

GOVERNMENT OF JAMMU AND KASHMIR
JAMMU AND KASHMIR SERVICES SELECTION BOARD (JKSSB)
Hema Complex, Sector -3, ChanniHimmat, Jammu / Zamzam Complex Rambagh, Srinagar.
www.jkssb.nic.in

Subject: Advance Notice for Conduct of Written Examinations / Computer Based Written Test (CBT) for various posts - 2023.

It is hereby notified for the information of candidates that the Jammu and Kashmir Services Selection Board (JKSSB) is going to conduct Computer Based Written Test (CBT) for various posts, tentatively, as per the details given in **Annexure "A"** to this Notice. The exact dates along-with the schedule for downloading of Admit Cards shall be notified separately in due course of time. This is an Advance Notice for the information of concerned candidates.

The syllabi for the examination to these posts are annexed herewith as **Annexure "B" to Annexure "Q"**.

Sd/-
Reyaz Ahmad Malik (JKAS)
Controller of Examinations
J&K Services Selection Board

No. JKSSB-COE0EXAM/10/2022-04 (CC-7055504)

Dated: 06-01-2023

Copy to the:

1. Secretary to the Government, General Administration Department, Civil Secretariat, Jammu.
2. Director Information & Public Relations, J&K Government with the request to get the said notification published in at least three leading local newspaper of Jammu/Srinagar for three consecutive days.
3. Member(s) ALL, J&K Services Selection Board.
4. Secretary, J&K Services Selection Board.
5. Administrative Officer, Services Selection Board, Jammu/Srinagar.
6. P.A. to Chairman, J&K Services Selection Board.
7. In-charge Website, Services Selection Board, Jammu.
8. Office record.

ANNEXURE "A"									
to Notification No. JKSSB-COE0EXAM/10/2022-04 (CC-7055504)								Dated: 06-01-2023	
Tentative Calendar of CBT Written Examinations scheduled to be held by J&K Services Selection Board for the Posts of various Departments, advertised vide various Advertisement Notification No.s									
S.No.	Department	Sub Department / Appointing Authority	Post	Notification	Item Nos.	Cadre of the Post	No. of posts	Tentative date of CBT	Syllabus
1	Labour & Employment	Labour Commissioner, J&K	Labour Inspector	04 of 2020	66	UT	3	06-02-2023	Annexure B
2	Labour & Employment	Labour Commissioner, J&K	Labour Officer	04 of 2020	72	UT	3	06-02-2023	Annexure C
3	Science & Technology	JK Science Technology & Innovation Council	Research Assistant	05 of 2020	128	UT	5	06-02-2023	Annexure D
4	DMRRR	Department of Law, Justice & PA	Assistant Law Officer	05 of 2022	195	Div. Kashmir	1	07-02-2023	Annexure E
5	DMRRR	School Education	Junior Librarian	05 of 2022	199	Shopian	2	07-02-2023	Annexure F
		School Education			200	Kulgam	5		
						TOTAL	7		
6	DMRRR	Transport Department	Motor Vehicle Inspector	05 of 2022	198	Div. Kashmir	20	07-02-2023	Annexure G
7	DMRRR	Transport Department	Motor Vehicle Traffic Assistant	05 of 2022	194	Div. Kashmir	2	07-02-2023	Annexure H
8	Election	Chief Electoral Officer, J&K	Election Assistant (Junior Scale)	04 of 2020	99	UT	110	07-02-2023	Annexure I
9	DMRRR	Revenue Department	Patwari / Settlement Patwari	05 of 2022	197	Anantnag	1	07-02-2023	
	Culture	Archives, Archaeology & Museums			64	Div. Kashmir	1		

Labour & Employment	Labour Commissioner, J&K	Driver / Driver Grade-II / Driver-II / Tractor Driver	04 of 2020	70	UT	1
Labour & Employment	Employment Deptt.			77	UT	4
Transport	Dte. State Motor Garages			78	UT	50
Tribal Affairs	Dte. Tribal Affairs			105	UT	1
Finance	DG Economics and Statistics			111	Div. Kashmir	6
Finance	DG Economics and Statistics			112	Div. Jammu	5
Science & Technology	J&K Energy Dev. Agency (JKEDA)	Driver / Driver Grade-II / Driver-II / Tractor Driver	05 of 2020	126	UT	4
Science & Technology	JK Science Technology & Innovation Council			129	UT	1
ARI and Training	Directorate of Stationary and Office Supplies, J&K			164	Div. Kashmir	1
Hospitality and Protocol Department	Hospitality and Protocol Department	Driver / Driver Grade-II / Driver-II / Tractor Driver	06 of 2020	209	UT	1
Home	Dte. Forensic Science Laboratory			233	UT	5
Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu	Driver / Driver Grade-II / Driver-II / Tractor Driver		247	Jammu	38
Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu			248	Samba	1
Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu			249	Udhampur	4
Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu			250	Reasi	4

	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu	07 of 2020	251	Ramban	2		
	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu		252	Kishtwar	2		
	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu		253	Doda	3		
	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu		254	Rajouri	2		
	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Jammu		255	Poonch	6		
	Agriculture Production & Farmer's Welfare	Dir. Agriculture, Kashmir		304	Div. Kashmir	2		
	Skill Development	Polytechnic Sector		314	Div. Kashmir	1		
	Skill Development	Polytechnic Sector		324	Div. Jammu	2		
	Horticulture	Dte. Horticulture, Jammu	Driver / Driver Grade-II / Driver-II / Tractor Driver	21	Div. Jammu	2		
	Horticulture	Dte. Horticulture, Jammu		32	Jammu	1		
	Horticulture	Dte. Horticulture, Jammu		35	Samba	1		
	Horticulture	Dte. Horticulture, Jammu		47	Doda	3		
	Horticulture	Dte. Horticulture, Jammu		59	Poonch	1		
	Horticulture	Dte. Horticulture, Srinagar		68	Div. Kashmir	3		
	Horticulture	Dte. Horticulture, Srinagar		75	Srinagar	1		
	Horticulture	Dte. Horticulture, Srinagar		80	Budgam	2		
	Horticulture	Dte. Horticulture, Srinagar		84	Anantnag	1		

10	Horticulture	Dte. Horticulture, Srinagar	01 of 2021	88	Pulwama	2	07-02-2023	Annexure J
	Horticulture	Dte. Horticulture, Srinagar		92	Shopian	1		
	Horticulture	Dte. Horticulture, Srinagar		95	Kulgam	1		
	Horticulture	Dte. Horticulture, Srinagar		98	Baramulla	2		
	Horticulture	Dte. Horticulture, Srinagar		107	Bandipora	1		
	Information	Dir. Information		116	UT	1		
	Information	Dir. Information		120	Div. Jammu	1		
	Information	Dir. Information		125	Div. Kashmir	2		
	Information	Dir. Information		131	Kathua	1		
	Information	Dir. Information		135	Udhampur	1		
	Information	Dir. Information		140	Doda	1		
	Information	Dir. Information		144	Kishtwar	1		
	Information	Dir. Information		146	Ramban	1		
	Information	Dir. Information		147	Rajouri	1		
	Information	Dir. Information		149	Poonch	1		
	Information	Dir. Information		153	Anantnag	1		
	Health & Medical Education	GMC Jammu	Driver / Driver Grade-II / Driver-II / Tractor Driver	182	Div. Jammu	5		
	Health & Medical Education	GMC Jammu		184	Div. Jammu	7		
	Health & Medical Education	GMC Srinagar		230	Div. Kashmir	5		
	Health & Medical Education	(FW, MCH and Immunization)		263	Kathua	2		

Health & Medical Education	(FW, MCH and Immunization)
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Health & Medical Education	(Drug and Food Control organization)
Revenue	J&K FCR
Revenue	J&K FCR
Revenue	J&K FCR
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Revenue	J&K FCR
Revenue	J&K FCR
Revenue	J&K FCR
Revenue	J&K FCR

264	Udhampur	2
265	Rajouri	1
266	Pulwama	1
267	Budgam	1
268	Kulgam	2
269	Kupwara	1
270	Shopian	2
271	Baramulla	3
413	UT	1
418	Div. Jammu	2
422	Div. Kashmir	2
425	Jammu	7
427	Samba	3
431	Udhampur	6
433	Reasi	5
436	Doda	3
439	Kishtwar	3
442	Ramban	5
448	Srinagar	1

Revenue	J&K FCR
Revenue	J&K FCR
Revenue	J&K FCR
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Cooperative Department	Registrar Cooperative Societies, J&K
Cooperative Department	Registrar Cooperative Societies, J&K
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Cooperative Department	Registrar Cooperative Societies, J&K

02 of 2021

451	Budgam	4
454	Ganderbal	4
461	Anantnag	1
463	Kulgam	3
467	Kupwara	6
470	Shopian	3
474	Bandipora	3
478	Baramulla	3
518	Div. Kashmir	1
519	Jammu	1
520	Samba	1
521	Udhampur	1
522	Reasi	1
523	Kishtwar	1
524	Ramban	1
525	Rajouri	1

	Cooperative Department	Registrar Cooperative Societies, J&K			526	Poonch	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			527	Ganderbal	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			528	Pulwama	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			529	Kulgam	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			530	Shopian	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			531	Baramulla	1		
	Cooperative Department	Registrar Cooperative Societies, J&K			532	Bandipora	1		
	Forest, Ecology & Environment Department	Pr. Chief / Conservator of Forests (HOFF), J&K	Driver / Driver Grade-II / Driver-II / Tractor Driver	03 of 2021	603	Jammu	3		
		Director, Ecology, Environment and Remote Sensing, J&K			607	UT	1		
		Director, Soil and Water Conservation Department, J&K			608	UT	1		
						TOTAL	298		
11	Horticulture	Dte. Horticulture Jammu	Senior Horticulture Technician	01 of 2021	25	Div. Jammu	12	07-02-2023	Annexure K
		Dte. Horticulture Srinagar			63	Div. Kashmir	16		
						TOTAL	28		

12	Animal / Sheep Husbandary and Fisheries Department	Directorate Fisheries J&K	Inspector Fisheries / Farm Manager / Equivalent	04 of 2021	655	UT	6	08-02-2023	Annexure L
13	Animal / Sheep Husbandary and Fisheries Department	Directorate Fisheries J&K	Deputy Inspector Fisheries / Equivalent	04 of 2021	656	Div. Jammu	10	08-02-2023	Annexure M
		Directorate Fisheries J&K	Deputy Inspector Fisheries / Equivalent		657	Div. Kashmir	32		
						TOTAL	42		
14	Finance	DG Accounts & Treasuries	Accounts Assistant (Finance)	04 of 2020	106	UT	972	2nd week of March, 2023 and onwards	Annexure N
15	PWD	R&B	Junior Engineer (Civil)	06 of 2022	201	UT	855	1st week of April, 2023	Annexure O
16	PWD	R&B	Junior Engineer (Mechanical)	06 of 2022	202	UT	190		Annexure P
17	Revenue	J&K FCR	Patwari	02 of 2021	455	Pulwama	11	1st week of April, 2023 and onwards	Annexure I
	Revenue	J&K FCR	Patwari	02 of 2021	458	Anantnag	15		
	Revenue	J&K FCR	Patwari	02 of 2021	464	Kupwara	36		
	Revenue	J&K FCR	Patwari	02 of 2021	468	Shopian	17		
	Revenue	J&K FCR	Patwari	02 of 2021	471	Bandipora	16		
	Revenue	J&K FCR	Patwari	02 of 2021	475	Baramulla	47		
						TOTAL	142		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			59	Anantnag	120		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			60	Kulgam	42		

18	Rural Development Department	Director, Rural Dev. Deptt. Kashmir	Panchayat Secretary	03 of 2022	61	Pulwama	60	4th week of April, 2023 and onwards	Annexure Q
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			62	Shopian	38		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			63	Bandipora	30		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			64	Baramulla	122		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			65	Ganderbal	33		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			66	Budgam	96		
	Rural Development Department	Director, Rural Dev. Deptt. Kashmir			67	Kupwara	122		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			68	Jammu	53		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			69	Samba	34		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			70	Kathua	102		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			71	Udhampur	95		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			72	Reasi	58		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			73	Doda	69		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			74	Kishtwar	43		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			75	Ramban	62		

	Rural Development Department	Director, Rural Dev. Deptt. Jammu			76	Rajouri	118		
	Rural Development Department	Director, Rural Dev. Deptt. Jammu			77	Poonch	98		
						TOTAL	1395		

Note :

- 1 The Exam calendar is merely tentative schedule of the Board's Recruitment Process.**
- 2 It is subject to the outcome of Litigations / Court Orders.**
- 3 It is subject to changes / modifications on account of unavoidable circumstances.**
- 4 The exact date and schedule of each of the above item shall be announced separately by the Board.**
- 5 The type test examination for the post of Election Assistant has already been conducted and only those candidates who have qualified the type test are eligible to appear in the CBT Examination.**
- 6 The Driving Test for the Post of Driver / Driver-II / Tractor Driver has been conducted and only those candidates who have qualified the driving test are eligible to appear in the CBT Examination.**
- 7 With regard to the Part-II Examination (i.e. working knowledge of Urdu) for the Posts of Patwari / Settlement Patwari and Election Assistant, the candidates are informed that the question paper will be displayed through CBT Mode and the candidate's will have to write their answers in pen and paper mode. Both the papers (Paper-I and Paper-II) shall be conducted in the same shift / day.**

Sd/-
Reyaz Ahmad Malik (JKAS)
Controller of Examinations
J&K Services Selection Board

Annexure "B"

Syllabus for written test

Marks: 120

Time: 02.00 Hrs.

GENERAL ENGLISH

10 Marks

- (i) Tenses
- (ii) Rearranging of jumbled sentences.
- (iii) Narration
- (iv) Models
- (v) Articles
- (vi) Comprehension with blanks to be filled in with
 - i. Phrases
 - ii. Pronouns
 - iii. Homonyms / homophones.
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Idioms and phrases.
- (xi) Uses of Prepositions.
- (xii) Active & Passive Voice

GENERAL AWARENESS with special reference to J&K UT

20 Marks

- (i) Current Events of National and International importance
- (ii) Political & Physical divisions of world & India
- (iii) Indian Culture, Heritage and National Freedom Movement.
- (iv) Basic features of the Indian Constitution- Preamble, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy etc.
- (v) Transport & Communication.
- (vi) Demography- Census, its feature and functions.
- (vii) Important Rivers & Lakes in India.
- (viii) Weather, Climate, Crops, Means of Transport of India.
- (ix) Environment, Ecology & Bio-diversity.
- (x) Sustainable Development Goals
- (xi) Communicable Diseases- cure and prevention
- (xii) NCDC- COVID-19 - SOPs, Advisories, Guidelines etc
- (xiii) Economy- Inflation, Monetary Policy, Fiscal Policy, Capital Markets, Role of RBI, Taxation in India- Direct & Indirect Tax - CBDT, GST etc.
- (xiv) J&K UT
 - f) History
 - g) Economy
 - h) Geography- (Weather, Climate, Crops, Rivers, Lakes, Flora, Fauna etc.)
 - i) Heritage & Culture

- j) Important Tourist Destinations
- (xv) J&K Reorganisation Act, 2019.

INDIAN ECONOMY

20 Marks

- (i) Land System and its changes
- (ii) Manufacture and Transport: Jute, Cotton, Railways, Money and Credit.
- (iii) National and per capita income: patterns, trends, aggregate and sectoral composition and changes therein.
- (iv) Factors determining National income and distribution, Measures of New Economic Reform
- (v) New Economics Policy and Industry
- (vi) New Economic Policy and Public Finance: Fiscal Responsibility Act, Fifteenth Finance Commission and Fiscal Federalism and Fiscal Consolidation.
- (vii) New Economic Policy and Employment: Employment and poverty, Rural wages, Employment Generation, Poverty alleviation schemes, New Rural, Employment Guarantee Scheme.

INDIAN SOCIETY

20 Marks

- (i) Social background of Indian nationalism.
- (ii) Modernization of Indian tradition.
- (iii) Social reforms.
- (iv) Social Structure: Rural and Agrarian.
- (v) Features of Caste System.
- (vi) Untouchability – forms and perspectives.
- (vii) Social Classes in India- Agrarian class structure, Industrial class structure, Middle classes in India.
- (viii) Systems of Kinship in India: Lineage and descent in India, Types of kinship systems

LABOUR LAWS

20 Marks

- (i) Definition of Trade Union and the right to form the Trade Union.
- (ii) Strikes, lock-outs, lay off and retrenchment. Transfer and closure.
- (iii) Unfair labour practices.
- (iv) Disciplinary proceedings.
- (v) Labour welfare: concept, classification and importance.
- (vi) Obligations of employer for health, safety and welfare.
- (vii) Employment of young persons: prohibition of employment of children, regulation of employment of young persons.
- (viii) Concept of minimum wage, fair wage, living wage and need based minimum wage. Procedure for fixation and revision of minimum wages.
- (ix) Concept of employer, workmen, dependent, disablement.

COMMERCE

20 Marks

- (i) Nature Scope and Significance of Management.
- (ii) The process of Management

- (iii) Process of Control: Production Planning & Control, Quality Control, Inventory Control, Budgetary Control and Cost Control.
- (iv) Indian Financial System: An Overview
- (v) Money Markets: Participants, Structure and Instruments.
- (vi) Money and Banking: Monetary/ Fiscal policy- Role and functions of Reserve Bank of India;
- (vii) Capital Market: Primary and Secondary Market
- (viii) Financial Statement Analysis
- (ix) Cash flow statement
- (x) DBSM
- (xi) Enterprise Planning & Resourcing.

COMPUTER APPLICATIONS

10 Marks

- (xv) Fundamentals of computer sciences
- (xvi) Hardware & Software
- (xvii) Input and output devices
- (xviii) Operating system
- (xix) M.S Word, M.S Excel, M.S Access and Powerpoint Presentation
- (xx) E_mail & Internet

Annexure "C"

Syllabus for Written test

Marks: -100

Time: - 2.00 Hours

General English

10 Marks

- (i) Tenses
- (ii) Rearranging of jumbled sentences.
- (iii) Narration
- (iv) Models
- (v) Articles
- (vi) Comprehension with blanks to be filled in with
 - i. Phrases
 - ii. Pronouns
 - iii. Homonyms / homophones.
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Idioms and phrases.
- (xi) Uses of Prepositions.
- (xii) Active & Passive Voice

Indian Economy

20 Marks

- (i) Land System and its changes
- (ii) Commercialization of Agriculture
- (iii) Drain theory, Laizzez faire theory and critique.
- (iv) Manufacture and Transport: Jute, Cotton, Railways, Money and Credit.
- (v) Agriculture: Land Reforms and land tenure system, Green Revolution and capital formation in agriculture
- (vi) National and per capita income: patterns, trends, aggregate and sectoral composition and changes their in.
- (vii) Factors determining National income and distribution, Measures of New Economic Reform
- (viii) New Economics Policy and Industry
- (ix) New Economic Policy and Trade: Intellectual property rights: Implications of TRIPS, TRIMS, GATS and new EXIM policy.
- (x) New Economic Policy and Public Finance: Fiscal Responsibility Act, Fifteenth Finance Commission and Fiscal Federalism and Fiscal Consolidation.
- (xi) New Economic Policy and Employment: Employment and poverty, Rural wages, Employment Generation, Poverty alleviation schemes, New Rural, Employment Guarantee Scheme.

Indian Society

20 Marks

- (i) Social background of Indian nationalism.
- (ii) Modernization of Indian tradition.
- (iii) Protests and movements during the colonial period.

- (iv) Social reforms.
- (v) Social Structure: Rural and Agrarian.
- (vi) Agrarian social Structure – evolution of land tenure system, land reforms
- (vii) Caste System
- (viii) Features of Caste System.
- (ix) Untouchability – forms and perspectives.
- (x) Tribal communities in India- Definitional problems, Geographical spread and Issues of integration and autonomy
- (xi) Social Classes in India- Agrarian class structure, Industrial class structure, Middle classes in India.
- (xii) Systems of Kinship in India: Lineage and descent in India, Types of kinship systems

Labour Laws

30 Marks

- (i) Definition of Trade Union and the right to form the Trade Union.
- (ii) Legal Control and Protection of Trade Union: Registration, amalgamation, rights, immunities, liabilities and dissolution. Trade Union Funds.
- (iii) Strikes, lock-outs, lay off and retrenchment. Transfer and closure.
- (iv) Unfair labour practices.
- (v) Disciplinary proceedings.
- (vi) Labour welfare: concept, classification and importance.
- (vii) Obligations of employer for health, safety and welfare.
- (viii) Working hours of adults and Annual Leave with wages.
- (ix) Employment of young persons: prohibition of employment of children, regulation of employment of young persons.
- (x) Concept of minimum wage, fair wage, living wage and need based minimum wage. Procedure for fixation and revision of minimum wages.
- (xi) Components of wages: dearness allowance, principle of fixation.
- (xii) Payment of Wages Act, Employees Provident Fund Act, The Workmen's Compensation Act.
- (xiii) Definition of wage under Payment of Wages Act, 1936 and responsibility for payment of wages.
- (xiv) Concept of employer, workmen, dependent, disablement.
- (xv) Workmen's compensation: employer's liability for compensation, amount and distribution of compensation.
- (xvi) Employee's State Insurance: Employees State Insurance Act (ESI), benefits, ESI fund and contribution.

Constitution/ Governance/Polity

20 Marks

- (i) Indian Constitution – Overview, nature & Philosophy of the Indian Constitution
- (ii) Features of the Constitution- Preamble, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy
- (iii) Parliamentary System & Amendment Procedures
- (iv) Federal structure, devolution of powers and finances.
- (v) Important aspects of governance, transparency, accountability, e-governance etc.

Financial Markets and Institutions**10 Marks**

- (i) Indian Financial System: An Overview
- (ii) Money Markets: Participants, Structure and Instruments.
- (iii) Commercial Banks-functions of commercial Banks/ RRB/ Payment Banks.
- (iv) Reforms in Banking sector.
- (v) Money and Banking: Monetary/ Fiscal policy- Role and functions of Reserve Bank of India;
- (vi) Capital Market: Primary and Secondary Market.
- (vii) Financial Market Instruments and Innovative Debt Instruments; SEBI as a Regulator,
- (viii) Financial Services: Mutual Funds, Venture Capital, Credit Rating Agencies, Insurance and IRDA.

Mental Ability Test**10 Marks**

- (i) Number series.
- (ii) Letter series.
- (iii) Coding decoding.
- (iv) Direction sense.
- (v) Blood relations.
- (vi) Mathematical reasoning.
- (vii) Speed, Distance and Time.
- (viii) Statements and conclusions.
- (ix) Logical Reasoning.
- (x) Mental Reasoning.

Annexure "D"

COMPUTER SCIENCE=====10 MARKS

Functioning of Computer, Classification of Computer, Components of Computer, Computer Hardware, CPU, Memory Unit, Storage Devices, Input Devices, Output Devices, MODEM and its working, Number System, Decimal Number System, Binary Number System, Octal Number System and Hexadecimal Number System, Digital Codes, Code Conversion, Logic Gate Symbol Identification, Network Media- Guided (Twisted pair, Co-axial Fibre Optics), Un-Guided (Infrared, Radio, Microwave) Network Device HUB, MODEM, Repeater, Gateway, Switch and their functions Network Technologies- Ethernet Bluetooth, Wi-Fi.

MATHEMATICS===10 MARKS

Mixture Problems, Simplification, Average, Percentage, Ratio and Proportion, Number System, Algebra, Profit and Loss, Interest, Speed Time and Distance, Time and Work, Mensuration, Geometry, Trigonometry, Number Series, Permutation and Combination, Tabulation, Bar Graph, Line Graph, Pie Chart, Venn Diagrams, Probability, Number Series, Clock and Calendar, Mathematical Puzzles, Syllogism, Direction and Distance, Analytical Geometry, Equation of Line, Slopes, Matrices and Determinants, Matrices and determinants, Definition of a matrix, various types of matrices, Addition and multiplications of matrices. Transpose of a matrix and its properties.

PHYSICS===10 MARKS

System of Units, SI Units, SI System, Fundamental and Derived Units, Practical Units, Wave Motion, Types of Wave Motion, Musical Sound and Noise, Pitch, Loudness, Quality of Sound, Beats, Lasers, Types of lasers and application of lasers, Coulomb's Law, Electric Field, Intensity of electric Field, capacitors and capacitance, combination of capacitors in series and in parallel capacitance, Kirchhoff's Laws, Kirchhoff's Current Law, Kirchhoff's Voltage Law, Direct Current, Alternating Current, Magnetism, Molecular Theory of Magnetism, Right Hand Rule, Left Hand Rule, Helix Rule, Cells, Primary cells, Secondary Cells, Battery, Parallel Group of Batteries, Mixed Group of Batteries, Capacity of a Battery, Efficiency of Battery, Charging of Battery, Electrical resistivity and conductivity, carbon resistors, color code for carbon resistors, thermistors, piezo discs.

CHEMISTRY=====10 MARKS

Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous solids and crystalline solids (elementary idea only). unit cell in two dimensional & three dimensional lattices, packing efficiency, calculation of density of unit cell. packing in solids, voids, number of atoms per unit cell in a cubic unit cell point defects. Properties of solids (electrical, magnetic & dielectric), Band theory of metals, conductors, semi-conductors and insulators and n & p type semiconductors, Types of solutions, expression of concentration of solution of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties relative lowering of vapor pressure of a solution, Raoult's law, elevation of boiling point, depression in freezing point temperature and osmotic pressure), determination of molecular masses using colligative properties Abnormal molecular mass, van't Hoff factor and calculations involving it, Redox reactions, conductance in electrolytic solutions, specific conductivity. Molar conductivity, variation of conductivity with concentration

BOTANY =====10 MARKS

Heredity and variation, Mendelian inheritance, Deviations from Mendelism: incomplete dominance, co-dominance, Multiple alleles. Pleiotropy Chromosomal theory of inheritance, Elementary idea of polygenic inheritance, Chromosomes & genes, Search for genetic material DNA genetic material Structure of DNA & RNA. DNA packaging. DNA Replication (Semiconservative), Central dogma, Protein Biosynthesis Transcription, translation, genetic code Gene expression and regulation (lac-operon), Plant breeding: introduction, steps in plant breeding and application of plant breeding and single cell protein, Biofortification, Tissue culture: Cellular totipotency, technique and application of tissue culture, Microbes in Human Welfare: in household food processing, industrial production, sewage treatment Production of energy (Biogas), biocontrol agent (Biopesticides) & Biofertilizers, Genetically Modified organism- Bt crops, Biopiracy and patents, Meaning of ecology, environment, habitat and niche: Organism and environment

ZOOLOGY=====10 MARKS

Asexual Reproduction: Uniparental, modes: binary fission, sporulation, budding, gemmule, fragmentation, regeneration. Human Reproduction- Male and female reproductive systems. Microscopic anatomy of testis & ovary Gametogenesis (spermatogenesis & oogenesis Menstrual cycle), Fertilization, embryo development upto blastocyst formation, implantation, Pregnancy and placenta formation (elementary idea). Parturition (elementary idea) and Lactation (elementary idea). Reproductive Health: Need for reproductive health & prevention of Sexually Transmitted Diseases (STD), Birth control- need & methods, Contraception and

Medical Termination of Pregnancy (MTP), Amniocentesis, Infertility & assisted reproductive technologies: IVE.GIFT (Elementary idea for general awareness), Sex determination in human hits and honeybee, Inheritance pattern of Hemophilia and Color blindness in human beings, Mendelin Disorders in humans: Chromosomal disorders in humans, Down's syndrome, Turner's & Klinefelter's syndromes, Genome and Human Genome project, DNA fingerprinting, Origin of life Theories & evidences with special reference to Darwin & Modern Synthetic theory of evolution, Hardy - Weinberg's principal Adaptive radiation. Origin and evolution of Man.

PROFESSIONAL COMMUNICATION=====10 MARKS

Error Spotting- Grammar, Active and passive Voice, Direct and Indirect Speech, Fillers, Common Errors, fill in the blanks (Vocabulary), vocabulary, spellings, grammar, sentence jumbles, para jumbles, synonyms, antonyms, one word substitution, sentence completion, phrase replacement, Phrase or Idiom Meaning.

ENGINEERING TOPICS=====10 MARKS

Introduction to electrical and electronic measurements, errors in measurement, galvanometer, voltmeter, ammeter, accuracy, precision, permanent magnet moving coil, electrodynameometer type instrument, measurement of resistance, measurement of self-inductance, measurement of capacitance, sensors and transducers, Digital electronic voltmeter, CRO, measurement of high AC voltages, Materials and Components, Atoms and Solids, Dielectric Properties of Insulating Materials, Magnetic Properties of Materials, Conductivity of Metals, Conduction in Semiconductors, Insulators, Optical Materials, Communication systems, modulation, analog modulation, Frequency Modulation, Frequency Division Multiplexing, Digital Communication Systems, Sampling, Time Division Multiplexing, Delta Modulation, Demodulation, Satellite Communication, Analog Circuits, DC Biasing BJT's, Fixed Bias Circuit, Transistor Saturation , Power Amplifiers, Feedback and Oscillator Circuits, Operational Amplifiers, Applications of Op-AMP, JFET, MOSFET, Power Systems, Electric Power Generation, Transmission Line Parameters, Performance of Overhead Transmission Lines, Cables, Grading of Cables, Corona Losses, Faults, Types of Faults, Circuit Breakers, Relays, Types of Relays, Earthing, , Insulation Material.

DESIGN AND INNOVATION =20 MARKS

CAD designing, CAD Designing software, Features of CAD software, File types in CAD, Menu features in CAD software, Autodesk Inventor Software, File Types in Inventor, 2D Sketching, 3D Sketching, 3D Printing, Additive Printing, Types of Additive Printing, Subtractive Printing, Metal Fusion Techniques for 3D Printing, Fused Deposition Modeling (FDM), Types of Materials in FDM, Properties of PLA, Properties of ABS, Properties of PET, Properties of PETG, Properties of TPU, Properties of PC, Properties of Nylon, Properties of ASA, Properties of ULTEM, Slicer Software, Files types in Slicer Software, Arduino, Arduino UNO, Arduino Mega, Arduino Nano, Arduino UNO PIN layout, Arduino Mega PIN layout, Arduino Nano PIN layout, Arduino Programming, Laser Engraving Techniques, Laser Engravers, Types of Lasers, Printed Circuit Board (PCB) Designing, Types of PCB materials, Multi-Layer PCB's, PCB Component Footprints, Footprint codes of Basic through hole Components, Footprint codes of SMA/SMD components, Capacitors, Inductors, Resistors, Color Coding of Carbon resistors, Coding of Capacitors, Electronic Sensors and Transducers, Servo Motors, Stepper Motors, Sensor IC's, Innovation in Mobile Phone Technology, Innovation in Led TV's, Latest Innovation in Consumer Products, Innovation in Medical Technology, SSD's, NVME Storage Devices, Relays, Switches , Types of Switches, Connectors, types of Connectors, Oscillators, Types of Oscillators Using Transistor, Crystal Oscillator, Application of Oscillators, Optoelectronic devices, 555 Timer, regulated Power supply, Power Supply IC's, Identification of Electronic and Electrical Symbols, Identification of IC's by Visualization, Identification of Electronic Active & Passive Components by Visualization, Types and Kinds of Electronic Measurement Tools, Digital Electrical Watt Meter Design, Regulated Power Supply Design, Design of Voltage Stabilizers, Voltage Regulation, Design using IC Voltage Regulators, Designing Circuit using Circuit Simulation Tools, Multisim Simulation, Diptrace PCB designer, Product Designing, Concept Generation, Concept Selection, Concept Testing, Development Process, Product Planning, Identifying Customer/ Consumer Needs, Product Specifications, Product Architecture, Industrial Design, Design For Manufacturing, Prototyping, General Knowledge Questions Related to Latest Innovations in the World.

Annexure "E"

Subject: Syllabus for Written Test.

Marks =120

120 Minutes

Constitutional Law:

15 Marks

- (i) Salient features of Indian Constitution.
- (ii) Parliamentary form of Government.
- (iii) President of India- Election, Qualifications, Impeachment, Position, Powers and Privileges.
- (iv) Cabinet System, Collective Responsibility-Individual responsibility, President-Prime Minister relationship
- (v) Distribution of Legislative Powers (Art. 245, 246 & 254)
- (vi) Failure of Constitutional Machinery (Art. 356)
- (vii) Constitutional Amendments – Methods and limitation (Art. 368)
- (viii) Freedom of Trade and Commerce
- (ix) Regulatory and Compensatory measures (Articles 301-304).
- (x) Articles 141 and 143.
- (xi) Appointment and impeachment of the Judges of the High Courts and Supreme Court.
- (xii) Services under the Constitution- Doctrine of Pleasure (Art. 310), Restrictions (Art. 311)
- (xiii) Fundamental Rights (Articles 14-16, 19-22 and 25-30).
- (xiv) Constitutional remedies. Writ Jurisdiction
- (xv) Scope of Article 32
- (xvi) Scope of Article 226
- (xvii) Directive Principles of State Policy; Relationship between Directive Principles and Fundamental Rights.
- (xviii) Emergency Provisions: Arts 352 to 354, 358 and 359.

Administrative Law:

10 Marks

- (i) Classification of Administrative Action:
- (ii) Definition of administrative actions.
- (iii) Need for classification
- (iv) Identification of legislative action
- (v) Identification of quasi-judicial and administrative actions. Legislative powers of administration.
- (vi) Necessity for delegation of legislative powers and its constitutional validity.
- (vii) Principles of Natural Justice:
- (viii) No man shall be judge in his own cause.
- (ix) No man shall be condemned unheard.
- (x) Administrative Discretion
- (xi) Need for Administrative Discretion
- (xii) Administrative Discretion and rule of law
- (xiii) Need for safeguards.

- (xiv) Doctrine of Excessive Delegation of Discretion
- (xv) Constitutionality of discretionary powers
- (xvi) Administrative discrimination and arbitrariness
- (xvii) De tournament De preuvoir
- (xviii) Malafide exercise of discretion Improper purpose
- (xix) Irrelevant considerations Unreasonableness
- (xx) Non-exercise of discretionary powers
- (xxi) Liability of the Government
- (xxii) Statutory- immunity
- (xxiii) Act of State
- (xxiv) Contractual liability of Government
- (xxv) Government privileges in legal proceedings
- (xxvi) Public accountability
- (xxvii) Ombudsman

Muslim Law:

05 Marks

- (i) Sources and Schools of Muslim Law.
- (ii) Nature, scope, validity and classification of marriage under Muslim Law
- (iii) Polygamy, Divorce and matrimonial remedies under Muslim Law
- (iv) Dissolution of Muslim Marriage Act, 1939.
- (v) Maintenance under section 125 of the Code of Criminal Procedure, 1973.
- (vi) Maintenance under Muslim Women (Protection of Rights on Divorce) Act, 1986

Hindu Law:

05 Marks

- (i) Nature, concept and essential conditions of Hindu Marriage.
- (ii) Grounds of divorce and divorce by mutual consent under Hindu Law
- (iii) Matrimonial remedies under Hindu Law:
- (iv) Nullity of marriage
- (v) Restitution of conjugal rights
- (vi) Judicial separation
- (vii) Dissolution of marriage
- (viii) Joint family and coparcenary under Mitakshara law
- (ix) Karta-his powers, privileges and obligations.
- (x) Adoption and Guardianship.

Law of Contract

15 Marks

- (i) Agreement and contract – Definitions, elements and kinds.
- (ii) Proposal and acceptance: their various forms, essential elements, communications and revocation.
- (iii) Intention to create legal relationship.
- (iv) Consideration: its need, meaning, kinds, essential elements-privy of contract, promissory estoppel, exceptions to consideration; adequacy of consideration; present, past and executory consideration; unlawful consideration and its effects; views of Law Commission of India on consideration; evaluation of the doctrine of consideration.

- (v) Capacity to contract: meaning, definition of minor, necessities supplied to a minor, agreements beneficial and detrimental to a minor affirmation- restitution in cases of minor's agreement-fraud by minor- agreements made on behalf of a minor's agreement and tested-evaluation of the law relating to minor's agreement.
- (vi) Quasi-contracts of certain relations resembling those created by contracts
- (vii) Damages: kinds- Remoteness of damages- ascertainment of damages.
- (viii) Specific performance of contracts.
- (ix) Contract that can be specifically enforced.
- (x) Rescission and cancellation.
- (xi) Injunction.
- (xii) Indemnity: Definition, nature and extent of liability of the indemnifier, commencement of liability of the indemnifier.
- (xiii) Guarantee: Definition, basic essentials for a valid guarantee contract, Nature and extent of surety's liability, discharge of surety's liability.
- (xiv) Bailment: Definition, kinds of bailees, duties of bailor and bailee towards each other, rights of bailor and bailee, finder of goods as a bailee.
- (xv) Agency: Kinds of agents and agencies; Distinction between agent and servant; Essentials of agency transaction; Various methods of creation of agency; delegation.
- (xvi) Sale of Goods: Concept of sale as a contract; Essentials of a contract of sale; Implied terms in contract of sale; Rule of Caveat Emptor and the exceptions thereto; Changing concept of Caveat Emptor; Unpaid seller and his rights.

Company Law

10 Marks

- (i) Concept of registration and incorporation; Memorandum of Association, Doctrine of ultra vires; Articles of Association; Doctrine of constructive notice and indoor management; Prospectus-statement in lieu of prospectus;
- (ii) Promoters- position, duties and liabilities;
- (iii) Directors- position, appointment, qualifications, vacation of office, removal, resignation, powers and duties of directors; meeting registers, loans, remuneration of directors, role of nominee directors- compensation for loss of office- managing directors- compensation for loss of office-managing directors and other managerial personnel;
- (iv) Meetings- kinds- procedure- voting;
- (v) Debentures- meaning- fixed and floating charge- kinds of debentures- shareholder and debenture holder- remedies of debenture holders.
- (vi) Protection of minority rights.
- (vii) Winding up- types- by court- reasonable- grounds- who can apply- power of court-consequences of winding up order- voluntary winding up by members and creditors- winding up subject to supervision of courts- liability of past members- payment of liabilities- preferential payment, unclaimed dividends, winding up of unregistered company.

Labour Laws

10 Marks

- (i) Definition of Trade Union and the right to form the Trade Union.

- (ii) Legal Control and Protection of Trade Union: Registration, amalgamation, rights, immunities, liabilities and dissolution. Trade Union Funds.
- (iii) Collective bargaining.
- (iv) Strikes, lock-outs, lay off and retrenchment. Transfer and closure.
- (v) Unfair Labour practices.
- (vi) Disciplinary proceedings.
- (vii) Labour welfare: concept, classification and importance.
- (viii) Obligations of employer for health, safety and welfare.
- (ix) Working hours of adults and Annual Leave with wages.
- (x) Employment of young persons: prohibition of employment of children, regulation of employment of young persons.
- (xi) Concept of minimum wage, fair wage, living wage and need based minimum wage.
- (xii) Procedure for fixation and revision of minimum wages.
- (xiii) Components of wages: dearness allowance, principle of fixation.
- (xiv) Definition of wage under Payment of Wages Act, 1936 and responsibility for payment of wages.
- (xv) Concept of employer, workmen, dependent, disablement.
- (xvi) Workmen's compensation: employer's liability for compensation, amount and distribution of compensation.
- (xvii) Employee's State Insurance: benefits, ESI fund and contribution.

Criminal Law

10 Marks

Indian Penal Code: General defences (Sections 76-106); Group liability (Sections 34 & 149); Unlawful Assembly, Rioting and Affray; Abetment; Criminal Conspiracy; Criminal Attempt; Offences against body (Sections 299-304, 319-326, 339-343, 349-353 and 359-363); Offences against property (Sections 378, 379, 383, 384, 390-392, 395, 405, 415-417, 425 and 426).

Jurisprudence

10 Marks

Meaning and scope of Jurisprudence; Nature and definition of "Law"; Schools of Law (Analytical positivism, Natural Law, Historical School and Sociological School); Sources of Law (Legislation, precedents, customs and juristic writings); Rights and duties- concept and co-relationship); Concept of person, Ownership and Possession.

International Law And Human Rights

20 Marks

- (i) Origin, Development, Definition, Nature and Theories of International Law; Its relation with Municipal Law.
- (ii) Sources of International Law, Custom. Treaties. General Principles of Law and writings.
- (iii) Subjects of International Law: State including Recognition of States; Individuals and peoples; International Organizations.
- (iv) Jurisdiction of States: Territorial, Personal and Universal.
- (v) Extradition and Asylum.
- (vi) Law of State Responsibility.
- (vii) Peaceful Settlement of Disputes including settlement by ICJ.

- (viii) Use of Forces under International Law.
- (ix) Human Rights: Origin, development and nature of Human Rights; International Bill of Human Rights; Regional Systems of Human Rights Law; Protection of Human Rights Act and International Humanitarian Law.

Environmental Law**10 Marks**

- (i) Environmental Pollution: Meaning and issues.
- (ii) Constitutional provisions-Art. 14, 19(1)(g), 21, 48A & 51A, right to wholesome environment-evolution and application. PIL and protection of Environment.
- (iii) Water and Air Pollution Control Acts:
- (iv) Standards, CPCB and SPCB, Consent Mechanism, Control Areas and Restraint Orders
- (v) Citizen Suit and Access to Environmental Information
- (vi) Corporate and Governmental Liability for Environmental Offences
- (vii) Environmental Protection Act, 1986 and other environmental legislations
- International Environmental Law and Norms:
- (viii) Stockholm Declaration, Global Warming and Ozone Conventions
- (ix) Sustainable development, Public Trust Doctrine
- (x) Precautionary Principle, Polluter Pays Principle
- (xi) Local Environmental Laws and Problems in J&K:
- (xii) Forest Act, 1930, J&K Wildlife Protection Act, JEK Forest (Conservation) Act (Summary of the provisions with special emphasis on Forest Dwellers and Forests, medicinal plants and related traditional knowledge)
- (xiii) Protection of Biodiversity in J&K- Local Laws and Central Acts- Forest (Protection) Force Act
- (xiv) Preservation and protection of lakes and waterways in J&K- Existing related laws and future needs.

Annexure "F"

Syllabus for Written

Total Marks = 120

Time = 02 Hours

UNIT I **20 Marks**

- (i) Types of Libraries and their Features
- (ii) Role of Libraries in contemporary Society
- (iii) Five Laws of Library Sciences
- (iv) Library legislations in India
- (v) Digital Library
- (vi) Intellectual Property Rights (IPR)
- (vii) National and International Library Associations: ILA, IASLIC, IATLIS, IFLA, FID ALA, ASLIB etc
- (viii) National and intercalation Agencies: UNESCO, OCLC, PRRLF, UGC, INFLIBNET, DELNET etc
- (ix) Information Centres, DRTC, ISI, INSDOC (NISCAIR), NASSDOC, DESIDOC, SENDOC, etc

Unit-II **Marks 20**

- (i) Basic Terminology: call Number, Class Number, Book Number, Isolates
- (ii) Classification; concept & purpose.
- (iii) Types and characteristics of classification scheme.
- (iv) ISBD, ISBN, ISSN; classification schemes.
- (v) Features of DDC, UDC, and CC
- (vi) Five Fundamental Categories
- (vii) Notation: Definition and Purpose
- (viii) Library Catalogue; Definition and purpose
- (ix) Canons of Classification and Cataloguing

Unit-III **Marks 20**

- (i) Principles of Book Selection
- (ii) Selection Tool; Print and Non-Print Materials
- (iii) Processing of Documents; Accessioning, Classification, Cataloguing, labelling and shelving
- (iv) Difference between catalogue, Accession Register, bibliography and Shelf list.
- (v) Serials/ Journals; Selection and procurement
- (vi) Book Transaction System: Traditional and Modern
- (vii) Stock verification of Books; Methods and Tools
- (viii) Weeding Process

Unit-IV **Marks 20**

- (i) Information sources: Definition, types and importance;

- (ii) Information sources- Primary, Secondary and Tertiary.
- (iii) Information Services: Definition and need of reference, documentation and information services.
- (iv) Types of Dictionaries, Encyclopaedias
- (v) Geographical and Biographical Sources
- (vi) Indexing and Abstracting Sources
- (vii) Types of Bibliographies
- (viii) Bibliographies Sources

Unit-V

Marks 20

- (i) Types of Reference service, Ready reference service, Long Rang Reference Service
- (ii) Reference Librarian: Role Skills and Competences
- (iii) User Education/ Information Literacy Skills
- (iv) CAS/SDI
- (v) International Information System; INIS, AGRIS, MEDLARS/MEDLINE, INSPEC
- (vi) Information Seeking Pattern

Unit-VI

Marks 20

- (i) Study of Computer including concept of Hardware.
- (ii) Library Automation Need and Purpose.
- (iii) Need for computer applications, Areas of computer applications. Automation in library Management. Software Packages for Library Management-Essential features
- (iv) Computer and its Units, Computer and its classification.
- (v) Study of Various operating systems.
- (vi) General-purpose application software: Word Processing such as MS-office, lotus.
- (vii) Special Purpose application software: CDS/ISIS.
- (viii) Library Networking: Needs & Purpose.
- (ix) OPAC AND Web-OPAC.

Annexure "G"

Syllabus for Written Test

Total Marks= 120

Time =02 Hours

GENERAL ENGLISH

10 Marks

- (i) Tenses
- (ii) Rearranging of jumbled sentences.
- (iii) Narration
- (iv) Models
- (v) Articles
- (vi) Comprehension with blanks to be filled in with
 - i. Phrases
 - ii. Pronouns
 - iii. Homonyms / homophones.
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Idioms and phrases.
- (xi) Uses of Prepositions.
- (xii) Active & Passive Voice

VEHICLE MAINTENANCE

10 Marks

- (i) First Aid
- (ii) Fire hazard
- (iii) Vehicle maintenance
- (iv) Motor vehicle laws in India & JK UT.
- (v) Pollution standards
- (vi) Road safety rules

BASIC COURSES IN ENGINEERING / TECHNOLOGY

20 Marks

- (i) Applied Mechanics
- (ii) Engineering Drawing
- (iii) Elements of Mechanical Engineering
- (iv) Fundamentals of Thermal Engineering
- (v) Hydraulic and Hydraulic Mechanic

APPLIED COURSES IN ENGINEERING / TECHNOLOGY

40 Marks

- (i) Auto Engineering Drawing
- (ii) Auto Engine
- (iii) Automotive Materials
- (iv) Chasis, Body and Transmission
- (v) MVA and Transport Management
- (vi) Automotive Emission Control
- (vii) Applied thermodynamics
- (viii) CADD
- (ix) Theory of Machines

- (x) CNC machines
- (xi) Metrology and quality control
- (xii) Maintenance

MECHANICAL ENGINEERING

20 Marks

- (i) Transmission of Power
- (ii) Internal combustion Engines
- (iii) Refrigeration and Air Conditioning Systems
- (iv) Hydraulics

ELECTRICAL ENGINEERING

20 Marks

- (i) Fundamental Dynamics Engineering Graphics & Computer Modelling
- (ii) Mechanics of Materials – I & II
- (iii) Theory of Machines – I & II
- (iv) Applied Thermodynamic-I & II
- (v) Theory of Machines – I & II
- (vi) Hydraulic Machinery
- (vii) Measurement and Instrumentation

Annexure "H"

Syllabus for Written Test

Total Marks= 120

Time=02 Hours

UNIT I

15 Marks

- (i) Articles
- (ii) Tenses
- (iii) Modals
- (iv) Clauses
- (v) Determiners
- (vi) Preposition
- (vii) Idioms and Phrases.
- (viii) Synonyms / Antonyms
- (ix) Spellings
- (x) Sentences
- (xi) Phrases
- (xii) Homonyms/ Homophones

UNIT II

15 Marks

- (i) Current events of National importance
- (ii) Honours and Awards
- (iii) The World of Sports
- (iv) Geographical Discoveries
- (v) Principal Languages of India
- (vi) Capitals and Currencies of Countries
- (ix) History, Geography, Culture and Economy of UT of Jammu and Kashmir
- (x) Flora and Fauna of J&K
- (xi) Rivers and Lakes.
- (xii) Important Tourist Destinations of UT of Jammu and Kashmir

Unit III

20 Marks

- (i) Percentage
- (ii) Average
- (iii) Time, Work and Distance
- (iv) Ratio and Proportions
- (v) Problem of Age
- (vi) Probability
- (vii) LCM, HCF
- (viii) Mensuration
- (ix) Trigonometry
- (x) Polynomials and Quadratic equation

UNIT IV

20 Marks

- (i) Sources of energy; Conventional & Non-Conventional
- (ii) Reflection & refraction of light, Mirror formula.
- (iii) Refractive index, Lens formula, image formation, sign conventions.
- (iv) Defects of vision & their correctness.
- (v) Electric current; Electric potential and Potential difference
- (vi) Ohms Law, Heating effects of Current
- (vii) Environmental pollution
- (viii) Nutrition, Respiration, Excretion etc
- (ix) Communicable & Non-Communicable Diseases.
- (x) Ecosystem – Its components, Food chains and Food webs.
- (xi) Ozone layer, its depletion, Green House Effect.
- (xii) Chemical Equation, types of chemical reactions.
- (xiii) Oxidation & reduction reactions
- (xiv) Bonding in Carbon, Allotropes of Carbon
- (xv) Physical & Chemical properties of metals and non-metals.

Unit-V

20 Marks

- (xix) Partition of Bengal.
- (xx) Boycott and Swadeshi Movement.
- (xxi) Muslim League/ Khilafat Movement/Non-Cooperation Movement
- (xxii) Quit India Movement.
- (xxiii) Independence and Partition of India.
- (xxiv) Change of Seasons/ Planets/ Solar System
- (xxv) Longitude - Latitude.
- (xxvi) Types of Forests
- (xxvii) Classification of Soils
- (xxviii) Types of farming
- (xxix) Major Crops
- (xxx) Resources- Types, Conservation etc.
- (xxxi) Federalism
- (xxxii) Democracy – Direct & Indirect.
- (xxxiii) Fundamental Rights, Fundamental Duties.
- (xxxiv) Representation, Franchise, Secret Ballot.
- (xxxv) Political Parties- National, State, Regional etc.
- (xxxvi) Economy-Primary, Secondary and Tertiary Sectors

UNIT V

10 Marks

- (i) Analogies
- (ii) Relationship concepts
- (iii) Figure odd one out
- (iv) Direct Sense
- (v) Figure Series completion
- (vi) Venn Diagram
- (vii) Number series
- (viii) Coding/Decoding

Unit VI

20 Marks

- (i) Communication and its importance.
- (ii) Types of communication – verbal, non-verbal, written, email etc.
- (iii) Safety and Health- Importance of safety and health at workplace.
- (iv) Occupational Hazards- Basic Hazards, Chemical Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards.
- (v) First Aid, Care of injured & Sick at the workplaces.
- (vi) Pollution and pollutants including liquid, gaseous, solid and hazardous waste
- (vii) Skills, Working Aids, Automation, Environment, Motivation.
- (viii) Idea of ISO 9000 and BIS systems and its importance in maintaining qualities
- (ix) Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Payment Wages Act, Employees Provident Fund Act, The Workmen's Compensation Act.
- (x) Metric System: Measurement of length, breadth & height in metric units Measurement of weight in metric system. Unit conversion. Reading of plain scales. Reading of tapes & foot rules.

Annexure "I"

Syllabus for Written test

Marks: 150

Time: 02:30 Hours

Note:

- (i) Part "I" will comprise of Multiple Choice Objective Type Questions.
- (ii) Part "II" (Urdu portion) will be of descriptive nature.
- (iii) Both the parts viz Part "I" and part "II" will be compulsory
- (iv) The candidates competing for Open Merit posts will be required to score at least 40 % marks and candidates belonging to other categories (except OM) are required to score at least 35% marks with at least 33 % in each part.
- (v) There will be negative marking (0.25 per question per wrong answer) in Part 'I'.

PART I (100 marks)

General Knowledge & Current Affairs

30 Marks

- (i) Current Events of National and International importance
- (ii) Science & Technology.
- (iii) Environment, Ecology & Bio-diversity
- (iv) Indian National Movement.
- (v) Political & Physical divisions of world & India
- (vi) Indian Economy.
- (vii) Indian Culture & Heritage.
- (viii) Climate & Crops in India
- (ix) Transport & Communication.
- (x) Demography
- (xi) Important Rivers & Lakes in India.

UNIT-II GENERAL KNOWLEDGE with special reference to J&K UT

20 Marks

- (i) History, Economy, and Culture of J&K UT.
- (ii) Geography -Weather, Climate, Crops, Soils
- (iii) Means of Transport.
- (iv) Flora and Fauna of J&K
- (v) Rivers and Lakes.
- (vi) Important Tourist Destinations
- (vii) J&K Reorganisation Act, 2019

GENERAL ENGLISH

20 Marks

- (i) Tenses
- (ii) Rearranging of jumbled sentences.
- (iii) Narration
- (iv) Models
- (v) Articles
- (vi) Comprehension with blanks to be filled in with
 - i. Phrases
 - ii. Pronouns
 - iii. Homonyms / homophones.
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Idioms and phrases.
- (xi) Uses of Prepositions.
- (xii) Active & Passive Voice

Knowledge of Computers **15 Marks**

- (i) Introduction and Objectives.
- (ii) Basic Applications of Computer and its component.
- (iii) Fundamentals of computer sciences.
- (iv) Hardware & Software, Concept of Open Source Technologies.
- (v) Input & output Devices.
- (vi) Knowledge of MS Word, MS Excel, MS Access, MS Powerpoint, PDF Internet and E-mail.
- (vii) Concept of Computer Virus and Anti-Virus.

Mental Ability & Reasoning **15 Marks**

- (i) Number series.
- (ii) Letter series.
- (iii) Coding decoding.
- (iv) Direction sense.
- (v) Blood relations.
- (vi) Statements and conclusions.
- (vii) Logical Reasoning.
- (viii) Mental Reasoning.

PART II (50 marks)

Guidelines for checking working knowledge of Urdu

The exam intends to check the “*working knowledge of Urdu*” of the candidates. The same will be tested through a Reading and a Writing test (total comprising of 50 marks in a duration of 60 Minutes), to be conducted on the same day.

The candidates belonging to 'OM' Category will be required to score at least 40% marks(overall) in the said exam with at least 33% marks in both Reading and Writing sections to be considered as having '*working knowledge of Urdu*' for the purpose of this exam/qualified. The candidates belonging to other categories (except OM) are required to score at least 35% marks (overall) with at least 33% in each Section.

Reading Section -20 Marks

Candidates would be required to answer questions each carrying one mark each out of given passages.

Writing Section – 30 Marks

Letter writing of minimum 100 words on a particular situation.	10 marks
One English passage to be translated into Urdu or Vice Versa.	10 marks
One Essay of about 100 words on any topic of social relevance.	10 marks

Annexure "J"**Marks :-120
Time :- 2.00 Hours****Syllabus for the post of Drivers**

Name of Post		Light Motor Vehicle/ Heavy Motor Vehicle	Marks allotted
Driver	Topic	Subtopic	
	Traffic Rules and Signalling	Basic Road Rules, driving methods and speed limits	10
		Understanding Signals: 1.Traffic Police hand signals 2.Hand signals while driving 3.Traffic light signals 4.Road map reading	15
		Knowledge of traffic signage's for road safety	10
		Fitness to drive: 1.First aid kit 2.Good health & Road safety 3.Driving under influence of drugs/liquors	15
		Difficult driving condition: 1.Driving on wet surface 2.Driving in fog 3.Night driving 4.Running on pavement 5.Brake failure 6.Towing	10
		Basic knowledge about provisions of the Motor Vehicle Act	10
		Essential knowledge about vehicle pollution (Do's and Don't's)	10

		<p>Awareness about documents required for driving and offence related</p> <ol style="list-style-type: none"> 1.Registration 2.Licensing 3.Insurance. 	15
Driver	Motor parts and its repair	Identification of major assemblies of vehicle	25
		Knowledge of daily and periodic inspection	
		Knowledge of fault diagnosis in tyre and its changing procedure	
		Knowledge of fuel pump, clutch and brake working and their air bleeding procedure	
		Lubrication grades used in vehicle for engine, transmission, differential, suspension	
		Knowledge about servicing schedule and service centres location	
		Knowledge of different starting methods	
		Knowledge of dash board's symbols	

Annexure "K"

Syllabus for Written test (Objective Type)

Marks:-120
Time: - 2.00 Hours

Section – I

Marks: 30

Fruit Science

Economic importance and classification of horticultural crops, nursery management practices, planting and layout, management of orchards, planting systems and planting densities, nursery techniques and their management. Principles and methods of pruning and training of fruit crops, types and use of growth regulators in horticulture, water management, weed management, fertility management in horticultural crops, intercropping, multi-tier cropping, mulching, bearing habits, factors influencing the fruitfulness and unfruitfulness. Rejuvenation of old orchards, top working, frame working, principles of organic farming.

Need and potentialities for plant multiplication, sexual and asexual methods of propagation, advantages and disadvantages. Seed dormancy (scarification & stratification) internal and external factors. Propagation Structures: Mist chamber humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses, nursery (tools, and implements), uses of growth regulators in seed and vegetative propagation, methods and techniques of cutting, layering, grafting and budding; physiological & bio chemical basis of rooting, factors influencing rooting of cuttings and layering, selection and maintenance of mother trees, collection of scion wood stick, scion-stock relationship, and their influences, Nursery registration act.

Horticultural zones of India, production and export potential, varieties, climate and soil requirements, propagation techniques, planting density and systems, after care, training and pruning. Management of water, nutrient and weeds, special horticultural techniques including plant growth regulators, their solution preparation and use in commercial orchards. harvest indices, harvesting methods, of the following crops. Mango, banana, grapes, citrus, papaya, guava, litchi, loquat. Bearing in mango and citrus, , causes and control measures of special production problems, alternate and

irregular bearing overcome, control measures. Rainfed horticulture, importance and scope of arid and semi-arid zones of India. Characters and special adaptation of crops: ber, pomegranate, fig.

Classification of temperate fruits, detailed study of areas, production, varieties, climate and soil requirements, propagation, planting density, cropping systems, after care training and pruning, self incompatibility and pollinizers, use of growth regulators, nutrient and weed management, harvesting, of apple, pear, peach, apricot, cherry, strawberry, kiwi, almond, walnut chest nut. Replant problem, rejuvenation and special production problems like pre-mature leaf fall, physiological disorders.

Orchard management, importance, objectives, clean cultivation, sod culture, Sod mulch, herbicides and inorganic and organic mulches, competitive and complimentary effect of root and shoot, systems of irrigation.

Section – II

Marks: 20

Vegetable Science

- Classification of vegetable crops.
- Economic and medicinal importance and nutritive value.
- Area and production, exports and imports.
- Description of varieties and hybrids.
- Types of vegetable gardens, kitchen garden; principles of planning and layout.
- Nursery management practices.
- Soil and climate, nutrition, seed rate, preparation of field, transplanting, planting for directly sown/transplanted vegetable crops, spacing, planting systems, water and weed management; nutrient management and deficiencies, physiological disorders and their corrective measures, use of chemicals and growth regulators, harvest, yield, post-harvest handling and storage and marketing and seed production of Tomato, Brinjal, Chilli, Sweet pepper, Potato, Beans, Okra, Bottle gourd, Cucumber, Bitter gourd, Squash, Kale, Cabbage, Cauliflower, Knol-khol, Sprouting broccoli, Lettuce, Garlic, Onion, Leek, Radish, Carrot, Turnip, Beet root, Peas, Broad beans, Cowpea, Spinach, Fenugreek, Fennel and Coriander.
- Factors affecting production and productivity of vegetables.
- Cropping systems.

- Raising of vegetable crops organically.
- Nutrient management through the use of organic manures, vermicomposting, green manuring, biofertilizers.
- Disease and pest management organically.
- Types of protected structures.
- Cultivation of vegetable crops under green houses.
- Important diseases and pests of vegetable crops.
- Integrated disease management in vegetable crops
- Integrated insect-pest management in vegetable crops
- History and scope of vegetable seed industry.
- Principles of vegetable seed production.
- Methods of vegetable seed production.

Section – III

Marks:

15

Floriculture and Landscaping

Principles and elements of landscape design, plant material for maintaining flowering calendar in landscaping, symbols, Landscape and Landscaping with basic principles and basic components, walk-paths, bridges, constructed features etc in landscaping. Scope and importance of commercial floriculture in India, production techniques of ornamental plants like rose, tulip, Narcissus (Daffodils), Lilium, chrysanthemum, orchid, carnation, gladiolus, tuberose, anthurium, marigold and Gerbera for domestic and export market, growing of flowers under protected environments such as glass house, plastic house etc. Soilless cultivation or hydroponics and its implementation in floriculture. Post harvest management of cut flowers (Pulsing, pre cooling, recut of stem, packaging, storage etc), Flower dehydration techniques for different flower crops.

History, scope of gardening, aesthetic values, Gardens in India, types of gardens, landscaping, historical background, Definition: Floriculture industry, importance, area and production, industrial importance in India. Special types of gardens (bog garden,

sunken garden, terrace garden, rock garden, bottle garden, water garden, Childrens garden, roof garden), formal, informal and free style gardens, Mughal garden, Japanese garden, English garden, ornamental trees, shrubs, herbaceous perennials, climbers, creepers, palms, ferns, grasses and cacti succulents for home gardening and landscaping along with different methods of Propagation. Flower arrangement, Bio-aesthetic planning, rural country planning, urban planning and planting avenues, schools, villages, beautifying railway stations, dam sites, hydroelectric stations, colonies, river banks, Culture of bonsai. Different methods for turf making including dibbling, turfing, astro turfing, sodding etc. Important grasses for lawns with special features.

Seed production techniques in ornamental annuals, Prospects of seed production in Kashmir.

Scope ,Constraints , Agro climatic zones, Selection of Variety, Maintaining Genetic Purity of flower seeds, Production module for seed production in different annual Crops, Summer season annuals and winter seasonals, Botanical description : Common name, Botanical name, local name, family, Origin, pollination type. Nursery raising, Sowing time and Transplanting Isolation distance, Intercultural operations, Raising, weed Control, Irrigation, Nutrition, Pinching, Staking, Plant protection, Harvesting: Hand Picking, Shattering, yield, Post harvest management, Seed treatment, Packaging and Seed Storage in *D. caryophyllus*, *D. barabatus*, *Lathyrus odoratus*, *Lupinus sp.* and *Impatiens balsamina*, *Antirrhinum sp.*, *Godetia sp.*, *Linaria sp.*, *Lobelia sp.*, *Petunia sp.*, *Phlox sp.*, *Salvia splendens*, *Verbena sp.* and *Viola tricolor.*, *Althea rosea*, *Alyssum sp.*, *Calendula sp.*, *Celosia plumosa*, *Centaurea sp.*, *Chrysanthemum sp.*, *Clarkia sp.*, *Cosmos sp.*, *Coreopsis sp.*, *Gaidardia sp.*, *Gomphrena sp.*, *Helianthus sp.*, *Helichrysum sp.*, *Iberis sp.*, *Impatiens sp.* and *Zinnia sp.*

Section – IV

Marks:

15

Natural Resource Management (NRM)

Introduction to soil fertility and productivity- factors affecting. Essential plant nutrient elements- functions. Salt affected soils - characteristics and management. Role of microorganisms in organic matter- decomposition. Integrated plant nutrient

management. Critical limits of plant nutrient elements and hunger signs. luxury consumption, nutrient interactions, deficiency symptoms,

Water resources of J&K . Importance and consumptive use of water. Available and unavailable soil moisture. Water budgeting. Rooting characteristics and moisture extraction pattern. Water requirement of horticultural crops -lysimeter studies, use of pan evaporimeter. Critical stages of crop growth for irrigation. Irrigation scheduling, different approaches. Methods of irrigation - surface and sub-surface pressurized methods viz., sprinkler and drip irrigation, their suitability, merits and limitations, fertigation. Irrigation management practices for different soils and crops.

Methods of soil and plant sampling and processing for analysis. Soil structure and aggregate analysis. concepts of soil moisture estimation. Methods of estimation of redox potential. Soil fertility evaluation methods. Soil micro-organisms and their importance. Saline, alkali, acid, waterlogged and sandy soils, their appraisal and management. Chemical and mineral composition of horticultural crops. Leaf analysis standards, index tissue, interpretation of leaf analysis values. Quality of irrigation water.

Introduction, concept. Organic production requirements; Biological intensive nutrient management, organic manures, vermicomposting, green manuring, recycling of organic residues, biofertilizers. Weed management.

Section – V

Marks: 10

Plant Pathology

Introduction to the science of Phyto-pathology and its objectives. Classification of plant diseases, symptoms, signs, and related terminology. Parasitic causes of plant diseases (fungi, bacteria, viruses, phytoplasma), and their characteristics. Non-parasitic causes of plant diseases. Survival and dispersal of plant pathogens. Plant disease epidemiology and forecasting. Principles and methods of plant disease management. Fungicide classification based on chemical nature and commonly used systemic, non-systemic fungicides and bactericides. Preparation of fungicidal solutions, slurries, pastes and their applications. Importance of micro organisms. Mushrooms-edible (Agaricus and Pleurotus) and poisonous types, preparation of culture/spawn and production techniques.

Symptoms, disease development and integrated management of the diseases of fruits, plantation, medicinal and aromatic crops viz. apple, pear (scab, alternaria blotch, powdery mildew, root and collar rot, cankers, pear fabraea leaf and fruit spot, pear fire blight and apple mosaic virus), peach, plum, cherry, apricot, almond, walnut (peach leaf curl, shot hole, powdery mildew, cercospora leaf spot, peach scab, cryptosporopsis leaf & twig blight and walnut anthracnose), grapes (anthracnose, powdery mildew, downy mildew, bunch rot), strawberry (leaf spot, fruit rot), mango (mango malformation, black tip), banana (panama wilt, bunchy top), citrus (citrus canker, tristeza virus), guava (wilt), tea & coffee rust, belladonna (leaf spot, root rot), dioscorea (leaf blight, rust) and pyrethrum (leaf blight and wilt). Important post harvest diseases of pome and stone fruits and their management.

Symptoms, disease development and integrated management of the diseases of diseases of vegetables, ornamental and spice crops viz., tomato & potato (early blight, late blight, septoria leaf spot, damping off), brinjal (phomopsis, alternaria blight, damping off), chilli (wilt, anthracnose, damping off), cabbage, cauliflower, radish & knol-khol (alternaria leaf blight, wire stem, white rust) onion & garlic (downey mildew, stemphylium blotch) pea (powdery mildew), beans (anthracnose, rust, mosaic), cucurbits (alternaria leaf spot, anthracnose, downey mildew, powdery mildew, angular leaf spot), saffron (leaf blight, bulb rot), cumin (alternaria blight), turmeric (rhizome rot, leaf spot), ginger (bacterial wilt, soft rot), rose (black spot, powdery mildew), gerbera (alternaria leaf blight, powdery mildew), tulip (basal rot, penicillium rot, grey mould rot).

Section – VI

Marks:

10

Agricultural Entomology

Introduction to phylum arthropoda. Importance of class Insecta. Insect dominance. Definition, division and scope of entomology. Types of mouth parts, antennae, legs and wings. Metamorphosis. Classification of insects up to orders
Definition, economic importance. General characters of plant parasitic nematodes, symptomatology and control of important plant parasitic nematodes of fruits - (subtropical and temperate) and vegetable crops

economic classification of insects; Distribution, host range, bio-ecology, injury, integrated management of important insect pests affecting sub-tropical and temperate fruits, Storage insects-host range, bio-ecology, injury, integrated management of important insect pests attacking stored fruits, Toxicology-insecticide residue problems in fruit and their tolerance limits.

Economic importance of insects in vegetable crops. Distribution, host range, bio-ecology, injury, integrated management of important insect-pests affecting vegetable and ornamental crops. Important storage insect pests of vegetable and ornamental crops, their host range, bio-ecology, injury and integrated management. Insecticidal residue problems in vegetables, Tolerance limit.

Introduction of Bee keeping, important Bee flora, Bee keeping equipments, differentiation of bee castes.

Section: VII

Marks:

10

Post Harvest Technology

Maturity indices, harvesting, handling, grading of fruits, vegetables and cut flowers. Factors responsible for deterioration of horticultural produce, physiological and biochemical changes, hardening and delaying ripening process. Methods of storage for local market and export. Pre-harvest treatment and precooling, pre-storage treatments. Different systems of storage, packaging methods and types of packages. Types of containers and cushioning materials, vacuum packaging, cold storage. Poly - shrinks packaging.

Importance and scope of fruit and vegetable preservation industry in India, losses in post-harvest operations, unit operations in food processing. Principles and methods of preservation by heat. Canning and bottling. Methods of preparation of juices. Squashes, syrups, cordials, fermented beverages, jam, jelly, marmalade, pickles, chutneys and sauces. Preservation by sugar and chemicals; candies, crystallized fruits, preserves, chemical preservatives, preservation with salt and vinegar. Freezing. Govt. policy on import and export of processed fruits. Food laws.

Classification, functions, deficiency and sources of Carbohydrates, Protein and Lipids. Mineral nutrition: macro and micro-minerals (Ca, Fe and P), function, utilization,

requirements, sources, deficiency. Vitamins: functions, sources, deficiency, requirements of water soluble and fat-soluble vitamins. Recommended dietary allowances for various age groups.

Section VIII

Marks:

10

Biotechnology

History of biotechnology. Fundamental principles: micro-propagation and scope for commercialization. Application of micro-grafting in horticultural crops, meristem culture, anther culture, pollen culture, embryo culture, callus culture, cell culture, somaclonal variation, protoplast isolation, culture, fusion and applications. Cryopreservation .Genetic engineering. Future scope and present trends. Importance of biotechnology in horticulture.

Annexure "L"

Syllabus for the post of Inspector Fisheries

I. Animal taxonomy

Systematics: terms & definitions, strategies of research in systematics, future of systematics; taxonomic characters: definition and kinds - morphological, physiological, molecular, ecological, behavioural and geographical; curating of collections: preparation of material, housing, cataloguing, arrangement of collection, curating of types, exchange of material and loans; taxonomic keys: definition and kinds- bracket key, indented key and pictorial key.

II. Trends in taxonomy

Cytotaxonomy: back ground, chromosome evolution with specific reference to primates and grasshoppers; molecular taxonomy: concept of phylogenetic systematics; phylogenetic tree reconstruction; DNA bar coding concept and significance; tools for sequence annotation: NCBI (Gene bank), Nucleotide BLAST, Alignment & sequence analysis, MEGA & Phylogenetic tree.

III. Invertebrates

• Protozoa and Porifera

Classification of protozoa up to order level; nutrition, locomotion, reproduction and economic importance of protozoa; classification of porifera up to order level; canal system, skeleton in porifera, reproduction and development; economic importance of porifera.

• Annelida and Arthropoda

Classification of Annelida up to order level; adaptive radiation in polychaetes; nervous system in annelids; economic importance of annelids; classification of Arthropoda up to order level; respiration in arthropods (aquatic & terrestrial); crustacean larvae & their evolutionary significance; economic importance of Arthropoda.

IV. Fish Farming/ Aquaculture

- Culture of air breathing fishes; brackish water fish culture; prawn culture; pearl culture; Carp culture; trout culture; composite fish culture; integrated fish farming;
- Hatchery management of economically important fish; Operation, management and hatchery technology for seed production; Seed packaging and transportation methods; Synthetic hormones and analogues for induced spawning

V. Resource management in Cold water fisheries

History of cold-water fisheries in India; Cold water fisheries resources of India; Important cold water fish species; Status of cold-water fisheries; River systems: origin and ecology; Effect of human intervention in rivers; Ecology of lakes and lake fisheries; Types of Lakes; Wetlands; Definition, types, structure and management of wetland ecosystem; Conservation and management of wetland; Impact of climate change on cold water fisheries.

VI. Fish anatomy, physiology and biology

Taxonomy of cold-water fishes- meristic and morphometric; General characteristics of fish; Fish diversity and adaptation; Methods of fish identification (Morphometric and meristic); Skin and coloration; Types of fins; Types of scales; Classification and identification of important cold-water fishes; Anatomy & Physiology of cold-water fishes; Biology of cold-water fishes including their habitat, food and feeding habits, growth, maturity, fecundity; Reproductive and endocrine system; Male and female reproductive system of fishes; Sexual maturity and maturity stages of gonads; Migration of fishes; Spawning; Fecundity of fishes and methods of estimation of fecundity; Types of fish eggs; Embryonic development of fish; Hatching and development of fish larvae

VII. Diseases in fish and their control

Introduction to various fish diseases; Viral diseases; Bacterial diseases; Fungal diseases; Parasitic diseases; Causative agents, symptoms, prophylaxis; Non infectious diseases; Identification and collection of samples for disease investigation; Disease control & Management; Management of culture system and environmental stress; Principles of disease diagnosis; Epidemiological and clinical diagnosis; Microbiological and post mortem examination of fin fishes in freshwater.

VIII. Sport fisheries

Fishing tackle and fishing techniques; Scope of sport fisheries in Jammu & Kashmir; Sport fishing and the tourism industry; Management, development and conservation.

IX. Fish Nutrition/ Biochemistry

Nutritional requirements; Role of Protein and amino acids, lipids, carbohydrates, amino acids, vitamins and minerals, additives, practical diets; Classification and metabolism of proteins, lipids and carbohydrates; Role of nutrients like amino acids, fatty acids, proteins, lipids, carbohydrates, vitamins and minerals. Energy requirement of fishes; Feed resources; Contribution from natural food to nutrient requirements of fish, Feed additives (attractants, growth stimulants and probiotics and binders), and Feed resources assessment; Classification of feed ingredients. General principle of feed formulation; Methods of feed formulation: Pearson's method, quadratic equation linear programming, limitations. Types of feed; Feeding practices.

Annexure "M"

Syllabus for the post of Deputy Inspector Fisheries and Fisheries Development Assistant.

I. Principles of taxonomy

Nomenclature, types Classification and interrelationships. Criteria for generic and specific identification. Morphological, morphometric and meristic characteristics of taxonomic significance. Major taxa of inland and marine fishes up to family level. Commercially important freshwater and marine fishes of India and their morphological characteristics. Introduction to modern taxonomic tools: karyotaxonomy, DNA barcoding, protein analysis and DNA polymorphism. Study of external morphology and meristic characteristics of crustacea and mollusca. Classification of crustacea and mollusca up to the level of species with examples of commercially important species.

II. Anatomy and Physiology of vertebrates with special reference to finfish

Integumentary System; Derivatives of integument; Skeletal System, Evolution of visceral arches; Digestive System; Respiratory System; Circulatory System; Excretory system.

III. Classical and Molecular Genetics

Mendelian genetics. Linkage, Linkage maps and crossing over ; Nature of heterochromatin; Organisation of genetic material in prokaryotes and eukaryotes. Multiple alleles, Lethality, Epistasis, Sex linked inheritance, Extra chromosomal Inheritance; Mutations: Structural and numerical changes in chromosomes; Gene mutations; Replication: Replication in prokaryotes and eukaryotes; Transcription and translation: Transcription and post transcriptional modifications, Translation; Sex Determination, Chromosomal mechanisms, Dosage compensation; Principles of genetics and breeding, Gene and chromosome as basis of inheritance, Mendel's law of inheritance – complete and incomplete dominance, monohybrid and dihybrid ratios. Gene interactions – dominant and recessive epistasis. Pleiotropism. Lethal genes.

IV. Fresh water Aquaculture

Major species cultured, production trends and prospect in different parts of the world. Freshwater aquaculture resources-ponds, tanks, lakes, reservoirs etc. Nursery, rearing and grow-out ponds preparation and management-control of aquatic weeds and algal blooms, predatory and weed fishes, liming, fertilization/manuring, use of biofertilizers, supplementary feeding. Water quality management. Selection, transportation and acclimatization of seed. Traits of important cultivable fish and shellfish and their culture methods-Indian major carp, exotic carp, air breathing fish, cold water fish, freshwater prawns.

V. Limnology

Introduction to limnology: inland water types, their characteristics and distribution; ponds and lakes; streams and rivers; dynamics of lentic and lotic environments. Lakes - their origin and diversity. Famous lakes of India with special reference to J&K; nature of lake environment; morphometry, physical and chemical conditions and related phenomena; biological relations: influence of physical and chemical conditions on living organisms in inland waters. Plankton: planktonic organisms; classification of plankton; distribution of plankton: geographic, vertical, horizontal and seasonal distribution of phytoplankton and zooplankton; seasonal changes of body form in planktonic organisms; food of planktonic organisms; primary productivity.

VI. Aquatic ecology and Biodiversity

Aquatic environment, Flora and fauna: Components of aquatic systems, Aquatic productivity, nutrient cycles, energy flow, food chain. Animal associations.

parasite relationship Aquatic biodiversity-its importance, species diversity, genetic diversity, habitat diversity, diversity indices. Ecological and evolutionary processes. Ecological niches – lagoons, estuaries, mangroves, coral reefs, flood plains, coastal wet lands, beels, oxbow lakes. Threats to biodiversity- habitat destruction, introduction of exotic species, Conservation of habitats, marine parks and sanctuaries. Conservation programmes for endangered species, *ex situ* and *in situ* conservation, captive breeding and management of endangered species. Various national and international conventions and regulations concerning biodiversity, including use of selective gears and exclusion devices.

VII. Fish Nutrition and Biochemistry

Fundamentals of fish nutrition and growth in fish. Principal nutrients and nutritional requirements of cultivable fish and shellfish. Nutritional energetics: definition and forms of energy partitioning. Methods of feed formulation and manufacturing. Forms of feeds: wet feeds, moist feeds, dry feeds, mashcs, pelleted feeds, floating and sinking pellets. Feed additives: binders, antioxidants, enzymes, pigments, growth promoters, feed stimulants. Feed storage: use of preservatives and antioxidants. Feed evaluation: feed conversion ratio, feed efficiency ratio, protein efficiency ratio, net protein utilization and biological value. Feeding devices and methods. Non-conventional feed ingredients and antinutritional factors. Digestive enzymes, feed digestibility. Factors affecting digestibility. Nutritional deficiency diseases. Carbohydrate metabolism: Glycolysis, Krebs-cycle, Pentose phosphate pathway, Gluconeogenesis, Glycogen metabolism, Electron transport chain; Lipid metabolism: Biosynthesis and β oxidation of palmitic acid. Protein metabolism: Transamination, deamination and urea cycle Enzymes: Introduction, Mechanism of action, Enzyme Kinetics, Inhibition and Regulation

VIII. Hill stream Fisheries

Introduction, Ecology and classification of hill streams. Geographical features, Drainage pattern, Climate and seasons with special reference to Himalayan Hill streams. Check list of some important hill streams. Biodiversity of hill stream fishes of Jammu, Kashmir and Ladakh. Grouping of hill stream fishes as per Menon (1954). Modifications in the hill stream fish fauna (External shape and form of the body, Scales, position of the mouth and lips, barbles, paired fins, caudal fin and caudal peduncle, eyes, gill apertures, and branchiostegal rays, skeleton, air bladder), adhesive apparatus, histological structure and mechanism of adhesion. Food of hill stream fishes. Primary and secondary productivity in hill streams. Evolution, distribution and origin of hill stream fishes. Fish culture in hill streams.

IX. Hatchery Management

Freshwater and marine fish seed resources. Natural breeding of finfishes. Selection of riverine spawn collection sites, gears used and methods of collection. Spawn quality and quantity indices. Advantages and disadvantages of riverine seed collection. Sexual maturity and breeding season of various cultivable species. Development of gametes in male and female. Fish egg and embryonic development. Methods of breeding; bundh breeding - wet and dry bundhs, collection and hatching of eggs, factors involved in bundh breeding, advantages and disadvantages of bundh breeding. Induced breeding of warmwater finfishes, environmental factors affecting spawning, sympathetic breeding. Hypophysation of fishes. Fish pituitary gland - its structure, collection, preservation and preparation of extract for injection, dosages and methods of injection. Brood-stock management and transportation of brood fish. Synthetic hormones used for induced breeding of carps. Different types of fish hatcheries-traditional, Chinese, glass jar and modern controlled hatcheries. Causes of mortalities of eggs and spawn and remedies. Spawn rearing techniques. Use of anaesthetics in fish breeding and transport. Breeding techniques for Indian major carp, exotic carp, mahaseer, trout, tilapia, catfish.

X. Sport Fisheries

Present status and future prospects of cold-water sport fishing. Different species of cold-water sport fishes and their natural breeding habit, ecology and behaviour. Different sport fishing techniques of fly fishing, spinner fishing and bait fishing. Casting/flipping/pitching, rigging, fish handling, live baits, rod and reel maintenance and repair, seasonal fish patterns, water and sun safety. State regulations governing sport fishing and management practices that maintain healthy fish populations.

XI. Fish Preservation, Processing and Value addition

Principle of fish preservation and processing. Processing of fish by traditional methods- salting, sun drying, smoking, marinating and fermentation. Theory of salting, methods of salting-wet salting and dry salting. Drying and dehydration-theory, importance of water activity in relation to microbial growth. Sun drying and artificial drying- solar dryer. Packaging and storage of salted and dried fish. Different types of spoilage in salt cured fish. Quality standard for salted and dry fish. Fish preservation by smoking-chemical composition of wood smoke and their role in preservation. Methods of smoking and equipments used for smoking. Carcinogenic compound in wood and methods to remove them. Hurdle technology in fish preservation and processing. Marinated and fermented fish products-role of acids in marinades, Fish and prawn pickles, fish sauce and Fish paste, traditional Indian fermented products.

XII. Fish Diseases, Diagnosis and Treatment

Introduction fish diseases. Common diseases of cold-water fish spp. Haemato-biochemical profile in fish disease. Immune system of fish; cell mediated, humoral immunity, non-specific immune system. Effect of environment on fish immune system. Important bacterial and Fungal diseases of cold-water fishes. Parasitic diseases of cold-water fishes; ecto and endo parasites, monogenetic and digenetic trematodes, black spot disease. Cestodiasis; Nematodiasis; Acanthocephalosis; Protozoon infections. Argulosis and other crustacean mediated diseases Diseases due to environmental stress. Host-pathogen interaction in fish. Disease surveillance, diagnosis, and treatment.

Annexure "N"

Subject: Syllabus for Written test (Objective Type) for the post of Accounts Assistant (Finance).

Marks: 120

Time: 02:00 Hours

General Knowledge with special reference to J&K UT 30 Marks

- (i) Current Events of National and International importance
- (ii) Political & Physical divisions of world & India
- (iii) Indian Culture, Heritage and Freedom Struggle/Movement.
- (iv) Transport & Communication.
- (v) Demography- Census, its feature and functions.
- (vi) Important Rivers & Lakes in India.
- (vii) Weather, Climate, Crops, Means of Transport of India.
- (viii) Environment, Ecology & Bio-diversity.
- (ix) J&K UT
 - a) History
 - b) Economy
 - c) Geography- (Weather, Climate, Crops, Rivers, Lakes, Flora, Fauna etc.)
 - d) Heritage & Culture
 - e) Important Tourist Destinations
- (x) J&K Reorganisation Act, 2019.

Accountancy and Book Keeping 30 Marks

- (i) Introduction to Financial Accounting and its terms.
- (ii) Accounting equation and Journal.
- (iii) Voucher Approach in Accounting.
- (iv) Bank Reconciliation Statement.
- (v) Financial Management/Statements.
- (vi) Partnership Accounts.
- (vii) Ledger Accounts.
- (viii) Cash Book, Financial Audit.
- (ix) Elements of Double entry Book Keeping.
- (x) Trial Balance.
- (xi) Trading Account.
- (xii) Profit Loss Account and Balance Sheet.
- (xiii) Concept of Social Accounting, Social Audit and cash based single entry system of accounting.
- (xiv) Public Financial Management System (PFMS).
- (xv) Indian Financial Management System.
- (xvi) Taxation, Tax Laws- Direct , Indirect
- (xvii) Cost Management-Budgetary control
- (xviii) Cost Accounting
- (xix) Developments in Accounting

- (i) Tenses
- (ii) Rearranging of jumbled sentences.
- (iii) Narration
- (iv) Modals
- (v) Articles
- (vi) Comprehension with blanks to be filled in with
 - i. Phrases
 - ii. Pronouns
 - iii. Homonyms / homophones.
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Idioms and phrases.
- (xi) Uses of Prepositions.
- (xii) Active & Passive Voice

Statistics**10 Marks**

- (i) Primary and secondary data.
- (ii) Methods of collecting Primary and Secondary Data
- (iii) Preparation of questionnaires
- (iv) Tabulation and compilation of Data
- (v) Measures of central Tendency
- (vi) Theory of Probability
- (vii) Theory of Attributes- Basic concepts and their applications.
- (viii) Theory of Index Numbers: Tests of Index numbers- Wholesale and consumer price Index numbers.
- (ix) Demography-Census, its features and functions.
- (x) Vital Statistics- Measures of fertility, Crude fertility rates, specific fertility rates, gross and net reproduction rates., Measures of Mortality

Mathematics**10 Marks**

- (i) Simple / Compound interest.
- (ii) Linear equations with two variables.
- (iii) Permutations/ Combinations & Binomial Theorem.
- (iv) Limits & Derivatives.
- (v) Set Theory- Basic Concepts and Applications.
- (vi) Relations and Functions
- (vii) Matrices & Determinants
- (viii) Probability
- (ix) Coordinate & Three dimensional Geometry
- (x) Vectors.

General Economics**10 Marks**

- (i) Introduction of Economics- Basic concept and Principles.
- (ii) Fiscal & Monetary Policy- Meaning, Scope and Methodology.
- (iii) Theory of consumers demand using indifference curve technique.
- (iv) Demand Analysis
- (v) Factor Pricing –Marginal productivity Theory & Ricardian Theory of Rent

- (vi) Pricing under various forms of Market.
- (vii) Factors of production & Laws of Production.
- (viii) Concept of Economic Growth and its measurement
- (ix) Characteristics and problems of developing economy
- (x) Planning vs Market Economy.
- (xi) Economic Reforms in India
- (xii) Concept & Measurement of National Income.
- (xiii) Role of RBI

General Science

10 Marks

- (i) Newtons Laws of Motion, Mass, Weight, Acceleration, Velocity, Speed etc
- (ii) Electric Current, Power, Energy, Voltage.
- (iii) Chemical Equation, types.
- (iv) Metals, Non-metals- Physical & Chemical properties.
- (v) Various sources of energy; Conventional sources of energy; Biomass and wind energy. Non-conventional sources of energy (Solar energy, Tidal energy).
- (vi) Nutrition and its types, Respiration, Transportation of water, food and minerals in plants.
- (vii) Communicable & Non-Communicable Diseases.
- (viii) Vitamins- Diseases related to vitamin deficiency.
- (ix) Ecosystem – Its components, Food chains and Food webs.
- (x) Environmental pollution. Ozone layer, its depletion, Green House Effect.

Knowledge of Computers

10 Marks

- (i) Basic Applications of Computer and its component.
- (ii) Fundamentals of computer sciences.
- (iii) Concept of Open Source Technologies.
- (iv) Input & output Devices.
- (i) Operating system
- (ii) Knowledge of MS Word, MS Excel, MS Access, MS Powerpoint, PDF Internet and E-mail.
- (iii) Concept of Computer Virus and Anti-Virus.
- (iv) Hardware & Software, Elements of Computers Processing System Hardware , CPU, Peripherals, Storage Media, Software Definition, Role and Categories Firmware and Human-ware.
- (v) Role of Information Technology in Governance.

Annexure "O"

Syllabus for Written test

Marks =120

120 Minutes

1. Surveying: 10 Marks

Importance of surveying, principles and classifications, measurements of distance and directions, chain surveying, compass surveying, leveling, tachometry, theodolite, traversing, contouring, plane table surveying, curves.

2. Mechanics and Structural analysis: 15 Marks

Introduction, Concept of rigid body scalar and vector quantities, Laws of force, moment, friction, Centre of gravity, simple machines, torsion, Properties of material, Bending moment and shear force in statically determinate beams. Simple stress and strain relationship. Stress and strain in two dimensions, principal stresses, stress transformation. Simple bending theory, flexural and shear stresses, unsymmetrical bending, shear Centre. Thin-walled pressure vessels, uniform torsion, buckling of column, combined and direct bending stresses. slope and deflection, Analysis of trusses

3. RCC Structures: 15 Marks

Concrete technology, Ingredients of concrete, water cement ratio, workability properties of concrete, admixtures, special concretes, Nondestructive tests, basics of mix design. Concrete design-basic working stress and limit state design concepts, analysis of ultimate load capacity and design of members subjected to flexure, shear, compression and torsion by limit state methods. Basic elements of pre-stressed concrete, analysis of beam sections at transfer and service loads, one-way slab, two-way slab.

4. Soil Mechanics: 10 Marks

Origin of soils, properties, soil classification, three phase system, fundamental definitions, relationship and interrelationship, flow of water through soils, permeability & seepage, effective stress principle, deformation of soils, consolidation, compaction, shear strength characteristics, plate load test, SPT, Density control, Measurement of field density by core cutter and sand replacement method, soil exploration, bearing capacity and its methods

5. Fluid Mechanics and Hydraulics: 15 Marks

Properties of fluids, hydrostatic pressure, measurement of pressure, flow measurements, flow through pipes, flow through open channels, hydraulic pumps, principle of conservation of mass, momentum, energy and corresponding equations, potential flow, applications of momentum and Bernoulli's equation, laminar and turbulent flow, flow in pipes, pipe networks. Concept of boundary layer and its growth. Uniform flow, critical flow and gradually varied flow in channels, specific energy concept, hydraulic jump Forces on immersed bodies, flow measurements in channels, tanks and pipes. Dimensional analysis and hydraulic modeling Kinematics of flow.

6. Irrigation Engineering: **10 Marks**

Introduction, water requirement of crops, hydrological cycle, Dams, Canals, dams, canal head works and regulatory works, cross drainage works, hydraulic structures, river training works, water-logging, drainage, ground water recharge, well hydraulics.

7. Water supply and waste water Engineering: **10 Marks**

Introduction, quantity of water, quality of water, water treatment, conveyance of water, laying out of pipes, building water supply, water supply fixtures and installation, plumbing, sewerage system, laying and construction of sewers, sewage characteristics, Methods of disposal, sewage treatment, building drainage, air and noise pollution

8. Highway Engineering: **10 Marks**

History of development of highway and planning, Definitions of various terms used in highway engineering., Methods of road construction, IRC classification, Highway surveys and plans Geometric design, Different types of road materials in use, Binders, Types of pavement, CBR method, sub grade preparation, WBM, WMM, Bituminous Macadam, dense bituminous macadam, special problems in hill road.

9. Railway Engineering: **10 Marks**

History of Indian railways, Gauges used, permanent way its components, Types of rails, creep, welding, Rail fixtures and fastenings, Signaling, Points and Crossings, Bridge terminology, classification, components, foundations.

10. Construction planning management: **15 Marks**

Network diagrams, PERT-CPM, cost optimization contracts, tenders, depreciation, valuation, organization, measurement books, cash book, functions of management, construction planning, quality control, inventory control, Estimation and costing definitions, methods of estimation and type of estimates.

Annexure "P"

Syllabus for Written test

Marks =120

120 Minutes

Theory of Machines and Machine Design: 15 Marks

Four bar linkage and link motion, Flywheels and fluctuation of energy, Power transmission by belts-V-belts and Flat belts. Gears-Type of gears, gear profile and gear ratio calculation. Cams. Governors-Principles and classification. Design of keys, shafts, Riveted joint, couplings.

Engineering Mechanics and Strength of Materials: 15 Marks

Laws of forces, Equilibrium of Forces, Moment of Inertia, Laws of motion. Friction. Concept of simple machines, M A, V R, %age. Concepts of stress and strain, Elastic limit and elastic constants. Bending moments and shear force diagram. Stress in composite bars. Torsion in circular shafts. Columns: Euler's and Rankine's theories. Thin-walled pressure vessels.

Thermal Engineering and Refrigeration & Air-conditioning: 20 Marks

Thermodynamics: Heat, work and temperature, First and second laws of thermodynamics. Carnot, Rankine, Otto and Diesel Cycles. P-v & P-T diagrams H₂O. Saturated, wet & superheated steam. Definition of dryness fraction of steam, degree of superheat of steam. Rankine cycle of steam: Simple Rankine cycle, plot on P-V, T-S, h-s planes, Rankine cycle efficiency with & without pump work. Concept of COP, Carnot Cycle, Vapour compression cycle. Refrigerants. Psychometry, DBT, WBT, DPT.

Fluid Mechanics & Machinery: 15 Marks

Properties & Classification of Fluids, Newton's law of viscosity, Fluid Statics, Measurement of Fluid Pressure by Manometers, U-tube, Inclined tube. Fluid Kinematics: Stream line, laminar & turbulent flow, external & internal flow, continuity equation. Dynamics of ideal fluids: Bernoulli's equation, Total head; Velocity head; Pressure head. Measurement of Flow rate, Basic Principles & working of Venturi meter, Pitot tube, Orifice meter. Hydraulic Turbines & Centrifugal Pumps

Material Science & Production Engineering: 20 Marks

Structure of metals, Space lattice, Unit cell, BCC, FCC etc. Iron carbon diagram, Classification of Steels: mild steel & alloy steel. Heat treatment of steel. Welding

– Arc Welding, Gas Welding, Resistance Welding, Special Welding Techniques i.e. TIG, MIG. Brazing & Soldering, Welding Defects & Testing. Foundry & Casting methods, defects, different casting processes. Forging, Extrusion etc. Metal cutting principles, cutting tools. Basic Principles of machining with Lathe, Milling, Drilling, Shaping, Grinding. Machine tools & manufacturing processes.

Metrology and Automobile Engineering: **15 Marks**

Tools used in Linear Measurements, Angular Measurement, Surface finish. Limits, fits & Tolerance, Error, Classification of Automobiles. Transmission, Steering, Braking, Suspension system. IC Engine Performance, IC Engine Combustion process, Cooling and Lubrication system in I.C Engine

Industrial Management and CAD/CAM: **20 Marks**

Planning, Organizing, Leading, Controlling. Inventory Control, Inspection & Quality Control. Basic concepts of CAD/CAM. NC, DNC, CNC machines.

Annexure "Q"

Syllabus for the post of Panchayat Secretary

Marks: 100

Time: 02.00 Hrs.

S. No.	Subjects/ Topic	Marks assigned
1	GENERAL AWARENESS with special reference of UT of J&K	20
2	GENERAL ENGLISH & COMPREHENSION	20
3	GENERAL INTELLIGENCE & REASONING	20
4	QUANTITATIVE APTITUDE	15
5	BASIC KNOWLEDGE OF COMPUTERS	25
TOTAL		100

1. GENERAL AWARENESS with special reference of J&K UT

- (i) Current Events of National and International importance
- (ii) Political & Physical divisions of India
- (iii) Climate & Crops in India
- (iv) Transport & Communication.
- (v) Demography- Census, its feature and Vital Statistics.
- (vi) Important Rivers & Lakes in India.
- (vii) Indian Economy.
- (viii) Indian Culture & Heritage.
- (ix) Indian History with special reference to Freedom Movement.
- (x) Indian Constitution- Basic features- Preamble, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy
- (xi) Science & Technology.
- (xii) Environment, Ecology & Bio-diversity.
- (xiii) Taxation in India- Direct & Indirect Tax - CBDT, GST etc.
- (xiv) J&K UT
 - a) History
 - b) Economy
 - c) Geography- (Weather, Climate, Crops, Rivers, Lakes, Flora, Fauna.)
 - d) Heritage & Culture
 - e) Important Tourist Destinations
 - f) J&K Reorganisation Act, 2019.
- (xv) Centrally Sponsored Schemes (MGNREGA, PMAY, SBM) and Panchayati Raj Act/Rules.

2. GENERAL ENGLISH & COMPREHENSION

- (i) Tenses
- (ii) Narration
- (iii) Modals
- (iv) Articles
- (v) Reading Comprehension
- (vi) Fill in the blanks with Phrases, Pronouns, homonyms/ homophones etc
- (vii) Clauses
- (viii) Synonyms and antonyms
- (ix) Pairs of words and their use in meaningful sentences.
- (x) Rearranging of jumbled sentences.
- (xi) Idioms and phrases.
- (xii) Uses of Prepositions.
- (xiii) Active & Passive Voice
- (xiv) Error Spotting
- (xv) Sentence Correction
- (xvi) Spellings Correction

3. GENERAL INTELLIGENCE & REASONING

- (i) Number series, Letter series, Semantic Series, Speed, Distance and Time, Statements and conclusions, Logical Reasoning, Mental Reasoning, Word Building, Numerical Operations, Semantic Analogy, Symbolic/ Number Analogy, Figural Analogy, Semantic Classification, Symbolic/ Number Classification, Figural Classification, Problem Solving.
- (ii) Symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing inferences, Punched hole/ pattern- folding & un-folding, Figural Pattern- folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letters.

4. QUANTITATIVE APTITUDE

The scope of the test will be computation of

- (i) Whole numbers, decimals, fractions and relationships between numbers, Profit and Loss, Discount, Partnership Business, Mixture and Alligation, Time and distance, Time & Work, Percentage. Ratio & Proportion, Square roots, Averages, Interest, Basic algebraic.
- (ii) Graphs of Linear Equations, Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles, Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart,

Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles.

5. KNOWLEDGE OF COMPUTERS

- (i) Basic Applications of Computer and its component.
- (ii) Fundamentals of computer sciences.
- (iii) Hardware & Software, Concept of Open-Source Technologies.
- (iv) Input & output Devices.
- (v) Knowledge of MS Word, MS Excel, MS Access, MS PowerPoint, PDF Internet and E-mail.
- (vi) Concept of Computer Virus and Latest Anti-Virus.
- (vii) Role of Information Technology in Governance.