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 propeller  types and fitting | C |  | * Charging | C |  |  |  |  |
| * Maintenance | B |  |  |  |  |