

Syllabus for 1st Class Master(Inland Vessel)

1. Section 'A' – Seamanship, Dry Docking & knowledge of Port and Custom Regulation.

- (a) Candidates expected to know “**Seamanship**” as per syllabus of ‘SERANG’. Level of difficulties of questions will vary as per the grade.
- (b) **General Section:-**
- Naming ships parts.
 - Displacement,
 - Dead Weight,
 - Light weight,
 - Density,
 - Load Line,
 - Draft.
- (c) **Dry Docking** – Precautions to be taken prior to / during / before flooding / after flooding.
- (d) **Knowledge of Port and Custom Regulation.**

2. Section 'B' - Navigation and Bridge Equipments.

- (a) **Navigation:-**
- General principle of navigation in particular for ‘RIVER’
 - Knowledge of Port / Ports,
 - Prominent Navigation Marks.
 - Knowledge of charts.
 - Knowledge of buoys, lights, channel marks.
 - Recognition of deep water channel shoals.
 - Knowledge of Tide and current.
 - Using Tide Tables.
 - ROR in detail.
 - Lights & Shapes.
 - Principals to be observed in keeping a navigational watch.
 - Should be able to plot a vessels position on charts + zoom GPS & visual objects.
- (b) **Bridge Equipment:-**
- Steering system,
 - Rod & chains system,
 - electro-hydraulic system,
 - Fully electric system.
 - Use and error of Magnetic compass.
 - Basic knowledge of GPS, Radar & Echo sounder, VHF, AIS
 - General principle of electronic chart.
 - What is Hand Lead?

3. **Section ‘C’ - Emergency Procedure.**

- Management of Vessels under all contingencies
- A precaution for the protection and safety of passenger's in emergency.
- Initial assessment of damage and damage control.
- Action to be taken following a collision / grounding.
- Action to be taken on engine / steering failure.
- Rescue operations.
- Storm Signal / Distress / Emergency Signals.

4. **Section ‘D’ – Safety / LSA / FFA.**

(a) **Life Saving.**

- Knowledge of the operation of Life Jackets,
- Life buoys,
- Rigid life rafts.
- Survival techniques
- Heaving line

(b) **Fire prevention and firefighting appliances.**

- Knowledge of firefighting equipments on board.
- Types of fire extinguisher – where to use.

5. **Section ‘E’ - Vessel Maneuvering.**

- Effect of engine (single / double propeller),
- steering,
- Stern movement.
- Maneuvering in restricted waters.
- Turning circles,
- Stopping distance.
- Turning a vessel short round.
- Navigation with stern Tow, side Tow, Push Tow.
- Procedure to bring the vessel to jetty / pier / wharf and casting off.
- Shallow water effects
- Squatting

6. **Section ‘F’ –Administration and Communication.**

(a) **Administration:-**

- Complying with the basic formalities of the port – Port Regulations / customs formalities knowledge of essential certificates to be carried on board.

- Writing log books.
- Medical Aide - Ability to provide First Aid in case of accidents.
- Very basics of ISPS
- Action to be taken if suspicious activities of another vessel are detected.

(b) Communication:-

- Communication by using VHF.
- International code of signals and local signals.

7. Section 'G' - Cargo Work.

- Knowledge of safe handling,
- Stowage & securing of cargo.
- Care during the voyage and loading / unloading.
- Transfer of Cargo -Bunkering operations, precautions to be taken with respect to stability, draft, stress etc.
- Importance of watertight integrity.
- Hazards associated with commonly carried cargo and precautions to be observed in such cargoes.
- Special reference to Liquid and Petroleum cargo. Draft Reading

8. Section 'H' - Meteorology.

Knowledge of seasons and general weather condition throughout the year in area of operation

Syllabus for 2nd Class Master (Inland Vessel)

1. Section 'A' – Seamanship, Dry Docking & knowledge of Port And Custom Regulation.

- (a) Candidates expected to know “**Seamanship**” as per syllabus of ‘SERANG’. Level of difficulties of questions will vary as per the grade.
- (b) **General Section:-**
- Identifying ship’s parts.
 - Knowledge about density,
 - Load Line,
 - Draft etc.
 - Knowledge about wires
 - Knowledge about ropes & knots.
 - Through knowledge of Boat Maintenance,
 - Painting and importance of cleanliness of the vessels.
 - Dry docking: - To have knowledge as to how a vessel is dry docked and undocked.
 - Routine jobs which are carried out in dry docked.
 - Knowledge do check list prior to flooding.
- (c) **Dry Docking** – Basic knowledge of dry docking
- (d) **Basic knowledge of Port and Custom Regulation.**

2. Section 'B' - Navigation and Bridge Equipments.

- (a) **Navigation:-**
- General principle of navigation in particular for ‘RIVER’
 - Knowledge of Port / Ports where the candidate is working.
 - Prominent Navigational Marks.
 - Knowledge of charts.
 - ROR in details.
 - Lights & Shapes.
 - Principals to be observed in keeping a navigational watch.
 - Knowledge of Tide & Tide table.
- (b) **Bridge Equipment:-**
- Basic knowledge of steering systems.
 - Knowledge about error in Magnetic Compass.
 - Boxing of Compass
 - Knowledge of Echo sounder,
 - VHF
 - Theoretical acquaintance with GPS & Radar

3. **Section ‘C’ - Emergency Procedure.**

- Management of Vessels under all contingencies
- A precaution for the protection and safety of passenger's in emergency.
- Initial assessment of damage and damage control.
- Action to be taken following a collision / grounding.
- Action to be taken on engine / steering failure.
- Rescue operations.
- Storm Signal / Distress / Emergency Signals.

4. **Section ‘D’ – Safety / LSA / FFA.**

(a) **Life Saving.**

- Knowledge of the operation of Life Jackets,
- Life buoys,
- Rigid life rafts.
- Survival techniques
- Heaving line

(b) **Fire prevention and firefighting appliances.**

- Knowledge of firefighting equipments on board.
- Types of fire extinguisher – where to use.

5. **Section ‘E’ - Vessel Maneuvering.**

- Effect of engine.
- Maneuvering in restricted waters.
- Turning circle.
- Navigation with Stern Tow, Side Tow, Push Tow.
- Procedure to bring vessel to anchor and get underway.
- Procedure to berth and unberth.

6. **Section ‘F’ –Administration and Communication.**

(a) **Administration:-**

- Complying with the basic formalities of the port – Port Regulations / customs formalities knowledge of essential certificates to be carried on board.
- Writing log books.
- Medical Aide - Ability to provide First Aid in case of accidents.
- Very basics of ISPS
- Action to be taken if suspicious activities of another vessel are detected.

(b) Communication:-

- Communication by using VHF.
- International code of signals & local signals.

7. Section 'G' - Cargo Work.

- Knowledge of safe handling,
- Stowage & securing of cargo.
- Care during the voyage and loading / unloading.
- Transfer of Cargo -Bunkering operations, precautions to be taken with respect to stability, draft, stress etc.
- Importance of watertight integrity.
- Hazards associated with commonly carried cargo and precautions to be observed in such cargoes.
- Special reference to Liquid and Petroleum cargo. Draft Reading.

8. Section 'H' - Meteorology.

Knowledge of seasons and general weather condition throughout the year in the area of operation.

Syllabus for Serang (Deck side)

1. Section 'A' – Seamanship and knowledge of Port and Custom Regulation.

(a) Seamanship

- ❖ Know all parts of a boat.
- ❖ Ropes & Wires, Knots and uses.
- ❖ Maintenance of boats.
- ❖ Painting Procedures.
- ❖ Procedure / precaution while embarking disembarking passengers.

(b) Basic knowledge of Port and Custom Regulation.

2. Section 'B' - Navigation and Bridge Equipments.

(a) Navigation.

- To have knowledge of local port, lights, buoys channels.
- **ROR in detail**, Day signals, Lights.
- Responsibilities of look out man including reporting the approximate bearing of sound signal, light or other object in degrees or point.
- Responsibilities when vessel in tied up.
- Basic knowledge of Tide and current.

(b) Bridge Equipment.

- Boxing of compass.
- Knowledge of steering a steady course.
- Understanding of Helm orders.
- Knowledge of VHF,
- Knowledge of Echo Sounder,
- Lead line.

3. Section 'C' - Emergency Procedure.

- ❖ Duties & alarm signals.
- ❖ Action on grounding / collision.
- ❖ To understand storm signals.
- ❖ Guiding passengers in case of emergency.
- ❖ Medical Aide -Ability to provide First Aid in case of accidents.

4. Section 'D' – Safety / LSA / FFA.

(a) Life Saving.

- Knowledge of the operation of Life Jackets,
- Life buoys,
- Rigid life rafts.
- Survival techniques
- Heaving line

(b) Fire prevention and firefighting appliances.

- Knowledge of firefighting equipments on board.
- Types of fire extinguisher – where to use.

5. Section 'E' - Maneuvering of vessel.

- How to bring the vessel to anchor,

Berthing and unberthing.