SYLLABUS FOR WRITTEN TEST FOR THE POST OF ASSISTANT REGISTRAR

1. Broad Administrative structure of IIT System
   (Please refer IIT Delhi website: www.iitd.ac.in)

2. Academic Administration (Please refer IIT Delhi website: i.e. www.iitd.ac.in)
   a) Broad idea about admission, Registration, Credit System and Academic
      Programmes offered by the Institute.
   b) Examination System.

3. Leave / Vacation
   a) Types of leave and terms & conditions for its grant
   b) Accumulation of leave
   c) Procedure for grant of leave

4. Disciplinary Procedures
   a) Conduct rules
   b) Procedure for disciplinary actions
   c) Essential steps for handling disciplinary cases

5. Pension Rules & Retirement Benefits

6. Purchasing
   a) Purchasing Principles
   b) Various Purchasing Systems
   c) Purchase Budget
   d) Legal aspects of Purchasing

7. Basics of Inventory Management
   a) Inventory Control – ABC Analysis, FSN System, VED System
   b) Bill of materials
   c) Stores Accounting
      i) Stock-taking /Stock verification
      ii) Valuation of stock in hand

8. Fundamental Rules and Supplementary Rules, TA/LTC, GPF Rules

9. Preparation of Budget and its Allocation

10. The Supervisor & its functions
    • Interpersonal Roles
    • Managing work Motivation
    • Managing Conflicts
    • Interpersonal Communication
    • Organizational Communication
11. Basic knowledge of Computer Applications (Operating Systems like MS windows/XP/Linux, Word processing software like MS-Word, Spreadsheet software like MS-Excel, Presentation software like MS Power Point, basic database software like MS-ACCESS and E-mail).

12. Recommendations/implementation of 6th CPC including various allowances.


14. Quantitative aptitude including quantitative techniques, data interpretation and reasoning.

15. English Comprehension, Paragraph Writing.
Indian Institute Of Technology Jammu

Syllabus for Written Test for the Post of Junior Engineer (Electrical)

- Basic Electrical Engineering.
- Knowledge of Transformers, Electrical Motors, Lifts, Pumps etc.
- Knowledge of Electrical Wiring.
- Knowledge of LAN & Telephones.
- Knowledge of Works Accounts.
- Knowledge of Electricity rules and BIS Specifications.
Syllabus for The Post of Junior Engineer (Civil)

(1) Quantity Surveying and Estimation.
(2) Schedule of rates, analysis of rates.
(3) Technical specifications pertaining to buildings and roads.
(4) Measurements book entry.
(5) Basics of Civil Engineering with emphasis on building construction, materials, testing and construction equipment.
(6) Knowledge of computer applications (like MS-Windows, MS-Word, Work Excel, Power Point and E-Mail etc.)
(7) Duties of JE as per CPWD manual.
(8) Procedure for maintaining stock in maintenance in Enquire office.
(9) Registers/record maintained in Enquire office.
(10) Frequency of the maintenance related work such as painting, whitewashing, road carpeting etc. as per CPWD manual.
(11) Mandatory test for the bricks, concrete, cubes, reinforcement, aggregates etc.
(12) System of monitoring maintenance complaints & duty of JE in this regard.
(14) Role of workability, durability, W/C ratio & minimum cover in concrete, Grade of concrete as per IS-456 (revised).
(15) Detailing of steel in column, beam, slab etc. (lap length, ring).
(16) Stripping time of shuttering (form work) after concreting (for different type of structure).
(17) Water supply system (i.e. where are sluice values, NRV, Scour valves are fixed).
(18) Grade of cement, type of cement, % value of fly ash in PPC.
(19) Volumetric concrete design concept i.e. (for various mix proportion of concrete, how much cement or aggregate in one cum is required).
(20) Safety precaution of carrying out deep Excavation, repair in Multi Story Buildings.
(21) Minimum Wage Act, Contract Labour Act, Safety Act etc.
(22) Requirement of cover, minimum reinforcement, grade of concrete as per IS-456 (Revised).
Indian Institute Of Technology Jammu

Syllabus for Junior Technical Superintendent (Electrical Science)

BASIC:

Characteristics of Diodes and Transistors.
Transformers, Principles of Electro Mechanical Energy Conversions, Production of EMF, Rotating Machines.
Discrete mathematics (basics), Computer architecture (basics)

DIGITAL CIRCUITS:

ANALOG CIRCUITS:
Diode Clipping and Clamping Circuits, Full Wave and half wave Rectifiers, Operational Amplifiers and Application, BJT Amplifiers: CE, CB and CC configurations, Biasing of BJT Amplifiers, Small Signal Equivalent Circuits, Feedback Amplifiers and Oscillators.

ELECTROMECHANICS and POWER ENGINEERING:
Principles Working and Application of DC Machines, Synchronous Machines and Induction Motor. Speed Control of DC Motors.

MEASUREMENTS and INSTRUMENTATION:
Principles of working of a Cathode Ray Tube and a Cathode Ray Oscilloscope. Measurement of voltage, frequency and phase difference between two sinusoidal signals using a CRO. Bridge Measurements. Principles of working of Ammeter and Voltmeter, Conversion of an Ammeter to a Voltmeter or Voltmeter to an Ammeter.

COMPUTER:
Programming fundamentals in Case/C++, Understanding of Databases, SQL and mysql Operating systems and Linux Shell scripting and Understanding of core services such as account management, ldap, mail, dns, nfs and backup.
Syllabus for the Written Test for the post of Junior Technical Superintendent in the area of Chemical Science.

Fundamental laws and theories of chemistry.

Metric system, introduction to matter, atomic structure, chemical bonding, periodic table, chemical reactions and equations, gases, solutions, pH and introductory organic chemistry.

Knowledge of quantitative techniques, equilibrium chemistry.


Exposure of modern computer technology including word processing, electronic spreadsheet, presentation software, and library information systems. Computer hardware and Networking, LCD Multimedia Projection.

Scientific notation, significant figures, errors, statistics, and statistical control.

An overview of safety, health and environmental regulations, and the potential Hazards, Maintenance of Laboratory/Equipment such as air compressor, pump, flowmeters, Knowledge of pipes/fittings

Unit Operations in Chemical Engineering
POST: Junior Technical Superintendent (Mechanical Science)

SYLLABUS FOR WRITTEN TEST, PRACTICE TEST

1. **Basic communication skills**
   - Reading, interpreting and following manuals.
   - Communicating (written and oral) with faculty, students, technical staff, etc.
   - Communicating (written and oral) with equipment suppliers regarding operation, maintenance, trouble shooting, etc.
   - *Written communication includes, communicating via hard copy and by e-mail, and word processing (e.g. MS Word, or equivalent)*.

2. **Engineering Drawings**
   - Making and interpreting engineering drawings of parts, assemblies, etc.
   - Communicating design via sketches.
   - Understanding needs of students & faculty, and preparing drawings for fabrication, assembly, etc.
   - Designing and making fixtures, special components/attachments, including machining, and fabrication sequence.

3. **Machinery operations**
   - Operating machines typically used in civil/textile/mechanical engineering and other laboratories, including computer controlled machines/machine-tools.
   - Assembly of systems and sub-systems of machines and experimental set-ups.
   - Trouble shooting of operating machinery/machines.
   - Installation of machines, including handling, foundation, electrical aspects.
   - Knowledge and competency in use of hand-operated tools and power tools.
   - Inspecting parts and systems.

4. **Instruments & Data Acquisition**
   - Instruments for measuring temperature, pressure, force, strain, torque, speed, voltage, current, etc. - theory and use.
   - Calibration of instruments.
   - Signal conditioning - amplifier, filter, etc.
   - Interfacing with data acquisition system, including hardware and software.
   - Data collection, display, storage, plotting, etc.
   - Handling µP and serial port communication.
   - Use of gauges and fixtures.
   - Basic electric power connections, including earthing.

5. Measuring and reporting errors in measurements (e.g. using vernier, screw gauge, etc.).

6. **Analytical skills**
   - Data analysis using spreadsheets and making plots using software packages (e.g. MS Excel or equivalent).
   - Basic statistics.

7. **Management systems** - data entry and management related to course (attendance, marks, web resources, etc.) maintaining course pages/course sites, inventory, etc.

8. Familiarity with safety principles, procedures and their implementation for equipment and laboratories.

9. Familiarity with maintaining laboratory inventory and laboratory management.
Indian Institute Of Technology Jammu

Syllabus for Senior Laboratory Assistant (Electrical Science)

BASIC:

DIGITAL CIRCUITS:

ANALOG CIRCUITS:
Diode Clipping and Clamping Circuits, Full Wave and half wave Rectifiers. Operational Amplifiers and Application, BJT Amplifiers: CE, CB and CC configurations, Biasing of BJT Amplifiers, Small Signal Equivalent Circuits, Feedback Amplifiers and Oscillators.

ELECTROMECHANICS and POWER ENGINEERING:
Principles Working and Application of DC Machines, Synchronous Machines and Induction Motor. Speed Control of DC Motors.

MEASUREMENTS and INSTRUMENTATION:
Principles of working of a Cathode Ray Tube and a Cathode Ray Oscilloscope. Measurement of voltage, frequency and phase difference between two sinusoidal signals using a CRO. Conversion of an Ammeter to a Voltmeter or Voltmeter to an Ammeter.

COMPUTER:
Programming fundamentals in C/C++. Understanding of Databases, SQL and mysql Operating systems and Linux. Shell scripting and Understanding of core services such as accounts management, ldap, mail, dns, nfs and backup.
Indian Institute Of Technology Jammu

Syllabus for the Written Test for the post of Sr. Lab Assistant in the area of Chemical Science.

General Principles of chemistry

Fundamental laws and theories of chemistry.

Basic principles of electronics and instrumentation

Use of computers, word processing, spreadsheet

Scientific notation & significant figures

General safety, health and environmental health regulations.
POST: Senior Laboratory Assistant (Mechanical Science)

SYLLABUS FOR WRITTEN TEST, PRACTICE TEST

1. Basic communication skills
   Reading, interpreting and following manuals.
   Communicating (written and oral) with faculty, students, technical staff, etc.
   Communicating (written and oral) with equipment suppliers regarding operation, maintenance, trouble shooting, etc.
   Written communication includes, communicating via hard copy and by e-mail, and word processing (e.g. MS Word, or equivalent).

2. Engineering Drawings
   Making and interpreting engineering drawings of parts, assemblies, etc.
   Communicating design via sketches.
   Understanding needs of students & faculty, and preparing drawings for fabrication, assembly, etc.
   Designing and making fixtures, special components/attachments, including machining, and fabrication sequence.

3. Machinery operations
   Operating machines typically used in civil/textile/mechanical engineering and other laboratories, including computer controlled machines/machine-tools.
   Assembly of systems and sub-systems of machines and experimental set-ups.
   Knowledge and competency in use of hand-operated tools and power tools.
   Maintenance of machines.
   Inspecting parts and systems

4. Instruments & Data Acquisition
   Instruments for measuring temperature, pressure, force, strain, torque, speed, voltage, current, etc. - theory and use.
   Calibration of instruments.
   Interfacing with data acquisition system, including hardware and software.
   Data collection, display, storage, plotting, etc.
   Handling μP and serial port communication.
   Use of gauges and fixtures.
   Basic electric power connections, including earthing.

5. Measuring and reporting errors in measurements (e.g. using vernier, screw gauge, etc.).

6. Basic analytical skills
   Using spreadsheets; making plots using software packages (e.g. MS Excel or equivalent).
   Basic statistics.

7. Basic academic management - entering data (attendance, marks, web resources, etc.) into web-based systems.

8. Familiarity with safety principles.

9. Basics of maintaining laboratory inventory and laboratory management.
INDIAN INSTITUTE OF TECHNOLOGY JAMMU

SYLLABUS FOR THE POST OF JUNIOR ASSISTANT FOR IIT JAMMU

1. **General English**
   a) Comprehension
   b) Precis Writing
   c) Grammar (Tenses, Active & Passive Voice, Punctuation)

2. **Office Procedure**
   a) Broad idea about Admission, Programmes offered by the Institute.
   b) General knowledge of Establishment / Personnel matters i.e. Leave, Advances, Pay & Allowance, discipline, correspondence etc.
   c) Role & functional of Deptts./ Centres/ Central Facilities of the Institute.
   d) Basic knowledge of Computer Application (like MS Windows, Word, Excel, Power Point and E-mail).

3. **Simple Arithmetic**
   a) Simplification of fractions
   b) Simple / Compound Interest
   c) Profit / Loss & Percentages
1. To assist the Manager in the allotment of Guest room to the visitors keeping account of check-in and out daily.

2. Managing / controlling the inventory of hostel property purchased from Institute fund / Hostel fund.

3. Accommodating the students in hostels as per the norms set up by the Dean of Students / Assoc. Dean of Students.

4. Handing over the charge of a room to a student.

5. Supplying the necessary information to catering supervisor regarding the strength of hostel for the purpose of preparing the meals.

6. Maintaining the necessary record of hostel residents e.g. Entry wise Inventory / room wise inventory / record of permanent / local address of students and maintaining the Arrival Departure Register.

7. Keeping watch on collection of dues from the students by dues collector. Taking over the charge of rooms when a resident vacates the hostel. Producing all papers / Letters / Officials notifications to Warden and act on them as per the direction given by the Warden.

8. Submitting the attendance record of student every month and issuing receipts for the same.

9. To look after all (Civil, Electrical, Public Health and Horticulture etc.) maintenance of the hostel.

10. To ensure hygienic conditions in all around the hostel.

11. Simple arithmetic: (i) Simple Interest; (ii) Profit & Loss (iii) Percentage.


Role of technology in security domains related to facilities and habitants of educational institute/ campus and basic electronic surveillance equipments, communication equipments, Unified command and control system in security management, Information classification process in security domains, Risk Management, Prohibition laws of India related to drugs, alcohol and violence. Security Audit, Overview of identification and Authorization, Access Control, Intrusion Detection and its prevention systems. External and Internal patrolling management of campus.

Management of outsourced Security Agency, Special occasion event management at campus including the visit of V.I.P dignitaries to the campus. Special security needs of foreign students in campus.

General awareness about our country and IITs as an organization.