UJVNL Junior Engineer Syllabus

UJVNL Junior Engineer Exam Pattern:

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative</td>
<td>50</td>
</tr>
<tr>
<td>Technical</td>
<td>130</td>
</tr>
</tbody>
</table>

The UJVNL JE Examination will be of multiple choices Objective Type.

- The paper contains total 150 marks
- The Questions on the question Paper includes:

<table>
<thead>
<tr>
<th>Points</th>
<th>No. of questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Interpretation</td>
<td>15</td>
</tr>
<tr>
<td>Permutation Combination &amp; Probability</td>
<td>5</td>
</tr>
<tr>
<td>Sequence &amp; Series</td>
<td>5</td>
</tr>
<tr>
<td>Quadratic Equations</td>
<td>5</td>
</tr>
<tr>
<td>Simplification</td>
<td>5</td>
</tr>
<tr>
<td>Number System</td>
<td>3</td>
</tr>
<tr>
<td>Ratio, Proportion Percentage &amp; Averages</td>
<td>3</td>
</tr>
<tr>
<td>Profit &amp; Loss</td>
<td>2</td>
</tr>
<tr>
<td>Work &amp; Time</td>
<td>2</td>
</tr>
<tr>
<td>Time &amp; Distance</td>
<td>2</td>
</tr>
<tr>
<td>Mixtures and Aligations</td>
<td>1</td>
</tr>
<tr>
<td>Simple Interest, Compound Interest, Surds, Indices</td>
<td>1</td>
</tr>
<tr>
<td>Mensuration- Cylinder Cone Sphere</td>
<td>1</td>
</tr>
</tbody>
</table>

UJVNL Junior Engineer Exam Syllabus

UJVNL JE Mechanical Syllabus:

- Calculus
- Vector Calculus
- Differential Equations
- Numerical Methods
- Probability & Statistics
- Engineering Mechanics
- The Strength of Materials
- Theory of Machines
- The design of Machine Elements
- Metal Casting
- Forming Processes
- Joining Processes
- Operations
- Metrology and Inspection
- Operations Research
- Inventory Control
- Production Planning and Control
- Manufacturing Analysis
- Tool Engineering
- Metrology and Inspection

**UJVNL Junior Engineer Electronics Engineer Syllabus:**

- Physical Electronics, Electron Devices, and ICs
- Signals and Systems
- Network Theory
- Electromagnetic Theory
- Analog Electronic Circuits
- Digital Electronic Circuits
- Control Systems
- Communication Systems
- Microwave Engineering
- The transistor as a switching element
- Karnaugh map and applications
- Small signal analysis
- Power amplifiers
- Frequency
- Broad banding techniques
- Transient and steady state response of control systems
- Concepts of gain and phase margins
- Constant-M and Constant-N Nichol’s Chart

**UJVNL Junior Engineer Electronics Syllabus:**

- Electromagnetic Theory
- Analog and Digital Electronics
- Electronics Devices
- Electrical Instrumentation
- Utilization of Electrical Energy
- Network Analysis
- Electrical Machines
- Control Systems
- Power System Analysis & Control
- Power System Protection
- Power Electronics & Drives
- Power Systems
- Switch Gear and Protection etc.
UJVNL Assistant Engineer Exam Pattern:

- Duration of the Examination will be 02.30 Hours
- Test Question paper shall have 125 MCQ based questions
- The exam will be in 02 Parts, in which 1 – Domain Test, 2: General Aptitude
- Domain Test containing 75 Questions and Duration of 90 Minutes
- General Aptitude Test containing 50 Questions and Duration of 60 Minutes
- Candidates will face Negative Marking
- Each of Right answer shall carry 04 marks and wrong answer mark deducts 1 mark
- Written Passed candidates will invite for Personal Interview in the ration of 3:1

UJVNL Assistant Engineer Exam Syllabus

Civil Engineering Syllabus for UJVNL AE Exam:

- Civil Engineering Materials and Construction.
- Fluid Mechanics.
- Hydrology & Water Resources Engineering.
- Hydraulic Structures.
- Estimation, Costing, and Specifications.
- Construction and Project Management.
- Solid Mechanics, Structural Analysis.
- Concrete Technology.
- Reinforced Concrete Structures.
- Soil Mechanics and Foundation Engineering.
- Transportation Engineering.
- Environmental Engineering.
- Steel Structures.
- PSC Structures.
- Bridge Engineering.
- Environmental Studies etc.,

UJVNL AE Electrical Engineering Syllabus:

- Network Theory.
- AC Fundamentals.
- Electrical Machines.
- Basic Electronics etc.
- Measurement and measuring instruments.
- Basic Electrical Engineering Concepts.
- Utilization of Electrical Energy.
- Power Electronics & Drives.
- Estimation and costing.
- Magnetic Circuit.
- Analog and Digital Electronics.
- Power Systems.
UJVNL AE General Awareness Exam Syllabus:

- Indian Polity.
- Indian Constitution.
- Indian History.
- Indian Culture & Heritage.
- IT & Space etc.
- Indian Economy.
- Current Events – National & International.
- Science & Technology.
- Indian Geography.

Syllabus for UJVNLAE General Aptitude Exam:

- Time and Work.
- dimensions.
- Arithmetic Reasoning.
- Visualization Space.
- Averages.
- Problems on Ages.
- Percentages.
- Simplification.
- Pipes & Cisterns.
- Profit & Loss.
- Decision Making.
- Problem Solving.
- Ratios & Proportions.
- Simple Interest & Compound Interest.
- Time & Distance.
- Areas & Volumes.
- Data Interpretation.

UJVNL AE Accounting & Finance Exam Syllabus

- Bank Reconciliation
- Journal Entries, etc.
- Income & Expenditure.
- Cash Transactions.
- Accrued based Double Entry.
- Balance Sheet.
- Inventory
- Trial Balance.
- Description
- Receivables & Payables.
**Syllabus for UJVNLAE Computer Knowledge Exam:**

- Database Management Systems.
- Computer Abbreviation.
- Computer tools.
- Number system.
- Computer hardware parts and controls.
- Basic Computer Terminology.
- Basic internet knowledge and protocols.
- Operating system.
- History of Computer.
- Network Basics.
- Software names and usages.

**UJVNLAE General English Exam Syllabus:**

- Spot the error.
- Improvement.
- Passage.
- Verbal Comprehension passage.
- Antonyms.
- Synonyms/ Homonyms.
- Vocabulary
- Fill in the blanks.
- Grammar.
- Sentence structure.
- Spelling.
- Detecting Misspelt words.
- One word substitutions.
- Idioms and phrases.
- Verbs.
- Adjectives.