

GOVERNMENT OF JAMMU AND KASHMIR
J&K SERVICES SELECTION BOARD
Hema Complex, Sector -3, Channi Himmat, Jammu
www.jkssb.nic.in

NOTICE

J&K Services Selection Board has advertised various posts of Forest, Ecology and Environment Department vide Advertisement Notification No. 03 of 2021. Accordingly, the syllabi for the posts shown below is hereby notified as per the details given in Annexure "A" to "K" to this notification. Moreover, the candidates are also intimated that there shall be negative marking for wrong answers (-0.25 for each wrong answer) attempted in the said examination.

However, this notice is for the purpose of intimation to the concerned candidates only.

(Ashok Kumar)JKAS
Controller of Examinations,
J&K Services Selection Board
Jammu

No. SSB/COE/Syl /2022/190-93

Dated: 07.01.2022

Copy to the: -

1. Director Information, J&K Government, Jammu with the request to get the said notification published in at least three leading local newspaper of Jammu/Srinagar for three consecutive dates.
2. Private Secretary to the Chairman, JKSSB for information of the Chairman.
3. I/c Web site.
4. Syllabus file.

Annexure "A"

Details of posts for which Syllabus notified

S.No.	Advertisement No.	Item No.	Department	Name of the post	Cadre of the post	Total	Syllabi annexed as annexure
1	03 of 2021	556	Forest ,Ecology and Environment Department	Scientist 'A'	UT	3	A
2	03 of 2021	563		Research Assistant	UT	2	B
3	03 of 2021	564		Research Assistant	Div.Jammu	6	B
4	03 of 2021	565		Research Assistant	Div.Kashmir	1	B
5	03 of 2021	566		Junior Scientific Assistant	Div.Jammu	2	C
6	03 of 2021	567		Junior Scientific Assistant	Div. Kashmir	2	C
7	03 of 2021	568		Labortory Assistant	UT	1	D
8	03 of 2021	569		Labortory Assistant	Div.Jammu	5	D
9	03 of 2021	570		Labortory Assistant	Div.Kashmir	4	D
10	03 of 2021	557		Junior Environmental Engineer	UT	5	E
11	03 of 2021	560		Field Inspector	UT	14	F
12	03 of 2021	571		Field Assistant	Div. Jammu	13	G
13	03 of 2021	572		Field Assistant	Div.Kashmir	9	G
14	03 of 2021	594		Field Assistant	Div.Kashmir	11	G
15	03 of 2021	559		Draftsman	UT	2	H
16	03 of 2021	561		Assistant Information Officer	UT	1	I
17	03 of 2021	595		Lab Assistant	UT	1	J
18	03 of 2021	576		Data Operator	UT	3	K
						85	

Syllabus for Scientist –A

Qualification Prescribed: *Master's Degree in Environmental Science / Chemistry / Microbiology / Biochemistry with at least 60 % marks in aggregate from a recognized University*

A. Environmental Science:-

- Principles of Environmental Sciences.
- Geographical classification and zones.
- Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere. Mass and Energy transfer across the various interfaces, material balance. Laws of thermodynamics, heat transfer processes. Scale of Meteorology, pressure, temperature, precipitation, humidity, radiation and wind. Atmospheric stability, inversions and mixing heights.
- Natural resources conservation and sustainable development, Sustainable Development Goals (SDGs).

B. Fundamentals of Environmental Chemistry :-

- Stoichiometry, Gibb's energy, Chemical potential, Chemical equilibria, acid base reactions, solubility product, solubility of gases in water, the carbonate system, unsaturated and saturated hydrocarbons.
- Chemical composition of Air.
- Water Chemistry.
- Soil Chemistry.
- Toxic Chemicals in the environment.
- Industrial pollutants.
- **Principles of Analytical Methods:** Colourimetry, Spectrophotometry, Chromatography, Gas Chromatography, Atomic Absorption Spectrophotometry, GLC, HPLC, Electrophoresis. X-ray fluorescence, X-ray diffraction, Flame photometry etc.

C. Ecology :-

- Principles and scope of Ecology.
- Aquatic, Terrestrial, Human ecology and Human settlement, Evolution, Origin of life and speciation.
- Ecosystems, pathways in Ecosystems. Physico-chemical and Biological factors in the Environment.
- Common flora and fauna of India: Aquatic, Phytoplankton, Zooplankton and Macrophytes.
- Endangered and Threatened Species, Eco-sensitive zones, Protected Areas, Biosphere Reserves, MBP.
- Biodiversity and its conservation: Definition, Hotspots of Biodiversity, Strategies for Biodiversity conservation, National Parks and Sanctuaries, Gene pool, Peoples Biodiversity Registers (PBRs).

Or

D. Environmental Biotechnology:-

- Bioremediation, Biotransformation, Biodegradation, Phytoremediation, tissue culture techniques.

E. Environmental Geosciences and Energy:-

- The Earth systems and Biosphere, Earth's thermal environment and seasons, Earth's processes and geological hazards, Mineral/Water Resources and Environment, water cycle, carbon cycle.
- Principles of Remote sensing and its application in Environmental Sciences. Application of GIS in Environmental Management.

F. Environmental Pollution:-

- **Air:** Natural and anthropogenic sources of pollution. Primary and Secondary pollutants. (various Industrial effluents such as being generated from Pulp and Paper Mills, Pesticides, Pharmaceuticals, Iron & Steel Industries). Transport and diffusion of pollutants. Gas laws governing the behaviour of pollutants in the atmosphere. Air Sampling techniques. Identification of aeroallergens. Air-borne diseases and allergies.
- Methods of monitoring and control of air pollution SO_x, NO_x, CO, National Ambient Air Quality parameters, AQI, Non-attainment cities under National Clean Air Programme (NCAP)
- Suspended Particulate Matter (SPM). Effects of pollutants on human beings, plants, animals, materials and on climate. Acid Rain.
- **Water:** Types, sources and consequences of water pollution. Physico-chemical and Bacteriological sampling and analysis of water quality. Standards, sewage and waste water treatment and recycling. Water quality standards. STPs, ETPs and Technologies used.
- **Soil:** Physico-chemical analysis, bacteriological sampling as well as analysis of soil quality. Soil Pollution Control. Industrial waste effluents and heavy metals, their interactions with soil components. Soil micro-organisms and their functions, degradation of different insecticides, fungicides and weedicides in soil. Different kinds of synthetic fertilizers (N, P & K) and their interactions with different components of soil.
- **Noise:** Sources of noise pollution, measurement of noise and Indices, effect of meteorological parameters on noise propagation. Noise exposure levels and standards. Noise control and abatement measures. Impact of noise on human health. Silence zones, noise limiters, white noise, pink noise, black noise.
- **Marine:** Sources of marine pollution and control. Criteria employed for disposal of pollutants in marine system-coastal management. Radioactive and Thermal Pollution.

G. Environment Impact Assessment:-

- Introduction to Environmental Impact Assessment, EIA notification 2006.
- Environmental impact Statement and Environmental Management Plan. EIA guidelines and notifications by Government of India, Public Hearing,
- Impact Assessment Methodologies.
- Procedure for reviewing Environmental impact analysis and statement. Guidelines for Environmental Audit.
- Environmental priorities in India and sustainable development.
- Environmental Monitoring : Methods of assessment of Environmental quality, short term studies/surveys, Rapid Assessment, Continuous Short and Long term Monitoring, Remote Sensing and its application i.e. Environmental Monitoring.

H. Waste Management:-

- Sources and generation of Solid Wastes, Hospital Waste, COVID BM Waste, Hazardous Waste, Plastic Waste, E-Waste. Different methods of disposal and their management; Recycling of waste material. Waste minimization technologies, laws/ rules for waste management under Environment (Protection) Act, 1986.
- Environment protection-issues and problems, International and National efforts for Environment Protection, Provisions in Constitution of India regarding Environment Protection.
- Environmental Policy Resolution, Legislation, Public Policy Strategies in Pollution Control, Wildlife Protection Act, 1972, Air (Prevention and Control of Pollution) Act, 1981 as amended, Motor Vehicle Act, 1988, The Water (Prevention and Control of Pollution) Act, 1974 as amended, The Environment (Protection) Act, 1986 and Rules 1986.
- Scheme of labelling of environmentally friendly products (Ecomark), Public Liability Insurance Act, 1991 and Rules 1991.

I. Bio Statistics:-

- Fundamentals of Biostatistics
- Sample survey
- Sampling distribution and Test of Significance
- Standard Deviation and its applicability.

J. Miscellaneous:-

- **Environmental Education and Awareness.** Environmental Ethics and Global imperatives.
- **Global Environmental problems** - Ozone depletion, global warming and climatic change. Current Environmental issue in India.
- Environmental Movements for protection of Forest, Environment etc in India.
- Judicial activism for environmental protection by Hon'ble Supreme Court of India and Hon'ble National Green Tribunal.
- International Environment Treaties and Conventions.

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K. Microbiology:-

- Introduction to Microbiology and Bacterial Technology
- Environmental Microbiology
- Bio Instrumentation
- Microbial Genetics and Molecular Biology Immunology
- Microbial Physiology and Metabolism
- Medical Microbiology



Syllabus for Research Assistant

Qualification Prescribed: *Master's Degree in Environmental Science / Chemistry / Microbiology / Biochemistry with at least 60 % marks in aggregate from a recognized University*

A. Environmental Science:-

- Principles of Environmental Sciences.
- Geographical classification and zones.
- Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere. Mass and Energy transfer across the various interfaces, material balance. Laws of thermodynamics, heat transfer processes. Scale of Meteorology, pressure, temperature, precipitation, humidity, radiation and wind. Atmospheric stability, inversions and mixing heights.
- Natural resources conservation and sustainable development, Sustainable Development Goals (SDGs).

B. Fundamentals of Environmental Chemistry :-

- Stoichiometry, Gibb's energy, Chemical potential, Chemical equilibria, acid base reactions, solubility product, solubility of gases in water, the carbonate system, unsaturated and saturated hydrocarbons.
- Chemical composition of Air.
- Water Chemistry.
- Soil Chemistry.
- Toxic Chemicals in the environment.
- Industrial pollutants.
- **Principles of Analytical Methods:** Colourimetry, Spectrophotometry, Chromatography, Gas Chromatography, Atomic Absorption Spectrophotometry, GLC, HPLC, Electrophoresis. X-ray fluorescence, X-ray diffraction, Flame photometry etc.

C. Ecology :-

- Principles and scope of Ecology.
- Aquatic, Terrestrial, Human ecology and Human settlement, Evolution, Origin of life and speciation.
- Ecosystems, pathways in Ecosystems. Physico-chemical and Biological factors in the Environment.
- Common flora and fauna of India: Aquatic, Phytoplankton, Zooplankton and Macrophytes.
- Endangered and Threatened Species, Eco-sensitive zones, Protected Areas, Biosphere Reserves, MBP.
- Biodiversity and its conservation: Definition, Hotspots of Biodiversity, Strategies for Biodiversity conservation, National Parks and Sanctuaries, Gene pool, Peoples Biodiversity Registers (PBRs).

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D. Environmental Biotechnology:-

- Bioremediation, Biotransformation, Biodegradation, Phytoremediation, tissue culture techniques.

E. Environmental Geosciences and Energy:-

- The Earth systems and Biosphere, Earth's thermal environment and seasons, Earth's processes and geological hazards, Mineral/Water Resources and Environment, water cycle, carbon cycle.
- Principles of Remote sensing and its application in Environmental Sciences. Application of GIS in Environmental Management.

F. Environmental Pollution:-

- **Air:** Natural and anthropogenic sources of pollution. Primary and Secondary pollutants. (various Industrial effluents such as being generated from Pulp and Paper Mills, Pesticides, Pharmaceuticals, Iron & Steel Industries). Transport and diffusion of pollutants. Gas laws governing the behaviour of pollutants in the atmosphere. Air Sampling techniques. Identification of aeroallergens. Air-borne diseases and allergies.
- Methods of monitoring and control of air pollution SO_x, NO_x, CO, National Ambient Air Quality parameters, AQI, Non-attainment cities under National Clean Air Programme (NCAP)
- Suspended Particulate Matter (SPM). Effects of pollutants on human beings, plants, animals, materials and on climate. Acid Rain.
- **Water:** Types, sources and consequences of water pollution. Physico-chemical and Bacteriological sampling and analysis of water quality. Standards, sewage and waste water treatment and recycling. Water quality standards. STPs, ETPs and Technologies used.
- **Soil:** Physico-chemical analysis, bacteriological sampling as well as analysis of soil quality. Soil Pollution Control. Industrial waste effluents and heavy metals, their interactions with soil components. Soil micro-organisms and their functions, degradation of different insecticides, fungicides and weedicides in soil. Different kinds of synthetic fertilizers (N, P & K) and their interactions with different components of soil.
- **Noise:** Sources of noise pollution, measurement of noise and Indices, effect of meteorological parameters on noise propagation. Noise exposure levels and standards. Noise control and abatement measures. Impact of noise on human health. Silence zones, noise limiters, white noise, pink noise, black noise.
- **Marine:** Sources of marine pollution and control. Criteria employed for disposal of pollutants in marine system-coastal management. Radioactive and Thermal Pollution.



G. Environment Impact Assessment:-

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- Environmental impact Statement and Environmental Management Plan. EIA guidelines and notifications by Government of India, Public Hearing,
- Impact Assessment Methodologies.
- Procedure for reviewing Environmental impact analysis and statement. Guidelines for Environmental Audit.
- Environmental priorities in India and sustainable development.
- Environmental Monitoring : Methods of assessment of Environmental quality, short term studies/surveys, Rapid Assessment, Continuous Short and Long term Monitoring, Remote Sensing and its application i.e. Environmental Monitoring.

H. Waste Management:-

- Sources and generation of Solid Wastes, Hospital Waste, COVID BM Waste, Hazardous Waste, Plastic Waste, E-Waste. Different methods of disposal and their management; Recycling of waste material. Waste minimization technologies, laws/ rules for waste management under Environment (Protection) Act, 1986.
- Environment protection-issues and problems, International and National efforts for Environment Protection, Provisions in Constitution of India regarding Environment Protection.
- Environmental Policy Resolution, Legislation, Public Policy Strategies in Pollution Control, Wildlife Protection Act, 1972, Air (Prevention and Control of Pollution) Act, 1981 as amended, Motor Vehicle Act, 1988, The Water (Prevention and Control of Pollution) Act, 1974 as amended, The Environment (Protection) Act, 1986 and Rules 1986.
- Scheme of labelling of environmentally friendly products (Ecomark), Public Liability Insurance Act, 1991 and Rules 1991.

I. Bio Statistics:-

- Fundamentals of Biostatistics
- Sample survey
- Sampling distribution and Test of Significance
- Standard Deviation and its applicability.

J. Miscellaneous:-

- Environmental Education and Awareness. Environmental Ethics and Global imperatives.
- Global Environmental problems - Ozone depletion, global warming and climatic change. Current Environmental issue in India.
- Environmental Movements for protection of Forest, Environment etc in India.
- Judicial activism for environmental protection by Hon'ble Supreme Court of India and Hon'ble National Green Tribunal.
- International Environment Treaties and Conventions.

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K. Microbiology:-

- Introduction to Microbiology and Bacterial Technology
- Environmental Microbiology
- Bio Instrumentation
- Microbial Genetics and Molecular Biology Immunology
- Microbial Physiology and Metabolism
- Medical Microbiology



Syllabus for Junior Scientific Assistant

Qualification Prescribed: *Bachelor's Degree in Science from a recognized University with the stream of Physics, Chemistry and Biology having at least 60 % marks in aggregate.*

A) Physics:-

- Thermal Physics, Solid State Physics, Mathematical Physics, Quantum Mechanics and application, fundamental concepts such as force, motion, gravity and electricity, work and energy, properties of matter, kinetic theory of gases, key concepts of thermal physics, thynodynamic systems, atmosphere and properties, Fission and Fusion. Oscillators, Amplifiers and operation amplifiers, Electricity and Magnetism, Waves and Optics, Electromagnetic induction.

B) Chemistry:-

- Classification of elements, chemical speciation. Particles, ions and radicals in the atmosphere. Chemical processes for formation of inorganic and organic particulate matter. Thermochemical and photochemical reactions in the atmosphere. Chemistry of air pollutants. Photochemical smog.
- Various Methods for detection of pollutants in Air, Water and Soil.
- Chemistry of water: concept of DO, BOD, COD, sedimentation, coagulation, filtration.
- Inorganic and organic components of soil, Nitrogen pathways and NPK in soils.
- Pesticides in water, Biochemical aspects of Arsenic, Cadmium, Lead, Mercury. Carbon Monoxide and Pesticides, Insecticides, MIC, carcinogens in the air.
- Analytical Methods: Kjeldahl, Colourimetry, Spectrophotometry, Chromatography.
- Industrial Chemistry, Polymer chemistry, Pharmaceutical Chemistry.
- Green Crackers and banned chemicals in fire crackers.

C) Biology:-

- Unit of life, cell- tissue, origin and evolution of life, diversity of life.
- Molecular Biology, Animal Biology, Microbiology, Genetics, Biotechnology, Natural Resource Management, Biochemical Techniques.
- Ecology and Environment, bio-geo-chemical cycles, energy flow in an eco-system, food chain.
- Photo-synthesis, respiration, photo respiration.
- Global warming and climate change.
- Ozone depletion.
- Bio fuels, bio fertilizers, tissue culture techniques and biotechnology applications.



Annexure 'D'

Syllabus for Laboratory Assistant

Qualification Prescribed: *Bachelor's Degree in Science from a recognized University with Chemistry/Botany / Zoology / Environmental Science with at least 60 % marks in aggregate.*

A) Chemistry:-

- Qualitative and Quantitative estimation of various cations and anions, Different techniques used in pesticide residue analysis, Principles of Analytical Methods in Titrimetry and Gravimetry.

B) Botany / Zoology:-

- Biochemistry and Cellular basis of life, Genetics evolution of life, Diversity of life forms, Molecular Biology, Ecology, Biostatistics, Industrial and Environmental Microbiology, Natural Resource Management, Bio-fertilizers, Environmental Biotechnology.

C) Environmental Science:-

- Introduction to Environmental Studies, Ecosystems, Natural Resources, Biodiversity and Conservation, Environmental Pollution, Waste Management, Global Environmental Issues and Policies, biogeochemical cycles, eco - system and ecology, eco tones, Man and biosphere programme.

Syllabus for Junior Environment Engineer

Name of the Subject		Topic Name
a)	Environmental knowledge General	<ul style="list-style-type: none"> National / International events related to the environment and common understanding of environmental processes, NGT Act, Pollution Indices. Abiotic and biotic environment, Non-renewable resources, Health hazards due to Environmental Pollution.
b)	Water / Waste Water / Industrial Waste Water Engineering	<ul style="list-style-type: none"> Estimating sewage discharge, quantity of sewage per capita and its relationship per capita water supplied, design periods. Unit processes / Operations related to water and waste water treatment, namely Equalization Coagulation; Flocculation; Settling; filtration; Disinfection; Aeration; Adsorption etc. Physical, chemical and biological characteristics of water and sewage; Activated sludge process and its modifications; treatment ponds and aerated lagoons; Trickling filters; Rotating biological contactors; Sequencing Batch reactor and Membrane Batch Reactor. Anaerobic digestion; Anaerobic filter and UASB, Nitrification & De-nitrification. Types of pumps required for pumping sewage such as, centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts. Characteristics and treatment of waste from Textile, Tannery, Dairy, Distillery, Cement Industry.
c)	Water / Waste Water / Industrial Waste Water Analysis	<ul style="list-style-type: none"> Physical, chemical, and biological characteristics of water, and sewage, performance evaluation of the wastewater treatment system.
d)	Environmental Assessment Impact	<ul style="list-style-type: none"> Basic concept of Environmental Impact Assessment, Environmental Impact statement, and Environment Management Plan. Prediction and assessment of impacts on air, water, biota, noise, cultural, and socio-economic environment. Rapid and comprehensive Environmental Impact Assessment. Use of GIS in making EIA reports for industries and remote sensing and other software use in EIA studies.
e)	Environmental Legislations in India	<ul style="list-style-type: none"> Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein. Environmental Impact Assessment notification, 2006-salient features. Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act 1981.
f)	Environmental Audit and Safety Audit in Industrial units	<ul style="list-style-type: none"> Environmental Audit and Safety Audit in Industrial units. On site and off site emergency plan, Disastrous management plan.

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Syllabus for Field Inspector

Name of the Subject		Topic Name
a)	Environmental knowledge General	<ul style="list-style-type: none"> National / International events related to the environment and common understanding of environmental processes. NGT Act, Pollution Indices. Abiotic and biotic environment; Non-renewable resources, Health hazards due to Environmental Pollution.
b)	Water / Waste Water / Industrial Waste Water Engineering	<ul style="list-style-type: none"> Estimating sewage discharge, quantity of sewage per capita and its relationship per capita water supplied, design periods. Unit processes / Operations related to water and waste water treatment, namely Equalization Coagulation; Flocculation; Settling; filtration; Disinfection; Aeration; Adsorption etc. Physical, chemical and biological characteristics of water and sewage; Activated sludge process and its modifications; treatment ponds and aerated lagoons; Trickling filters; Rotating biological contactors; Sequencing Batch reactor and Membrane Batch Reactor. Anaerobic digestion; Anaerobic filter and UASB, Nitrification & De-nitrification. Types of pumps required for pumping sewage such as, centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts. Characteristics and treatment of waste from Textile, Tannery, Dairy, Distillery, Cement Industry.
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d)	Environmental Assessment Impact	<ul style="list-style-type: none"> Basic concept of Environmental Impact Assessment, Environmental Impact statement, and Environment Management Plan. Prediction and assessment of impacts on air, water, biota, noise, cultural, and socio-economic environment. Rapid and comprehensive Environmental Impact Assessment. Use of GIS in making EIA reports for industries and remote sensing and other software use in EIA studies.
e)	Environmental Legislations in India	<ul style="list-style-type: none"> Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein. Environmental Impact Assessment notification, 2006-salient features. Water (Prevention & Control of Pollution) Act, 1974. Air (Prevention & Control of Pollution) Act 1981.
f)	Environmental Audit and Safety Audit in Industrial units	<ul style="list-style-type: none"> Environmental Audit and Safety Audit in Industrial units. On site and off site emergency plan, Disastrous management plan.

Syllabus for Field Assistant

Name of the Subject		Topic Name
a)	Environmental knowledge General	<ul style="list-style-type: none"> National / International events related to the environment and common understanding of environmental processes, NGT Act, Pollution Indices. Abiotic and biotic environment. Non-renewable resources. Health hazards due to Environmental Pollution.
b)	Water / Waste Water / Industrial Waste Water Engineering	<ul style="list-style-type: none"> Estimating sewage discharge, quantity of sewage per capita and its relationship per capita water supplied, design periods. Unit processes / Operations related to water and waste water treatment, namely Equalization Coagulation; Flocculation; Settling; filtration; Disinfection; Aeration; Adsorption etc. Physical, chemical and biological characteristics of water and sewage; Activated sludge process and its modifications; treatment ponds and aerated lagoons; Trickling filters; Rotating biological contactors; Sequencing Batch reactor and Membrane Batch Reactor. Anaerobic digestion; Anaerobic filter and UASB. Nitrification & De-nitrification. Types of pumps required for pumping sewage such as centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations -- their locations and component parts. Characteristics and treatment of waste from Textile, Tannery, Dairy, Distillery, Cement Industry.
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f)	Environmental Audit and Safety Audit in Industrial units	<ul style="list-style-type: none"> Environmental Audit and Safety Audit in Industrial units. On site and off site emergency plan, Disastrous management plan.

- Types of pumps required for pumping sewerage such as, centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts.

F) Environmental Legislations in India:-

- Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein.
- Environmental Impact Assessment notification, 2006-salient features.
- Water (Prevention & Control of pollution) Act, 1974, Air (Prevention & Control of pollution) Act 1981.

G) Irrigation Engineering:-

- 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.

H) Engineering Drawing:-

- Basic of Engineering drawings, Basic concepts of CAD/CAM, Engineering drawing softwares.



Syllabus for Draftsman

- A) Surveying:-**
- Importance of surveying, principles and classifications, measurements of distance and directions, chain surveying, compass surveying, leveling, tacheometry, theodolite, traversing, contouring, plane table surveying, curves.
- B) Mechanics and Structural Analysis:-**
- Introduction, Concept of rigid body scalar and vector quantities, laws of forces, moment, friction, center 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, principle 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.
 - Modern Tools and Technologies.
 - GIS/RS applications in survey.
- C) Soil Engineering / Fluid Mechanics and Hydraulics:-**
- Origin of soils, properties, soil classification, definitions, relationship and interrelationship, flow of water through soils, permeability and seepage, effective stress principle.
 - 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.
- D) Constructional Planning Management:-**
- 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.
 - Programme such as CAD.
- E) Water supply and waste water Engineering:-**
- 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.


Syllabus for Assistant Information Officer

- A) Programme Structure:-**
- Introduction to Journalism & Mass Communication.
 - Reporting Techniques.
 - Writing and Editing for Print Media.
 - Broadcast and Online Journalism.
 - Media and Society.
 - Media Ethics and Laws.
- B) Introduction to Journalism and Mass Communication:-**
- Communication, concept and process.
 - Models of communication.
 - Theories of Mass Communication.
 - Communication Research.
- C) Evolution of Mass Media:-**
- History of Journalism and Mass Communication.
 - Print Media in India.
 - Language Journalism in India.
 - Development of Radio.
- D) Integrated Marketing Communication:-**
- Advertising.
 - Public Relations and Corporate Communication.
 - Event Management.
 - Marketing Communications Mix.
- E) Writing and Editing for Print Media:-**
- Basics of writing.
 - Writing effectively.
 - Writing for print media.
 - Translation.
- F) Media and Society:-**
- Understanding Media and Society.
 - Media Audiences.
 - Media Literacy.
 - Mass Media Policies.
 - Development Concept and theories.
 - Development Communication.
 - Social and Behavioural Change Communication.
 - SBCC – case studies.
 - Media and Health issues.
 - Education and Media.
 - Gender and Media.
 - Media and Environment.
 - Media and Human Rights.
- G) Social Media:-**
- Television / OTT etc.

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SALLYBUS FOR LAB ASSISTANT ENVIRONMENT DEPARTMENT

1. **Basis Mathematics**
 - Percentage
 - Average
 - Time, Work and Distance
 - Ration and Proportions
 - Problem of Age
 - Probability
 - LCM, HCF
 - Mensuration
2. **Basis Reasoning**
 - Analogies
 - Relationship concepts
 - Figure odd one out
 - Direct Sense
 - Figure Series completion
 - Venn Diagram
 - Number series
 - Coding/Decoding
3. **Basis English**
 - Articles
 - Synonyms
 - Antonyms
 - Preposition
 - Verbs
 - Reading comprehension
 - Determiners
 - Spellings
 - Sentences
4. **General Awareness and Science**
 - General current events (National Level)
 - Sports
 - India history
 - Indian geography
 - Capital/State
 - General Science
 - Geography of Jammu and Kashmir
 - Ecology and Environment
 - Environmental Laws
 - Environmental Pollution
 - Remote Sensing and GIS (Basics)


02/11/2023

ANNEXURE "K"

Syllabus for written

Marks: 100

Time: 02.00 Hrs.

S. No.	Subjects/ Topic	Marks assigned
1	GENERAL AWARENESS with special reference of J&K UT	30
2	GENERAL ENGLISH & COMPREHENSION	20
3	GENERAL INTELLIGENCE & REASONING	20
4	QUANTITATIVE APTITUDE	20
5	BASIC KNOWLEDGE OF COMPUTERS	10
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 World & 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
- (xv) J&K Reorganisation Act, 2019.

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 APPTITUDE

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.