

Advt No. 13 of 2024

For the Post of Junior Environmental Engineer

Plan of Written Examination

All the aspirants are informed as under with respect to the written test to be conducted for the recruitment for the post of **Junior Environmental Engineer** in Advt No. 13 of 2024:-

1. The Exam will be conducted in MCQ (Multiple Choice Questions) format. OMR sheet will be used for answering the questions.
2. The Exam would be of 2 hours duration.
3. The Exam will consist of two parts (Part A and Part B) as follows:-

Part	Topic	No. of Questions	Marks (Each Question carries 1 mark)	Type of Questions
A	Questions from General Knowledge and Current Affairs, Punjab History and Culture, Logical Reasoning and Mental ability, Punjabi, English, ICT, (Annexure-1)	40	40	MCQs (Multiple Choice Questions)
B	Questions from the Subject (Annexure-2)	80	80	MCQs (Multiple Choice Questions)
Total		120	120	

4. **There will be negative marking. Each question carries 1 mark. For every wrong answer, 1/4th mark i.e. 0.25 mark would be deducted. The question(s) not attempted will receive no credit or discredit.**
5. For the post of Care Taker Part B contains questions from the subjects mentioned as per Annexure-2
6. Tentative syllabus for the written examination for the recruitment of **Junior Environmental Engineer** is annexed below:

Annexure - 1

**Part A - General Knowledge, Punjab History and Culture, Logical Reasoning
Mental Ability, Punjabi, English and ICT.**

Sr. No.	Indicative Contents of Syllabus	Weightage (Approx.)
1.	<p>General Knowledge and Current affairs of National and International importance including:</p> <ul style="list-style-type: none"> (i) Polity issues, (ii) Environment issues, (iii) Current Affairs, (iv) Science and Technology, (v) Economic issues, (vi) History of India with special reference to Indian freedom struggle movement. (vii) Sports, (viii) Cinema and Literature. (ix) Geography 	10
2.	<p>Punjab History and Culture:- Physical features of Punjab and its ancient history. Social, religious and economic life in Punjab. Development of Language & literature and Arts in Punjab, Social and culture of Punjab during Afgan/Mughal Rule, Bhakti Movement, Sufism, Teachings/History of Sikh Gurus and Saints in Punjab. Adi Granth, Sikh Rulers, Freedom movements of Punjab.</p>	5
3.	<p>Logical Reasoning & Mental Ability:</p> <ul style="list-style-type: none"> (i) Logical reasoning, analytical and mental ability. (05 Marks) (ii) Basic numerical skills, numbers, magnitudes, percentage, numerical relation appreciation. (03 Marks) (iii) Data analysis, Graphic presentation charts, tables, spreadsheets. (02 Marks) 	10
4.	<p>ਪੰਜਾਬੀ:- ਸ਼ੁੱਧ-ਅਸ਼ੁੱਧ, ਸ਼ਬਦਜੋੜ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ, ਸਮਾਨਾਰਥਕ/ਵਿਰੋਧੀਸ਼ਬਦ, ਨਾਂਵ, ਪੜਨਾਂਵ ਅਤੇ ਕਿਰਿਆ ਦੀਆਂ ਕਿਸਮਾਂ ਤੇ ਸਹੀ ਵਰਤੋਂ, ਲਿੰਗ ਅਤੇ ਵਚਨ, ਪੰਜਾਬੀ ਅਖਾਣ ਤੇ ਮੁਹਾਵਰੇ, ਅੰਗਰੇਜੀ ਤੋਂ ਪੰਜਾਬੀ ਅਨੁਵਾਦ ਅਤੇ ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇੱਕ ਸ਼ਬਦ ਆਦਿ।</p>	5
5.	<p>English:- Basic Grammar, Subject and Verb, Adjectives and Adverbs, Synonyms, Antonyms, One Word Substitution, Fill in the Blanks, Correction in Sentences, Idioms and their meanings, Spell Checks, Adjectives, Articles, Prepositions, Direct and Indirect Speech, Active and Passive Voice, Correction in Sentences, etc.</p>	5
6.	<p>ICT:- Basics of computers, Network & Internet, Use of office productivity tools Word, Excel, Spreadsheet & PowerPoint.</p>	5
	Maximum Marks	40

Part-B

Number of Questions - 80

Maximum Marks- 80

1. Fluid Flow and Mechanical Operation:

Fluid properties and Bernoulli equation; Flow of incompressible Fluids, Laminar and Turbulent Flow in Pipes, Frictional Losses in pipes; Open channel flow; Flow measurement techniques; Pumping systems, pumps and pumping stations; Surface and ground water hydrology;

2. Flow Measurement:

Pitot tube, Orifice meter, Venturimeter, Rotameter, and Weir & Notches.

3. Interaction between humans and environment:

The physical environment- land water, and climate; Resources and their management- Natural, technological and human; Concept of sustainability- natural ecosystems and sustainability; Agricultural and Industrial systems from the angles of environment protection;

4. Water supply and Water Treatment:

Sources of water, Water treatment, Types of pipes, laying of pipes. Quality of sewage, laying of sewers, Building drainage and rural sanitation.

5. Water and wastewater treatment technologies:

Preliminary, primary, secondary and tertiary treatment technologies; Coagulation-flocculation; Stoke's law and sedimentation or gravity settling; Filtration (slow sand and rapid gravity) and membrane filtration; Disinfection and chlorination; Ion exchange processes; Adsorption; aerobic and anaerobic processes, reverse osmosis system.

6. Environmental Studies

Need for public awareness. Natural Resource- Renewable and non-renewable resources. Natural resources and associated problem. a) Forest resources : use and over exploitation, deforestation and its impact. b) Water resources; use and overutilization and surface and ground water and its impact. c) Mineral resources: use and effects on environment on over exploitation. d) Food resources: Effects modern agriculture, fertilizer-pesticide problem, water logging and salinity. e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy resources. f) Role of an individual in conservation of natural resources for sustainable development. Ecosystem and its components: Definition, structure and function; producer, consumer and decomposer.

7. Environmental Pollution

a) Air pollution b) water pollution c) Soil pollution d) Noise pollution e) Thermal pollution. Role of an individual in prevention of pollution, solid waste management, vermicomposting. Disaster management: Floods. Social issues and Environment. Water conservation rain water harvesting, water shed management, Climate changes, global warming, acid rain, ozone layer depletion. Environment Protection Laws in India. Environmental Protection Act. Air (Prevention and control of Pollution) Act 1981, Water (Prevention and control of Pollution) Act 1974 and Waste Management Rules, 2016.