions of excise liability, taxable event of excise duty, definitions of goods, manufacture, excisable goods, deemed manufacture, wholesale dealer, sale or purchase – Different methods for levy of excise duty – Assessable value – concept of CENVAT credit.

SERVICE TAX

Definition of services – Taxable Services – Registration – Calculations of Service Tax liability.

Group – C

Paper C3 : Information Technology and its Applications in Business

1. **Information technology and Business – An Overview.**

Concepts of data, information and computer based information system, impact of information technology on business (business data processing, intra-organizational and inter organizational communication by using network technology, business process and knowledge process outsourcing). Types of Information System – transaction Processing System (TPS), Management Information System (MIS), Decision Support System (DSS), Knowledge Management System (KMS) – and their implementation at managerial levels (operational, tactical and strategic). Recent trends in information Technology (brief ideas) – Enterprise computing, mobile communication, smart card.

2. **Number System and Representation of Data in Computing System.**

Codes – BCD, EBCDIC, Data representation – bits, bytes, KB, MB, GB, TB, Concept of Number systems (Decimal, Binary, Octal and Hexadecimal), Binary arithmetic (addition, subtraction using 1 & 2's complement method), Computer ASCII.

3. **Fundamental of Computer :** Components of digital computer and their functions (input unit, processing unit, output unit and storage unit). Basic concepts of hardware & software. Relationship between hardware and software. Types of software: System software – Operating systems {Characteristics & functions, uses of GUI based O.S. – LINUX AND WINDOWS}, Programming Languages Translator – Assembler, Compiler and Interpreter, Utilities, Application software (basic ideas and examples).

4. **Data Organization and Data base Management System :-**

- Data organization : Character, field, record, file and database. Types of Data Processing Systems [Serial, Batch, Real-time, Online, Centralized, Distributed]. File Organizations [Sequential, Direct, Indexed-Sequential, Relative], Traditional file organization vs. Database file Organization.
- Database Management System-Concept of DBMS, Important terms of database [including Entity, Attribute, Primary Key, Foreign Key, Candidate Key, Referential Integrity, Table, Views, Data Dictionary]. Types of database [hierarchical, network and relational]. Basic ideas of Data Warehouse and Data mining.

5. **Data Communication and Computer Network.**

- Data Communication : concept of Data communications, Transmission Modes [Simplex, Half-Duplex, Full Duplex, Serial, Parallel, Synchronous, Asynchronous], Communication Media. Wireless and satellite communication, Wireless Broadband, WAP, Network components – ridge, Switch, Router, Gateway.
- Computer Networks : Network Concept, Types : LAN, WAN, MAN, VAN, SAN, Various Topologies : BUS, STAR, RING, MESH, TREE.

6. **Introduction to Internet :**

Meaning of Internet : Concepts of Internet Intranet and Extranet, IP Address (IPv6), URL, Domain name system. Internet Protocols – TCP/IP, UDP, FTP, TELNET (brief ideas only). HTML, DHTML AND XML. (concepts only).

7. **Security Issues :**

Security threats – Virus, Trojan, Hacking, Spam. Security Measures – Firewall, Antivirus software, Digital Signature. Concept of data Encryption & Decryption. Symmetric and asymmetric encryption. Digital envelope.

8. **Overview of E-Commerce :**

Meaning : Importance in the context of today's business. Advantage of e-commerce (as compared with traditional system of commerce). E-commerce and e-business. Internet and its relation to e-business. Mobile Commerce – Basic Idea.

9. **Categories of E-Commerce (Models) :**

Business to Consumer (B to C) model – Basic idea, major activities, major challenges. Models of B to C [portals, e-tailer, content provider, transaction broker]. Business to Business (B to B) model – Basic idea, major activities, types of B to B market [independent, buyer oriented, supplier oriented, vertical and horizontal e-market place]. Other models – Business to Government (B to G), Consumer to Consumer (C to C), Consumer to Business (C to B).

10. **E-Payment :**

Types of E-Payment – Payment card [credit card and debit card], Electronic or digital cash. Electronic or digital wallet. Stored value card [smart card]. Basic idea of online banking [core banking solution or CBS].

11. **Introduction to ERP :** Concept & Definition, features, major characteristics, levels of ERP, Benefits of ERP, Enterprise potentials of ERP, Modules of ERP, Phases of ERP implementation, Limitations of ERP.

N.B.: “The above Syllabus is indicative only. Candidates should be prepared to answer any question from Essential Qualification/Degree mentioned in the advertisement for the relevant post.”