B.E. EEE MARINE, Semester - V.

Marine Engineering – I (UAMEC01)- Question Bank

UNIT - 1

Part – A

1. What is 2-Stroke engine?

2. What is 4-Stroke engine?

3. What is EOW and OOW?

4. Mention the watch timings of EOW & OOW?

5. How engines are classified based on rpm?

6. How engines are classified based on operating cycles?

7. How engines are classified based on piston type?

8. What is HFO, IFO & MDO?

9. What is bunkering?

10. What is scavenging?

11. Mention the types of scavenging?

12. What is Uni flow scavenging?

13. What is Cross flow scavenging?

14. What is Loop flow scavenging?

15. What is Heat Balance System?

16. What is Waste Heat Recovery System?

17. What is turbocharger?

18. What is Planimeter?

19. What is timing diagram?

20. What is Lightspring diagram?

Part – B

1. What is scavenging and mention the types with simple sketch?

2. Explain waste heat recovery system?

3. Explain about Heat Balance?

4. Briefly explain about how engines are classified based on RPM?

5. Sketch and explain about turbocharger?

6. Sketch the Jacket Cooling Water System for main engine?

7. What is heat exchanger? Mention the types and explain?

8. How engines are classified?

9. Differentiate between slow, medium and high speed engines?

10. Mention the various colour codes of engine room pipelines?

11. Sketch a simple air starting system for main engine?

12. Briefly explain about governor?

13. Explain about 2-Stroke cylinder head mountings?

14. How governors are classified?

15. What are the safety devices fitted in large diesel engines?

Part – C

1. Draw and explain 2-Stroke timing diagram?

2. Draw and explain 4-Stroke timing diagram?

3. Draw and explain the construction details of 2-Stroke engine?

4. Draw and explain the construction details of 4-Stroke engine?

5. Sketch and explain Jacket Cooling Water system for main engine?

6. Explain how engines are classified?

UNIT - 2

Part – A

1. What is vibration?

2. Mention the types of vibrations?

3. What is natural vibration?

4. What is forced vibration?

5. What is damped vibration?

6. What is resonance vibration?

7. What is critical speed?

8. What is barred speed?

9. What is alternator?

10. What is diesel generator?

11. What is auxiliary engine?

12. What is rating corrections?

13. What are trial tests?

14. What is IACS?

15. What is DGS and IRS?

16. What is turning gear?

17. Mention the forms of mechanical vibrations?

18. Mention any three colour codes of engine room pipelines?

19. What are nodes?

20. What are anti-nodes?

Part – B

1. Sketch and briefly explain about light spring diagram?

2. Sketch shafting arrangement?

3. Sketch oil cooled stern tube?

4. Briefly explain about classification of vibrations?

5. Briefly explain forms of mechanical vibrations?

6. Explain about hull vibration with graph?

7. Draw the 1st platform of Engine Room?

8. Draw the 2nd platform of Engine Room?

9. Draw the 3rd platform of Engine Room?

10. Draw the Boiler platform of Engine Room?

11. Sketch the Jacket Cooling Water system for main engine?

12. Draw the bottom platform of Engine Room?

13. Briefly explain about engine rating?

14. Explain about reversing methods of main engine?

15. Sketch the lubrication system for main engine?

Part – C

1. Explain the types of vibrations in main engine including hull vibration graph?

2. State the Classification Society Rules for propeller to engine construction?

3. Sketch and explain Shafting arrangement?

4. Draw and explain the various engine room arrangement?

5. Draw and explain the 2-Stroke cylinder head mountings?

6. Explain about the various safeties present in main engine?

UNIT - 3

Part – A

1. What is the use of steam in ship?

2. Name two types of steam?

3. Mention the types of boilers?

4. What is fire tube boiler?

5. What is smoke tube boiler?

6. What is water tube boiler?

7. Mention any 3 mountings of boiler?

8. What is gauge glass?

9. What is EGE?
10. What is composite boiler?
11. What is blowdown in boiler?
12. What is scum blowdown?
13. What is bottom blowdown?
14. What is deaerators?
15. What is boiler feed water treatment?
16. What is air ejectors?
17. What is boiler water tests?
18. What is boiler mounting?
19. Name the types of flame in boiler?
20. What is turndown ratio?

Part – B

1. Draw a Cochran Boiler?
2. Sketch a Water tube boiler?
3. Explain about boiler gauge glass blow through procedure?
4. What is blow down and explain its types?

5. Sketch and explain EGE?

6. Briefly explain about boiler water tests?

7. Write short notes on feed water treatment?

8. What is heat exchanger? Explain about its types?

9. Explain about types of burners?

10. Draw a burner with primary and secondary flame?

11. Explain about deaerators?

12. Explain about composite boiler?

13. How stream is produced while main engine running at maximum RPM?

14. what are the uses of stream in ship?

15. Explain about air ejectors?

Part – C

1. Sketch Cochran boiler and explain it?

2. Sketch and explain Bobcock and Wilcox boiler?

3. Draw and explain a fire tube boiler?

4. Draw and explain a water tube boiler?

5. Draw and explain a smoke tube boiler?

6. Explain about boiler mountings?

UNIT - 4

Part – A

1. What is steam turbine?
2. Mention the types of steam turbine?
3. What is impulse turbine?
4. What is reaction turbine?
5. Draw the Blades of impulse?
6. Draw the Blades reaction turbine?
7. What is rotor?
8. Name the parts of turbine?
9. What is Casing?
10. What is Gland Sealing?
11. What is Diaphragm?
12. What is Nozzle?
13. What is Bearing?
14. Why lubrication required in turbines?
15. What is expansion arrangement in turbines?
16. What is Control in turbines?

17. What is Gearing in turbines?

18. What is COPT?

19. What is WBPT?

20. What are the uses of steam turbine in ships?

Part – B

1. Sketch a steam turbine?

2. Sketch and explain an impulse turbine?

3. Sketch and explain a reaction turbine?

4. Draw and explain the blades of an impulse turbine?

5. Draw and explain the blades of a reaction turbine?

6. Briefly explain about turbine construction?

7. Write short notes on diaphragm and nozzle?

8. Write short notes on nozzle of a steam turbine?

9. Write short notes on casing of a steam turbine?

10. Write short notes on bearings of a steam turbine?

11. Sketch a gland sealing arrangement?

12. Name any 7 differences between reaction and impulse turbine?

13. Write short notes on gland sealing arrangement?

14. Sketch lubrication system of a steam turbine?

15. Write short notes on gearing operating procedure?

Part – C

1. Explain about the construction details of a steam turbine?

2. Sketch and explain an impulse turbine?

3. Sketch and explain a reaction turbine?

4. State the differences between reaction and impulse turbine?

5. Draw and explain gland sealing arrangement for steam turbine?

6. Explain about blades, casing, diaphragms, nozzles and bearings?

UNIT - 5

Part – A

1. What is gas turbine?

2. What is nuclear propulsion?

3. What is UMS Class ship?

4. What is Refrigeration?

5. What is refrigerant?

6. What is Oil Reclaimer?

7. What are the 3 rooms for refrigeration in ship?

8. Mention the temperature of 3 rooms for refrigeration in ship?

9. What is drier?

10. What is receiver?

11. What is thermostatic expansion valve?

12. What is Air conditioning?

13. What is AHU?

14. What is Psychrometrics?

15. What is DBT?

16. What is absolute humidity?

17. What is saturation curve?

18. What is dew point?

19. What is relative humidity?

20. What is latent heat?

Part – B

1. Write short notes on nuclear propulsion?

2. State any 7 properties of refrigerant?

3. State the procedures for charging the refrigerant?

4. Write short notes on compressors used in refrigeration plant?

5. Write short notes on ODP and GWP of refrigerant?

6. Briefly explain the concept of regeneration in gas turbine?

7. Mention any 7 refrigerant currently used?

8. Briefly explain about drier?

9. Briefly explain about Oil Reclaimer?

10. Draw Psychrometric chart?

11. Write short notes on DBT,WBT,RH?

12. Write short notes on air conditioning?

13. Explain about saturation curve in Psychrometric chart?

14. Draw and say the use of thermostatic expansion valve?

15. Mention the rooms present in ship for refrigeration and mention its temperatures? Sketch simple evaporator ?

Part – C

1. Sketch and explain Nuclear Propulsion system?

2. Sketch and explain Marine Refrigeration system?

3. Sketch and explain Marine Air conditioning plant?

4. Draw and explain Psychrometric process and chart?

5. Sketch and explain a gas turbine?

6. Explain about automation of ship propulsion plants?