

GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - II)

FUNCTION: NAVIGATION (Management Level)

PAPER: BRIDGE WATCHKEEPING, SEARCH & RESCUE, SHIP HANDLING AND NAVIGATIONAL EMERGENCIES

TIME: 2 HOURS
MARKS: 100

PASS MARKS: 60

MAX.

NOTES:

- 1. Attempt any FIVE questions.**
 - 2. All questions carry equal marks. i.e. 20 marks each.**
 - 3. Draw suitable sketches/ diagrams wherever considered necessary**
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Q1. WATCH KEEPING ARRANGEMENTS AND PROCEDURES- NAVIGATIONAL WATCH,
MASTER-PILOT INFORMATION EXCHANGE, VTS/ VTMS

Q2. and Q3. RESPOND TO EMERGENCIES/ CONTINGENCY PLANNING/ TOWING

Q4. SEARCH AND RESCUE/ IAMSAR/ PRECAUTIONS IN MANOEUVRING THE SHIP TO
BE ABLE TO LAUNCH RESCUE BOATS IN BAD WEATHER

Q5 and Q6. SHIP HANDLING AND MANOEUVRING- MANOEUVRES, RIVERS,
ESTUARIES AND RESTRICTED WATER, BERTHING AND UNBERTHING, ANCHORING,
LIGHTERAGE AT SEA, HEAVY WEATHER, MANOEUVRING DIAGRAM, ICE
NAVIGATION, BOW WAVE AND STERN WAVE, MANOEUVRING IN AND NEAR
VESSEL TRAFFIC SERVICE(VTS) AREAS

Please note that the above format is only an indicative of the examination paper. The candidates are advised to refer to detailed teaching syllabus and the course outline.

GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - II)

FUNCTION: NAVIGATION

PAPER: ENGINEERING KNOWLEDGE, INSTRUMENTS & CONTROL SYSTEMS

TIME: 3 HOURS

PASS MARKS: 100

MAX. MARKS: 200

NOTES:

- 1. Question No. 1 is compulsory. Attempt any SEVEN questions from the remaining.**
 - 2. All questions carry equal marks.**
 - 3. Wherever applicable sketches should be drawn in support of the same.**
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Q1. NUMERICAL BASED ON FUEL CONSUMPTION/ INDICATOR DIAGRAM/ POWER OUTPUT/ SLIP

Q2. MARINE ENGINEERING TERMS/ BOILERS

Q3. DISTILLATION AND FRESH-WATER SYSTEMS/ PUMPS AND PUMPING SYSTEMS

Q4. STEERING GEARS/ STABILISERS

Q5. GENERATORS, ALTERNATORS AND ELECTRICAL DISTRIBUTION

Q6. REFRIGERATION, AIR-CONDITIONING AND VENTILATION

Q7. SEWAGE TREATMENT PLANTS/ OILY-WATER SEPARATORS AND OIL FILTERING EQUIPMENT/ INCINERATORS

Q8. DECK MACHINERY/ HYDRAULIC SYSTEMS

Q9. DIESEL ENGINES/ STEAM TURBINE SYSTEMS/ PROPELLER AND PROPELLER SHAFT

Q10. BRIDGE CONTROL/ ENGINE ROOM WATCH KEEPING

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - II)

FUNCTION: NAVIGATION (Management Level)

PAPER: NAVIGATIONAL AIDS INCLUDING COMPASS

TIME: 3 HOURS
MARKS: 200

PASS MARKS: 100

MAX.

NOTES:

1. Question no. 1, 2, and 3 are compulsory. Attempt any FIVE questions out of SIX.
 2. All questions carry equal marks i.e. 25 marks each.
 3. Draw suitable sketches / diagram wherever considered necessary.
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Q1. RADAR PLOTTING (NOT MORE THAN 3 TARGETS)

Q2. GYRO COMPASS (THEORY AND NUMERICAL)

Q3. MAGNETIC COMPASS (THEORY)

Q4. AUTO PILOT, COURSE RECORDER, ROTI

Q5. DOPPLER LOG, ELECTRO MAGNETIC LOG, ECHO SOUNDER

Q6. PERFORMANCE STANDARDS OF NAVIGATIONAL EQUIPMENT (ONLY FOR GPS, AIS, VDR, SVDR, ECHO SOUNDER, ROTI, SPEED AND DISTANCE INDICATOR, BNWAS)

Q7. ELECTRONIC POSITION FIXING SYSTEM

Q8. AIS, LRIT

Q9. VOYAGE DATA RECORDER, BNWAS

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - II)

**FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR
PERSONS ON BOARD (Management Level)**

PAPER: MARITIME LEGISLATION

TIME: 3 HOURS

PASS MARKS: 100

MAX. MARKS: 200

NOTES:

- 1. Attempt any EIGHT questions.**
 - 2. All questions carry equal marks i.e. 25 marks each**
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Q1 to Q9

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GOVERNMENT OF INDIA

FIRST MATE OF A FOREIGN GOING SHIP (PHASE - II)

FUNCTION: CONTROLLING THE OPERATION OF THE SHIP AND CARE FOR PERSONS ON BOARD (Management Level)

PAPER: NAVAL ARCHITECTURE PAPER - II

TIME: 3 HOURS

PASS MARKS: 100

MAX. MARKS: 200

NOTES:

- 1. Question No. 1, 2, 3 & 4 are compulsory. Attempt any FOUR from the remaining questions.**
 - 2. All questions carry equal marks i.e. 25 marks each.**
 - 3. Non-programmable single memory scientific calculator is permitted.**
 - 4. Wherever applicable sketches should be drawn to support the answer.**
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Q. 1 M.V.HINDSHIP (Advanced Problems on Ship Stability)

Q. 2 BILGING (Box shaped vessel)

Q. 3 CENTER OF PRESSURE/ THRUST DUE TO LIQUID PRESSURE/ SF AND BM

Q. 4 SKETCH AND LABEL MIDSHIP SECTIONS

Q. 5 THEORY ON STABILITY (Rolling of Ships/ Heel while turning/ Wind and Weather heeling criteria/ Torsional Stress)

Q. 6 PASSENGER SHIP SUBDIVISION/ FIRE INTEGRITY

Q. 7 TONNAGE/ LOADLINE CONVENTION

Q. 8 SHIP BUILDING MATERIALS/ SHIPYARD PRACTICES

Q. 9 INCLINING TEST/ STABILITY AT MODERATE AND LARGE ANGLES OF HEEL

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