PART – A
(All questions are compulsory) 10 X 3 = 30 Marks

1)  
   a) Discuss briefly about allocation of resources in Engine Room.
   b) What inspection and maintenance is carried out on electrical motors on board vessels routinely?
   c) What are the requirements for calculating bunker estimates for a voyage?
   d) What is the use of an engine room log book and who writes it?
   e) What are the requirements for pumping out machinery space bilges for ships of 400 gross tonnage and above outside and inside special areas?
   f) What safety measures are provided for deck hydraulic crane operation?
   g) Write briefly about Electrical Isolation Certificate.
   h) What safety precautions will be required for entering enclosed spaces on board a vessel?
   i) What safety precautions will you take while working on any electrical equipment on board a vessel?
   j) List down various types of packing material used on board.

PART – B
(Answer any five questions) 5 X 14 = 70 Marks

2)  
   a) What preparations will be carried out by a duty engineer before leaving port at one hour notice from the bridge? (7 Marks)
   b) The vessel is arriving at a port and a main engine unit overhaul is due. What preparation will engine room team carry out to overhaul the unit? (7 Marks)
3) a) What are emergency steering gear requirements with respect to its operation, safety and regular drills? (7 Marks)

b) Why proper inventory of spare parts is maintained on board and how does it help in requisitioning and procuring spare parts? (7 Marks)

4) a) How will a duty engineer identify machinery faulty while taking rounds in engine room? (7 Marks)

b) What are the responsibilities and duties of a watch keeping engineer in the engine room of a vessel? (7 Marks)

5) a) What problems can be encountered and what precautions will be in place while internally transferring fuel oil or other fluids on board? (7 Marks)

b) What precautions are taken in engine room on a sailing vessel when bad weather is expected and when the vessel is transiting in restricted visibility? (7 Marks)

6) a) What pollution prevention methods are used and safety precautions taken on a vessel while taking bunkers? (7 Marks)

b) What type of examination, testing and maintenance is carried out on lifting appliances and loose gear on a vessel? (7 Marks)

7) a) What preparation are carried out with respect to repairs and safety before a vessel is taken into dry-docks? (7 Marks)

b) List down the requirements as per MARPOL annex – I for pumping out machinery space bilges. What measures are adopted to comply with the same. (7 Marks)

8) a) Explain the duties of a watch keeping engineer mentioning under what conditions watches cannot be handed over to incoming watch-keeping engine room staff? (7 Marks)

b) How will you prepare a maintenance schedule of an auxiliary diesel engine of a sailing vessel? (7 Marks)