



## HPCL RAJASTHAN REFINERY LIMITED

Joint Venture between Hindustan Petroleum Corporation Limited (HPCL)  
and Government of Rajasthan.

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CIN No.U23201RJ2013GOI043865

Advt. No - HRRL/RECT/02/2025

### **Computer Based Test (CBT) for Junior Executive-Fire & Safety Position: S/G E0**

As per Advt. No - HRRL/RECT/02/2025 clause no. 7 (mentioned in page 51), the syllabus for Junior Executive- Fire & Safety Position: S/G E0 is given as below.

**Duration: 2 hours**

**Total Marks: 100**

All questions of the Computer Based Test (CBT) will be objective and multiple-choice type. Total number of questions in the CBT are 100. Each correct answer carries 1 mark and there is no **negative** marking for wrong answers.

### **Syllabus**

**Part-1: General Aptitude (HSC – Level)**

**(30 Marks)**

#### **1. Intellectual Potential Test:**

- Distance
- Syllogism
- Logical Operations
- Similarities and dissimilarities
- Verbal Comprehension
- Perpetual Reasoning
- Working Memory
- Processing Speed
- Fluid reasoning

#### **2. Logical Reasoning & Data interpretation**

- Seating arrangements and puzzles
- Series – verbal and number
- Relationships
- Coding-decoding
- Verbal and numerical Analogy

- Binary Logic
- Games and Tournaments
- Arrangements
- Team Formations
- Order and Ranking
- Table, Data Caselets – Reasoning-Based DI, 3. Column Graphs, Bar Graphs, Line Charts, Pie Charts, Routes and Network

### 3. Quantitative Aptitude

The test of QA may cover Number systems including questions on simplification, decimals, fraction, LCM and HCF, square root, divisibility test, Ratio & proportion, Percentage, Average, Profit & loss, Discount, Simple and compound interest, Mensuration, Time & Work, Time and distance, Algebraic identities, Problems on Age, Tables & Graphs etc.

### 4. English Language

Program	Education Level	Course	Subject	Topic	Sub Topic	Concept / Type
General Aptitude	HSC	General Verbal Ability - English	Grammar - English	Question Tags	Negative question tag	Sentence Completion
General Aptitude	HSC	General Verbal Ability - English	Grammar - English	Question Tags	Positive question tag	Sentence Completion
General Aptitude	HSC	General Verbal Ability - English	Grammar - English	Parts of speech	Adjective	Sentence Completion
General Aptitude	HSC	General Verbal Ability - English	Grammar - English	Parts of speech	Adverb	Sentence Completion
General Aptitude	HSC	General Verbal Ability - English	Grammar - English	Parts of speech	Prepositions	Sentence Completion
General Aptitude	HSC	General Verbal	Grammar - English	Parts of speech	Conjunctions	Sentence Completion

		Ability - English				
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Grammar - English	Parts of speech	Verb	Sentence Completion
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Indirect Writing - English	Prose	Syntax and structure	Para Jumbles
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Indirect Writing - English	Sentences	Word Usage and Understanding	One word substitution
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Appropriate Title	Identify the suitable title for the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Central theme of the passage	Identify the central theme of the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Facts	Identify the facts given in the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Inferences drawn	Identify the inferences drawn from the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Structure of the passage	Identify the structure of the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Summary	Select the correct summary for the passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Text to World connection	The most appropriate connection to the real-life situations
<b>General Aptitude</b>	HSC	General Verbal	Reading Comprehension	Passage	Tone of the passage	Identify the tone of the

		Ability - English	Comprehension - English			passage
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Vocabulary	Antonyms of the word
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Vocabulary	Correct usage of the word in other examples
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Vocabulary	Synonyms of the word
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Reading Comprehension - English	Passage	Vocabulary	Word meaning
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Vocabulary - English	Idioms and Phrases	Idioms	Word-segment substitution
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Vocabulary - English	Idioms and Phrases	Proverbs	Word-segment substitution
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Vocabulary - English	Semantics	Antonyms	Identification of antonym in a sentence
<b>General Aptitude</b>	HSC	General Verbal Ability - English	Vocabulary - English	Semantics	Synonyms	Word meaning in sentence

## Part 2: Technical/Professional Knowledge

(70 Marks)

### A. Domain Knowledge (Fire & Safety)

- **Fire Safety and Management**
  - Principles of fire safety and prevention.
  - Types of fire and fire behaviour.
  - Fire protection systems (fire extinguishers, alarms, sprinklers, etc.).
  - Firefighting techniques and SCBA (Self-Contained Breathing Apparatus).
  - Emergency response strategies for common industrial hazards like oil leaks and toxic gas releases.
- **Firefighting Techniques**
  - Operation and functions of firefighting vehicles and equipment.
  - Maintenance of fire control systems.
- **Regulatory & Safety Standards**
  - Fire safety standards (OISD, OSHA, NFPA, THE FACTORIES ACT, 1948, PNGRB Regulation).
  - Industrial safety standards and hazard management principles.
- **Emergency Rescue**
  - First Aid and CPR
  - Benefits of different rescue gears.
- **Fire Chemistry**
  - Concepts of combustion theory and fire triangle.
  - Stages of fire, fire extinguishing mechanisms, and common fire hazards.
  - Fire behaviour in different materials (solids, liquids, gases).
- **Basics of Refining**
  - Refining processes (distillation, cracking).
  - Common fire hazards in refineries and basic fire prevention strategies.
  - Safety systems in refinery operations.

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**NOTE: The syllabus/topics mentioned are indicative in nature. Candidates are expected to possess significant knowledge/proficiency pertaining to the relevant subjects and their qualifying degree**