



香 港 特 別 行 政 區 政 府  
海 事 處

**Marine Department**  
**Hong Kong S.A.R. Government**

**Pleasure Vessel Operator Grade 2 Certificate (Part B) Mock examination**

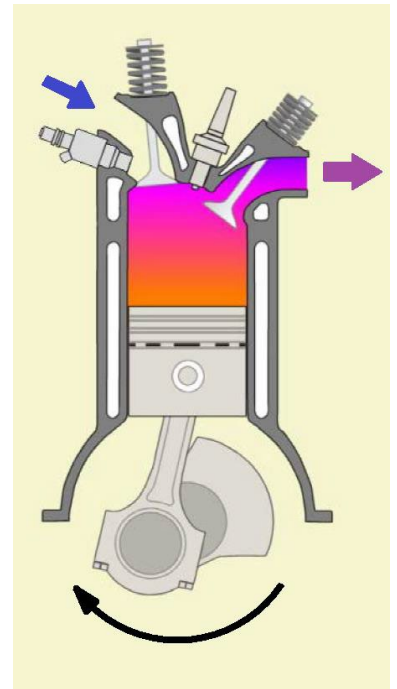
**English set**

**Answer all 40 questions**  
**2.5% for each question, passing mark 60%**

**Examination time: 45 minutes**

1. Reference from the picture; which action (stroke) of the engine is being run?

- (A) Intake
- (B) Compression
- (C) Power
- (D) Exhaust



2 Compare with wet type cylinder liner, dry type cylinder liner \_\_\_\_:

- (i) no contact between liner and cooling water
- (ii) does not require lubrication
- (iii) have relatively thin wall
- (iv) is directly cooled by air

- (A) (i) and (iv)
- (B) (ii)
- (C) (i) and (ii)
- (D) (i) and (iii)

3. When starting a petrol engine, the throttle is used to

- (i). give a richer fuel/air mixture
- (ii). make the plug easier to ignite the fuel/air mixture

- (A) (i)
- (B) (ii)
- (C) (i) and (ii) are correct
- (D) (i) and (ii) are not correct

4. For a 4-stroke petrol engine, the distributor runs at

- (A) same speed as the engine
- (B) half of the engine speed
- (C) twice of the engine speed
- (D) four times of the engine speed

5. In diesel engine common rail fuel injection system, the injection pressure is regulated by \_\_\_\_.

- (A) High pressure pump
- (B) High pressure accumulator
- (C) Fuel injector
- (D) Limiting valve

6. If the sea suction strainer is dirty but the engine temperature is normal, what is the possible cause?

- (i) temperature gauge fails
- (ii) coolant sea water pressure and temperature too low
- (iii) engine operated in normal rpm
- (iv) engine loading is very low

- (A) (i) and (ii)
- (B) (ii) and (iii)
- (C) (iii) and (iv)
- (D) (i) and (iv)

7. In a diesel engine marine gearbox, clutch slips was occur at high engine speed. What is the possible cause?

- (i) Operating temperature too low
  - (ii) Clutch disc wear
  - (iii) Operating oil pressure too low
- (A) (i) and (iii)
  - (B) (ii)
  - (C) (i), (ii) and (iii)
  - (D) (ii) and (iii)

8. A boat, the internal combustion engine is using wet-silencer system, the water source inject into the silencer is commonly come from \_\_\_\_\_.

- (A) engine sea water cooling system
- (B) independent sea water pump
- (C) independent fresh water tank
- (D) main engine freshwater cooling system

9 Which of the following statement is [correct] about engine cylinder lubrication?

- (i) Cool the cylinder liner
- (ii) Remove impurities during combustion
- (iii) Reduce noise
- (iv) Reduce cylinder liner and piston wear

- (A) (ii), (iii) and (iv)
- (B) (i), (ii) and (iv)
- (C) (ii) and (iv)
- (D) (iv)

10 Air in the low pressure fuel line of a diesel engine will cause:

- (i) engine vibration
- (ii) overheating of the injection system
- (iii) engine starting failure

- (A) (iii)
- (B) (i) and (ii)
- (C) (i)
- (D) (i) and (iii)

11 Causes of abnormal low lube oil pressure are:

- (i) excessive cooling by seawater
- (ii) high oil level in crankcase
- (iii) slightly worn piston rings and cylinder liners
- (iv) lube oil pressure gauge malfunction
- (v) extremely worn lube oil pump

- (A) (i) and (ii)
- (B) (ii) and (iii)
- (C) (iii) and (iv)
- (D) (iv) and (v)

12 What is the appearance in the control console when the main engine just starts?

- (i). The fresh water cooling temperature gauge shows the maximum temperature
- (ii). The lubricating oil pressure gauge shows the designed pressure
- (iii). The tachometer gauge shows the rated speed

- (A) (i)
- (B) (ii)
- (C) (iii)
- (D) (i) and (iii)

13 The reason for air lock in a hydraulic steering gear system is

- (i). leakage in pipe joint
- (ii). not enough oil in the system

- (A) (i)
- (B) (ii)
- (C) (i) and (ii) are correct
- (D) (i) and (ii) are not correct

14. Before starting a small outboard petrol engine, the important two steps of operations are :

- (A) lower the outboard engine gearbox below waterline then check that it is in neutral gear
- (B) press the starter button and open the throttle valve
- (C) press the gear into neutral and open the throttle valve
- (D) pull the starter cord and put into gear

15. Diesel engine is normally stopped by :

- (A) stopping air flow
- (B) cut off fuel supply
- (C) cut off electric power supply
- (D) braking

16. If the vessel ran aground, which ones of the following precautions were appropriate before rescue arrive?

- (i). Stop all main engines
- (ii). Inspect whether any damage has been caused to the engine room, main engines and tail shafts
- (iii). Use the bilge pump to pump out all accumulated water
- (iv). Try to leave the rocks by increasing the main engine power
- (v). Jettison cargo, discharge the remaining water and fuel oil onboard trying to get the vessel afloat

- (A) (i), (ii) and (iii)
- (B) (ii), (iii) and (iv)
- (C) (i), (iii) and (iv)
- (D) (iii), (iv) and (v)

17. To be running properly with a correctly matching hull and propeller an engine should be

- (A) running at full power setting to accelerate
- (B) running at minimum power setting to accelerate
- (C) running at full rated speed at full power setting
- (D) running at full rated speed at minimum power setting

18. The thermostats used in the indirectly cooled marine engine are unsuitable for directly cooled marine engines because

- (i). their operation principle is different
- (ii). their operation temperature is different
- (iii). they will not operate in sea water

- (A) (i)
- (B) (i) and (ii)
- (C) (iii)
- (D) (i), (ii) and (iii) are not correct

19. When the lubrication oil pressure alarm activates, you should immediately:

- (A) reduce the engine speed
- (B) continue running the engine and find the fault
- (C) add oil to sump
- (D) stop the engine immediately

20. What is the function of the heat insulation which sticks on the exhaust piping system?

- (i). Reduce the heat emission from the exhaust piping.
- (ii) Reduce the engine room temperature.
- (iii) Avoid the red hot exhaust pipe contacts with any oil type substances and cause fire.
- (iv) Avoid the red hot exhaust pipe hazard to the worker in the engine room.

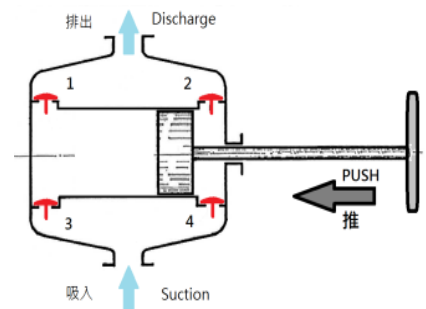
- (A) (i),(iv) only
- (B) (i) , (ii)only
- (C) (ii),(iii) only
- (D) All of above

21. Insufficient inlet and exhaust valve clearance in outboard petrol engine could cause

- (A) too rich of fuel/air mixture
- (B) too weak of fuel/air mixture
- (C) noisy tappets
- (D) loss of compression

22. A piston pump, when push in the handle lever, which valves will "close"?

- (A) 1, 4
- (B) 2, 3
- (C) 1, 2
- (D) 3, 4



23. What type of motor should be used for electric ventilation fans installed inside battery spaces to avoid accumulation of hydrogen gases?

- (A) drip-proof type
- (B) watertight type
- (C) weatherproof type
- (D) Explosion proof type

24. Single battery capacity is dependent on the
- (A) voltage that can be maintained over a period of time
  - (B) time for which it has been charged
  - (C) surface area of the plates exposed to the electrolyte
  - (D) number of cells

25 . What general care should a generator receive while in operation?

- (i) It should be kept clean and dry.
- (ii) The bearing should be kept well oiled.
- (iii) The governor should be kept in good condition.
- (iv) The load should be kept at a fixed load.

- (A) (i), (ii) and (iii)
- (B) (ii), (iii) and (iv)
- (C) (i), (iii) and (iv)
- (D) (i), (ii) and (iv)

26. A luxury yacht has just docked beside a jetty. Before plugging in the shore power cord, first step you have to do is :(Please select the most appropriate answer)

- (A) Switch off the main circuit breakers on the dockside and on vessel electrical distribution system
- (B) Disconnect engine starting battery cable
- (C) Secure and tighten the mooring ropes, add addition fenders if necessary
- (D) Put on life jackets, ready a portable carbon dioxide fire extinguisher

27. Somebody was got electric shock in engine room, and casualty is not clear of electric current, before rescue, you have to:

- (A) break the contact by switch off the power source.
- (B) Place casualty in the recover position and call medical aid.
- (C) start external cardiac compression.
- (D) call medical aid, and then start external cardiac compression and artificial ventilation.

28. Which of the following statements is incorrect with regard to starting difficulty in diesel engine:-

- (A) the engine is turned at low cranking speed by starter
- (B) insufficient lubricating oil feeds in engine crankcase
- (C) the air filter is choked
- (D) air locks in fuel pump

29. If an outboard petrol engine fails to accelerate, the reason may be:-

- (A) poor in fuel/lubricant mixture.
- (B) dirt in carburetor jet.,
- (C) no priming in fuel pipe.
- (D) fault in ignition system.

30. A leaking fuel injector will cause :

- (i) loss of power
- (ii) dirty exhaust
- (iii) vibration
- (iv) more fuel burnt

- (A) (i), (ii) and (iii)
- (B) (i), (iii) and (iv)
- (C) (ii), (iii) and (iv)
- (i), (ii), (iii) and (iv)

31. Which is the most likely cause of cylinder wear?

- (A) Engine runs in high speed.
- (B) Engine runs in low speed.
- (C) Engine runs in super-cooled jacket water.
- (D) Engine runs too long in idling speed.

32. Loss of compression in an internal combustion engine may be due to

- (A) the wrong grade of fuel
- (B) a leak in the exhaust manifold
- (C) an exhaust valve stuck open
- (D) a leak in the inlet manifold

33. Petrol engine produces less dirty exhaust because :

- (i) less fuel is burnt
- (ii) complete combustion can easily be achieved
- (iii) petrol contains low proportion of carbon content
- (iv) petrol is easier to be ignited

- (A) (i), (ii) and (iii)
- (B) (i), (iii) and (iv)
- (C) (ii), (iii) and (iv)
- (D) (i), (ii) and (iv)



34. What is the effect of over-lubrication in a Diesel engine cylinder?

- (i) Easy to form carbon deposit.
- (ii) Sticky piston rings.
- (iii) Increasing the cylinder wear.
- (iv) Overloading.

- (A) (i) and (ii)
- (B) (ii), (iii) and (iv)
- (C) (i), (ii) and (iv)
- (D) (i), (ii), (iii) and (iv)

35. The level of oil in a hydraulic reservoir for a deck winch is found to be very low. The best action would be to:

- (A) isolate the winch and perform a check in the areas close to the winch and any leak on the hoses connected to it
- (B) refill the reservoir immediately
- (C) verify and eliminate the presence of water in the tank
- (D) relieve pressure in the tank due to oil expansion

36. What factors would contribute to fire?

- (i) Availability of fuel.
- (ii) Availability of air.
- (iii) The fuel and air reach the proper temperature for ignition.

- (A) (i) and (ii)
- (B) (ii) and (iii)
- (C) (i) and (iii)
- (D) (i), (ii) and (iii)

37. The fire extinguisher that is not suitable for a electric fire is

- (i). Dry powder
- (ii). Foam
- (iii). Carbon dioxide

- (A) (i)
- (B) (ii)
- (C) (iii)
- (D) (i), (ii) and (iii) are not suitable

38. Engine room fire precautions do not include

- (A) periodic check of sand box and fire extinguisher
- (B) to avoid overload of generator
- (C) to organize fire drill at suitable interval
- (D) operate emergency fire pump system periodically

39. Which statement below about LPG is wrong :

- (A) Gas bottle should be installed to avoid direct sunlight
- (B) Pipe between gas bottle and cooker should be as short as possible
- (C) Air passage should be provided near the bottom of bottle locker
- (D) Gas bottle should be stored on deck

40. Why are some diesel fuels showing reddish colour?

- (A) In response to the 《Dutiable Commodities (Marking and Colouring of Hydrocarbon oil) Regulations》, colouring substance is added into the diesel fuel.
- (B) Diesel fuel contacting with air and produce oxide showed reddish colour.
- (C) Diesel fuel contacting with the moisture in ambient air, produced chemical reaction and shown reddish colour.
- (D) It is artificial dye the diesel fuel to distinguish the grading and quality of the fuel, reddish colour means “Ultra Low Sulphur Diesel (ULSD)”.

Answer

1 D

2 D

3 D

4 B

5 D

6 D

7 D

8 A

9 A

10 D

11 D

12 B

13 C

14 A

15 B

16 A

17 C

18 B

19 A

20 D

21 D

22 B

23 D

24 C

25 A

26 A

27 A

28 B

29 B

30 D

31 C

32 C

33 C

34 A

35 A

36 D

37 B

38 B

39 B

40 A