Questions should be framed managing the Engine Department

|  |  |  |  |
| --- | --- | --- | --- |
| Seafarer ID |       | Exam location |       |
|  |
| Name |       | Examiner |       |
|  |  |  |  |
| Duration |       | Result |       |
|  |  |  |  |
| Date and Time |       | Attempt |       |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Boilers** | Stern tube | A | [ ]  | * Battery fires / explosion
 | A | [ ]  |
| Water gauges | Shore power | B | [ ]  |
| * Local
 | A | [ ]  | Tail or prop shaft | C | [ ]  | Safety and checks of shore power leads | B | [ ]  |
| * Remote
 | A | [ ]  | Thrusters |
| Manhole doors | A | [ ]  | * Azimuth (AS) and other types
 | C | [ ]  | Distribution (AC and DC) | B | [ ]  |
| Feed check valve | C | [ ]  | **Air compressors** | Distribution boards | C | [ ]  |
| Blowdown valve | A | [ ]  | Safety devices | Load sharing | B | [ ]  |
| Safety valve | A | [ ]  | * Airline
 | A | [ ]  | Electric shock | A | [ ]  |
| Operations | * Compressor
 | A | [ ]  | Emergency switchboard | B | [ ]  |
| * Furnace purging
 | A | [ ]  | * Receiver
 | A | [ ]  | Fault detection | B | [ ]  |
| * Alarm and fault finding
 | A | [ ]  | Type | A | [ ]  | Electrical equipment in hazardous areas | C | [ ]  |
| * Raising steam
 | A | [ ]  | Operation | B | [ ]  |
| * Shutting down
 | A | [ ]  | Danger of oil contamination | B | [ ]  | Electrical safety procedures | A | [ ]  |
| * Uptake fires
 | A | [ ]  | Service and control air | C | [ ]  | Isolation | A | [ ]  |
| * Water hammer
 | C | [ ]  | Automation | C | [ ]  | Main switchboard | B | [ ]  |
| Automatic controls | B | [ ]  | **Fire** | Earth fault detection and rectification | C | [ ]  |
| Combustion | C | [ ]  | Prevention and extinction | A | [ ]  | Protection devices (RCDs) | A | [ ]  |
| Associated systems and equipment | C | [ ]  | BA sets | C | [ ]  | Blackout | B | [ ]  |
| Water treatment | Hoses, extinguishers | A | [ ]  | Single phase and three phase | C | [ ]  |
| Distillers | C | [ ]  | Procedures | A | [ ]  | Motor AC: single and three phase | C | [ ]  |
| * Testing
 | C | [ ]  | Fixed installations | A | [ ]  | **Deck machinery** |
| * Water contamination
 | C | [ ]  | Detection: Sensor system | B | [ ]  | Operate | A | [ ]  |
| * Chemicals
 | C | [ ]  | International shore connection | B | [ ]  | Winches and windlasses | C | [ ]  |
| Feed Systems |  |  | **Pumping systems (aux machinery systems up to 3000kW)** | Cranes | B | [ ]  |
| * Arrangement
 | C | [ ]  | Protection devices | C | [ ]  |
| * Feed pumps
 | C | [ ]  | Fire main | A | [ ]  | Fault finding | A | [ ]  |
| * Condenser
 | A | [ ]  | Oily water separator | B | [ ]  | Cargo handling equipment | C | [ ]  |
| * Automatic controls
 | C | [ ]  | Bunkering systems | B | [ ]  | **Dry docking and repairs** |
| **Diesel propulsion up to 3000kW** | Bilge and ballast systems | A | [ ]  | Planning and undertaking | B | [ ]  |
| Operation | Salt water cooling systems | B | [ ]  | Follow manufacturers’ instructions | C | [ ]  |
| * Airline explosion
 | A | [ ]  | Fresh water cooling systems | C | [ ]  | Lock out and isolation procedures | B | [ ]  |
| * Combustion
 | C | [ ]  | Diesel oil systems | B | [ ]  | **Automation and control** |
| * Crankcase explosion
 | A | [ ]  | Sewage systems | C | [ ]  | Bridge control | A | [ ]  |
| * Engine maintenance
 | A | [ ]  | Purifiers and heaters | C | [ ]  | UMS |
| * Fuel consumption
 | C | [ ]  | Pump: Diff types, principal and operations | C | [ ]  | * Test and procedure
 | C | [ ]  |
| * Manoeuvring
 | B | [ ]  | * Transfer from ER to Bridge
 | A | [ ]  |
| * Parameters
 | B | [ ]  | **Refrigeration systems** | Measuring devices (Press and Temp) | C | [ ]  |
| * Scavenge fires
 | B | [ ]  | Safety and environmental hazards | A | [ ]  | Testing and calibration | C | [ ]  |
| * Start-up and warming through
 | B | [ ]  | Construction and operation | C | [ ]  | Electronic control | B | [ ]  |
| * Shutting Down
 | A | [ ]  | Air conditioning | C | [ ]  | **Machinery records** |
| Associated systems and equipment | C | [ ]  | Fault finding and trouble shooting | A | [ ]  | Oil record book | B | [ ]  |
| Medium and high speed | **Materials** | Certificates and survey | B | [ ]  |
| * Alignment
 | B | [ ]  | Properties | C | [ ]  | Planned maintenance | A | [ ]  |
| * Automation
 | C | [ ]  | **Confined spaces** | Certificates and survey | B | [ ]  |
| * Gear boxes
 | C | [ ]  | Risk assessment | A | [ ]  | **Nav Act and maritime law** |
| * Diesel cycles
 | B | [ ]  | Ventilation, testing, monitoring | B | [ ]  | *Navigation Act 2012* | B | [ ]  |
| * Cooling systems and monitoring
 | B | [ ]  | Entry and closing down | B | [ ]  | *Marine Safety (Domestic Commercial**Vessel) National Law 2012* | A | [ ]  |
| * Lube oil systems and monitoring
 | A | [ ]  | **Tanks** |
| * Engine Performance
 | B | [ ]  | Safety precautions | A | [ ]  | NSCV | B | [ ]  |
| * Protection devices
 | A | [ ]  | Petrol and diesel | B | [ ]  | Marine Orders (DCV and STCW) | C | [ ]  |
| * Engine bearings
 | C | [ ]  | LPG cylinder storage | B | [ ]  | MARPOL | B | [ ]  |
| * Timing
 | C | [ ]  | LPG: prevention of fires / explosion | A | [ ]  | SOLAS | C | [ ]  |
| * Turbochargers
 | C | [ ]  | **Stability** | ISM Code and SMS | C | [ ]  |
| * Vibration dampers
 | C | [ ]  | Common terms | B | [ ]  | Certificates of operation | B | [ ]  |
| * Clutches
 | C | [ ]  | Free surface effect | C | [ ]  | **Management** |
| Diesel alternators | B | [ ]  | Damage control | B | [ ]  | Training of engine-room staff | B | [ ]  |
| Water treatment | B | [ ]  | **Electrical systems** | Management and organisation of ER staff | C | [ ]  |
| **Steering gears and rudders** | Definitions and terms | A | [ ]  |
| Emergency operation | A | [ ]  | Colour coding system | B | [ ]  | Safe work practices / OHS/WHS | B | [ ]  |
| Control | C | [ ]  | Personal safety | B | [ ]  | Safe engineering watch | B | [ ]  |
| Lubrication | B | [ ]  | Batteries | Leadership and teamwork skills | A | [ ]  |
| **Propellers and thrusters** | * Types
 | C | [ ]  | Fatigue management/fitness for duty | B | [ ]  |
| Alignment  | C | [ ]  | * Series and parallel
 | B | [ ]  | Watchkeeping duties | B | [ ]  |
| Fixed and controllable pitch propellertypes and fitting | C | [ ]  | * Charging
 | C | [ ]  |  |  |  |
| * Maintenance
 | B | [ ]  |  |  |  |