



अखिला भारतीय आयुर्विज्ञान संस्थान ऋषिकेश (उत्तराखण्ड)

ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH (UTTARAKHAND)

(An autonomous organization under the Ministry of Health & Family Welfare, Govt. of India)

परीक्षा विभाग (Examination Section)

#AIIMSRISH/Exam/23/ 1280

Date: 01 Dec. 2023

Examination Notice

Subject:- **Schedule & Scheme of Examination and Indicative Syllabus for CBT Recruitment Exams for the posts Warden (Hostel Warden) and Mechanic (E & M)-reg.**

All the candidates who have applied for the posts of *Warden (Hostel Warden)* and *Mechanic (E & M)* against the Advertisement No. **2017/138** and **2019/157** and subsequent re-open notices dated **25th July-2023** of AIIMS Rishikesh; are hereby informed that: -

- The scheme & pattern of the recruitment examination for the said posts will be as follows: -

| S.N. | Activity/ Description | Details |
|------|---|---|
| 1 | Date of Examination (Tentative) | 08th December 2023 |
| 2 | Date of uploading admit cards (Tentative) | 03th December 2023 |
| 3 | Venue of Exams. | Dehradun (Exact Venue of Examination will be provided in the admit card) |
| 4 | Time duration of Examination | 03 Hours (180 Minutes) |
| 5 | Type of Examination | Computer Based Test (CBT) |
| 6 | Number of Question Papers | Single (01) QP for each post |
| 7 | Scheme of Examination | <ul style="list-style-type: none">• CBT multiple choice questions with four answer options and one of these four options will be the correct answer.• There will be only one question paper for each post. The question paper will consist of 200 questions (MCQs) and the maximum marks will be 200.• Each question will carry 01 (One) Marks for every correct answer.• There will be 0.25 negative marks for each wrong answered question. |
| 8 | Minimum Qualifying marks | The qualifying marks in the Recruitment Examination will be 50% for UR category candidates, 45% for OBC category candidates and 40% for SC & ST category candidates. |
| 9 | Resolution of Tie Case | In cases where more than one candidate secures equal marks, tie will be resolved: (i) First by using date of birth with older candidates placed higher. (ii) If not resolved by (i) or in cases with same marks and same date of birth: number wrong answers/negative marks will be used wherein those with less wrong answers/negative marks will be placed higher. |

- Candidates are advised to visit the website of AIIMS Rishikesh regularly for all updates/corrigendum/Addendum regarding the examination/recruitment process for the above posts. They are also advised to regularly check their registered email for information sent by AIIMS regarding the examination.
- For any query or suggestion, candidates may send email to **helpdesk_exam@aaimsrishikesh.edu.in**
- Post-wise indicative syllabus for the examination is given herewith in **Annexure-A**

**Examination Section
AIIMS Rishikesh**



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ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH (UTTARAKHAND)

परीक्षा विभाग (Examination Section)


Syllabus for recruitment Examination

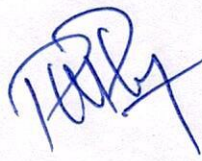
| Post Name:- | Warden (Hostel Warden) | |
|--|------------------------|------------------|
| Pattern of examination: <ul style="list-style-type: none">• CBT Multiple Choice Questions with four answer options.• Total 200 questions.• 01 mark for each correctly answered question• Negative 0.25 marks for each wrong answered question. | | |
| Proposed Scheme of Examination | | No. of Questions |
| A. General Intelligence & Reasoning | | 25 |
| B. General Awareness | | 25 |
| C. Quantitative Aptitude | | 25 |
| D. English Language and Comprehension | | 25 |
| E. Post specific domain knowledge. | | 100 |
| Indicative Syllabus | | |
| <p>A. General Intelligence & Reasoning: It would include question of both verbal and non-verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, Symbolic/Number Analogy, Figural Analogy, Semantic Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.</p> <p>B. General Awareness: Question in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Question will also be designed to test knowledge of current events and of such matters of every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions related to India and its neighbouring countries especially pertaining History, Cultural, Geography, Economic Scene, General Policy & scientific Research.</p> <p>C. Quantitative Aptitude: The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of circle, common tangents to two or more circles, Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square base Trigonometric ratio, Degree and Radian Measures, Standard Identities Complementary angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.</p> <p>D. English Language and Comprehension: Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.</p> <p><i>The questions in Part A, B, & D will be of level commensurate with the essential qualification and questions in Part C will be of 10th standard level.</i></p> <p>E. Post specific domain knowledge: -</p> <ul style="list-style-type: none">• Office Procedures• Hostel Management• Compliance of Govt Rules for operation of Hostel and Canteen/Mess management.• Management of medical facility• Hostel Housekeeping operation.• Hostel safety and security.• Hostel caretaking operation. | | |

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- Hygiene and sanitation.
- Accounts & audit procedures for inventory control.
- Store management.
- Food safety and standards.
- Records keeping and retention the record rules.
- Event management.
- Material management.
- Public relations
- Estate management

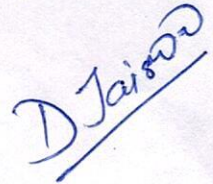
Note:- It may be noted that apart from the topics given above, questions from other topics related to the job and prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.


10/9/2023



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ALL INDIA INSTITUTE OF MEDICAL SCIENCES RISHIKESH (UTTARAKHAND)

परीक्षा विभाग (Examination Section)

Syllabus for recruitment Examination

Post Name:-

Mechanic (E&M)

Pattern of examination:

- CBT Multiple Choice Questions with four answer options.
- Total 200 questions.
- 01 mark for each correctly answered question
- **Negative 0.25 marks** for each wrong answered question.

Proposed Scheme of Examination

No. of Questions

| <u>Proposed Scheme of Examination</u> | <u>No. of Questions</u> |
|---|-------------------------|
| A. General Intelligence & Reasoning | 15 |
| B. General Awareness and Financial Rules | 15 |
| C. Quantitative Aptitude | 15 |
| D. English Language and Comprehension | 15 |
| E. Subject knowledge of the concerned post (Mechanic- E & M) | 140 |

Indicative Syllabus

- A. General Intelligence & Reasoning:** It would include question of both verbal and non- verbal type. This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, Symbolic/Number Analogy, Figural Analogy, Semantic Series, Number Series, Figural Series, problem Solving, Word Building, Coding & decoding Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing interfaces, Punched hole/pattern -folding & unfolding, Figural Pattern -folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/roll numbers, Small & Capital letter/number coding, decoding and classification, Embedded Figures, Critical thinking Emotional Intelligence, Social Intelligence, other sub-topics, if any.
- B. General Awareness and Financial Rules:** Questions in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of every day observations as may be expected of any educated person. The test will also include questions relating to India especially pertaining History, Culture, Geography, Economic Scene, General Policy.
- C. Quantitative Aptitude:** The questions will be designed to test the ability of appropriate use of number and number sense of the candidates. The scope of the test will be computation of whole number, decimals, fractions and relationship between numbers, Percentage. Ratio and Proportion, square roots, Average, Interest, profit and loss, Discounts, Partnership Business, Mixture and allegation, Time and Distance, Time and work, Basic algebraic identities of school algebra & Elementary surds, Graphs of linear Equations, Triangle and its various kind of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of circle, common tangents to two or more circles, Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square base Trigonometric ratio, Degree and Radian Measures, Standard Identities Complementary angle, Heights and Distance Histogram, Frequency polygon, Bar diagram & Pie Chart.
- D. English Language and Comprehension:** Candidates ability to understand correct English, his basic comprehension and writing ability, etc. would be tested.

The questions in Part A, B and D will be of a level commensurate with the essential qualification and questions in Part C will be of 10th standard.

E. Subject knowledge of the concerned post (Mechanic- E & M) :-

E-1:- Subject knowledge (Electrical)- (70 Questions)

Fundamentals of Electricity: - Effects of electric current, fundamental terms, Definition, solder, flux, definition and properties of conductors, insulators, semiconductors, different types of insulators, types of wires and cables, specification of wires and cables- insulators, low medium and high voltage, various types of cables

Law of Resistance, Ohm's law, Kirchhoff's laws- Resistance, PD, Current, specific resistance, laws of resistance, ohm's law, series and parallel circuit, kirchhoff's laws, wheat stone bridge, effects of variation of temperature on resistance, work, power, energy, efficiency, heating effect of electric current. **Cells and Batteries:** - electrolysis, Faraday's laws of electrolysis, basic principle of electro plating and electronic chemical equivalents, primary cell and secondary cell, lead acid cell, methods of charging care and maintenance of cells, grouping of cells of specified voltage and current, inverter, battery charger nickel alkali cell, efficiency of cells, power and capacity of cells. House

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Wiring and Earthing:- Different method of earthing, IE, Pipe, plate importance of earthing, improving Earth resistance, E LC B-type of wiring and their users, IE rules wiring accessories, such as lamp holder, switch, plug, bracket, ceiling rose, cut out, ICTP, ICDP. **Illumination:-** Construction working and application of incandescent lamp fluorescent tube cfl neon sign halogen Mercury vapour lamp sodium vapour lamp. **Magnetism:-** Classification of magnets, methods of magnetising magnetic materials, properties, care and maintenance, para and diamagnetic, and ferro magnetic, materials principle of electromagnetism, Maxwell's cork screw rule, Fleming's left hand right hand rules, magnetic field of current carrying conductor, solenoid, MF, flux density, reluctance, hysteresis, Eddy current, principle of electromagnetic induction, faraday's laws, lenz's law, electrostatics capacitor, different types of function and uses. **Alternating Current and Poly Phase:-** Comparison and advantage AC and DC related terms, frequency, instantaneous value RMS value, average value, peak factor, form factor, sine wave, phase and phase difference, inductive and capacitive reactance, impedance power factor, active and reactive power, single phase and 3 phase system, power consumption series and parallel PF, 3 phase star Delta connection line and phase voltage, current and power in 3 phase circuits with balanced and unbalanced load. **Basic Electronics:-** semiconductor, atomic structure, P type and N type, types of materials, PN Junction, classification diodes, reverse and forward bias, heat sync specification of diode, PIV rating, half wave, full wave, and bridge circuit, filter circuit, passive filter, LED, diode types of transistor, UJT, SCR regulator, ICS, zener diode uses and its application, IC voltage regulator JFET, and logic gate AND gate. **DC Generator and DC Motors:-** Introduction to DC generator and working principle, parts of DC generator, classification of generator self-excited and separately excited, their application types and characteristics of DC generator series, shunt and compound their application. emf equation DC motor working principle, types of motor, torque, speed back emf, characteristics speed control of DC motor, necessity of starter types of starters, 2 point, 3 point, 4 point starters, Protective device used method of speed control. **AC Generators Motors and Starters:-** parts and construction of alternator principle of working, types of alternator, emf equation, various applications and power rating of alternator, general idea of loading and regulation of alternator, parallel operation of alternators, synchronising method AC single phase motor and types capacitors, start/run, start and run. FHP motors and their uses various application of AC single phase motors. **Three Phase Motors:-** construction principle of operation of 3 phase induction motors squirrel Cage and slipring induction motors rotor slip, rotor frequency and motor torque starting method, speed control method, importance of phase sequence in 3 phase induction motor, single phasing preventere, starters, DOL starters, Delta starters, and auto transformer starter, rotor resistance starter. **Transformers:-** power transformer: its construction working parallel operation of transformer their connection, cooling transformer, emf equation, transformation ratio, ideal transformer, construction of core, shell, Berry type, auxiliary parts, breather, conservator, buchholz's relay, other protective device, transformer oil testing OF load and ON load, auto transformer, its construction, working and uses CT, PT losses and efficiency. **Measuring Instruments:-** Types of measuring instruments- MC and MI construction and working principle of ammeter, Volt metre, ohm metre, watt meter, energy meter, PF metre, megger, earth tester, CT and PT tong tester/clip on metre multi metre. generation transmission and distribution of electricity. Generation: diesel power station, steam power station, hydroelectric power station, nuclear power station. Substation: indoor, outdoor, pole mounting (EHT substation Hd substation medium and low voltage substation). UG cable. construction of cable, types, testing.

E-2: - Subject knowledge (Mechanical)- (70 Questions)

Basic Safety: Safety introduction, Personal protection. Basic injury prevention Hazard identification and avoidance, safety signs for Danger, warning, caution and personal safety messages. Use of Fire extinguishers. Various safety measures involved in the Industry. Elementary first Aid. Concept of Standard. Personal safety and factory safety.

- Conservation of Energy
- Engineering Materials
- Mechanics of Solids
- Workshop Technology
- Hydraulics and Pneumatics
- Theory of Machines
- Preventive Maintenance of machines
- Design and Estimation
- Production Technology
- Advanced Manufacturing Processes
- Industrial Engineering and Safety
- Metrology and Measuring Instruments
- Repair and Maintenance
- Disaster Management and Safety
- Introduction of fitting trade. Marking tools; callipers Dividers, Surface plates, Angle plates, Scribes, punches, surface gauges Types, Uses, Care and maintenance. Use of different bench tools used by sheet metal worker. Description and types of taps and dies, Description of marking and cutting tools such as snubs shears punches and other tools like hammers, mallets, etc. used by sheet metal workers. Types of rivets and riveted joints. Use of thread gauge. Different types of threads. Materials, fluxes and process. Care and maintenance of tools. Introduction to thermometers, pressure gauges etc.

Note:- It may be noted that apart from the topics given above, questions from other topics related to the job and prescribed for the educational qualification of the post may appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.

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