

# SYLLABUS FOR NON- EXECUTIVE – JUNIOR SUPERVISOR (PAINT)

S.No	Sections	Topics
1.	<b>General Management &amp; Aptitude Test (Marks – 20)</b>	<ul style="list-style-type: none"> <li>❖ <b>Mental Ability &amp; Reasoning</b> <ul style="list-style-type: none"> <li>➤ Series (number, alphabet, figure),</li> <li>➤ Analogies, classification.</li> <li>➤ Coding-decoding, blood relations</li> <li>➤ Directions, ranking, seating arrangements.</li> <li>➤ Syllogisms, assumptions/conclusions.</li> <li>➤ Seating arrangement</li> </ul> </li> <li>❖ <b>Numerical Ability</b> <ul style="list-style-type: none"> <li>➤ Number systems, LCM/HCF, percentages</li> <li>➤ Profit-loss, simple/compound interest</li> <li>➤ Ratio-proportion, averages</li> <li>➤ Time-work-distance, mixtures, ages.</li> <li>➤ algebra (equations, inequalities)</li> <li>➤ Mensuration (area/volume)</li> <li>➤ Mixtures &amp; allegations</li> </ul> </li> <li>❖ <b>Data Analysis</b> <ul style="list-style-type: none"> <li>➤ Tables, bar/line/pie charts, graphs, data sufficiency.</li> <li>➤ Trends, ratios, percentages from caselets</li> <li>➤ Basic statistics: mean, median, probability.</li> </ul> </li> <li>❖ <b>English</b> <ul style="list-style-type: none"> <li>➤ Comprehension (passages)</li> <li>➤ Vocabulary (synonyms/antonyms/idioms).</li> <li>➤ Error spotting, sentence improvement,</li> <li>➤ Fill-in-blanks, para-jumbles.</li> <li>➤ One-word substitution.</li> </ul> </li> </ul>
2.	<b>(Discipline Oriented) (Marks – 55)</b>	<p><b>SECTION-A: Technical (Painting &amp; Coatings)</b></p> <p><b>1. Paints &amp; Coatings Fundamentals</b></p> <ul style="list-style-type: none"> <li>-Definition &amp; functions of paint</li> <li>-Constituents of paint:</li> <li>-Binder, Pigment, Solvent, Additives</li> <li>-Types of paints used in shipyards:</li> <li>-Epoxy, PU, Acrylic, Alkyd, CR</li> <li>-Zinc-rich primer</li> <li>-Fire retardant / Intumescent coatings</li> </ul> <p><b>Difference between:</b></p> <ul style="list-style-type: none"> <li>-Primer vs Undercoat vs Topcoat</li> <li>-Epoxy vs PU</li> <li>-Pot life, induction time, recoat interval.</li> </ul> <p><b>2. Surface Preparation &amp; Standards</b></p> <ul style="list-style-type: none"> <li>-Purpose of surface preparation</li> <li>-Surface preparation methods:</li> <li>-Hand tool cleaning</li> <li>-Power tool cleaning</li> <li>-Grit blasting / Shot blasting</li> <li>-Surface preparation standards:</li> <li>-ISO 8501 (St 2, St 3, Sa 2, Sa 2½, Sa 3)</li> <li>-Surface profile / peak anchor pattern</li> </ul>

-Cleanliness requirements before painting.

### **3. Blasting Materials & Equipment**

-Types of abrasives:

Steel grit  
Steel shot  
Garnet

#### **Blasting equipment:**

Blast pot  
Air compressor  
Moisture separator  
Air Receiver Tank

### **4. Painting Application Methods**

-Brush, Roller, Spray painting  
-Airless spray system – advantages  
-Paint mixing ratio & thinning

### **5. Environmental conditions:**

-Temperature limits  
-Humidity limits  
-Dew point concept  
-Over coating & under-curing defects

### **6. Inspection & Quality Control**

Visual inspection stages

Instruments:

DFT gauge  
WFT gauge  
Surface profile gauge  
Dry Film Thickness – acceptance criteria

### **7. Common defects:**

Blistering  
Peeling  
Sagging  
Pinholes  
Cracking  
Causes & corrective actions

### **SECTION-B: Shipyard & Marine Painting**

-Hull painting sequence  
-Deck & superstructure painting sequence  
-Ballast tank coating sequence  
-Engine room & platform painting sequence  
-Difference between Anti-fouling & anti-corrosive coatings.  
-Touch-up & repair painting procedures

### **SECTION-C: Safety, Health & Environment (HSE)**

-PPE for blasting & painting  
-Confined space painting safety  
-Fire hazards safety during painting  
- Type of Ventilation requirements  
-VOC control  
-Handling & storage of paints  
-Disposal of paint waste & used grit.

### **SECTION-D: Quality, Documentation & Paint Control**

-Knowledge of Paint Technical Data Sheet (TDS)  
-Knowledge of Paint scheme & QAP  
-Knowledge of Batch number & shelf life  
-Paint consumption pattern & wastage control