Series

A

# CODE : 18

**Write here Roll Number and Answer Sheet No.**

Question Booklet Sl. No.

A

**Roll No.**

**nswer Sheet No.**

Duration : 1 Hour

Total Marks : 100

**Declaration by Invigilator :**
I Certify that I have checked that the Roll Number and the Answer Sheet Number written by the Candidate on the question paper and the OMR Sheet are correct and the Answer Sheet Number matches the Question Booklet Number exactly.

**Signature of the Invigilator with Name**

**Declaration by Candidate :**
I undertake not to employ any unfair means in this exam. I have checked the Question Booklet Number and the Answer Sheet Number and both are identical and have been correctly entered by me wherever indicated.

**Signature of the Candidate with Name**

Read the following instructions carefully before you begin to answer the questions.

## IMPORTANT INSTRUCTIONS TO CANDIDATES

1. The Roll No. is a **7** digit No., the candidate needs to circle the Roll No. in the Answer Sheet.
2. The appropriate Circle should be shaded for Roll No. This should be done carefully because only the shaded circles are scanned.
3. Valuation of Answer Sheet will be done on the computer. Candidate should not make any stray marks on the Answer Sheet, tamper with or mutilate it. Otherwise it will not be evaluated.
4. Please check all the pages of the Booklet carefully. In case of any defect, please ask the Invigilator for replacement of the Booklet.
5. You must not tear off or remove any sheet from this Booklet. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.
6. All questions are compulsory and each Question carries **2** marks.
7. **The paper carries negative marking. For each wrong answer 0.50 mark will be deducted.**
8. This Booklet contains 50 questions.
9. Use of Calculator/Palmtop/Laptop/Other Digital Instrument/Mobile/Cell Phone/Pager is **not** allowed.
10. Candidates found guilty of misconduct/using unfair means in the Examination Hall will be liable for appropriate penal/legal action.
11. **No Rough Work is to be done on the Answer Sheet and only single OMR Answer Sheet will be provided.**
12. This booklet contains **12** pages.
13. **Directions** : Each question or incomplete statement is followed by four alternative suggested answers or completions. In each case, you are required to select the one that correctly answers the question or completes the statement and blacken (●) appropriate circle a, b, c or d by Blue / Black Ball-Point Pen provided by the board against the question concerned in the Answer Sheet.
14. Mark your answer by shading the appropriate circle against each question. The circle should be shaded completely without leaving any space. The correct method of shading is given below.

| Wrong Method | Wrong Method | Wrong Method | Correct Method |
|---|---|---|---|
| ○ ⊗ ○ ○ | ○ ⊘ ○ ○ | ○ ◉ ○ ○ | ○ ● ○ ○ |

The Candidate must mark his/her response after careful consideration, as it is not possible to change the response once it is marked.

15. There is only one correct answer to each question. You should blacken (●) the circle of the appropriate column, viz., a, b, c or d. If you blacken (●) more than one circle against any one question, the answer will be treated as wrong.
16. Use the space for rough work given at the beginning of the Question Booklet only and not on the Answer Sheet.
17. **You are NOT required to mark your answers in this Booklet. All answers must be indicated in the Answer Sheet only.**

DO NOT WRITE HERE

SPACE OR ROUGH WORK

SPACE OR ROUGH WORK

1. Steam engine is an example for
   (a) Internal combustion engine (b) External combustion engine
   (c) 4 stroke engine (d) 2 stroke engine

2. In V engine, the cylinders are arranged in V shape at an angle of
   (a) 90 degree (b) 45 degree (c) 60 degree (d) 12 degree

3. In heavy vehicles _____ cylinder engines are used.
   (a) 4 (b) 2 (c) 12 (d) 6

4. A greater number of cylinders gives _____ engine operation.
   (a) Rough (b) Smoother (c) Noisy (d) None of these

5. Engines having more than one cylinder is
   (a) Single cylinder engine (b) Multi cylinder engine
   (c) 2 stroke engine (d) 4 stroke engine

6. In a Spark Ignition engine, _____ is used as fuel.
   (a) Petrol (b) Diesel (c) Coal (d) Steam

7. In a Spark Ignition engine, during suction stroke _____ is sucked in.
   (a) Air (b) Air and fuel mixture
   (c) Fuel mixture (d) Petrol

8. Compression ratio in Spark Ignition engine is
   (a) Low b) High (c) Medium (d) Very High

9. _____ gas is emitted in Spark Ignition engine.
   (a) Carbon Monoxide (b) Methane
   (c) Carbon dioxide (d) Ethane

10. In Compression Ignition (CI) engine _____ is used as fuel.
    (a) Petrol (b) Diesel
    (c) Kerosene (d) Crude oil

11. In Spark Ignition engine, _____ is used to atomize, vaporize and meter the correct amount of fuel according to the requirement.

(a) Carburettor
(b) Fuel injection
(c) Air filter
(d) Fuel injection jet

12. In Otto cycle engine, combustion takes place at constant

(a) Volume
(b) Pressure
(c) Temperature
(d) Heat

13. The distance travelled by the piston from TDC to BDC or BDC to TDC is

(a) Stroke
(b) Compression ratio
(c) Cycle
(d) Power

14. set of operations performed in sequence by the motion of the piston in an engine to produce power is called

(a) Stroke
(b) Compression ratio
(c) Cycle
(d) Throw

15. The rate at which work is done in a specific time is called

(a) Stroke
(b) Power
(c) Cycle
(d) Efficiency

16. _____ is the ratio between the air drawn in the cylinder during the suction stroke and the volume of the cylinder.

(a) Mechanical efficiency
(b) Thermal efficiency
(c) Volumetric efficiency
(d) Horse power

17. _____ is an instrument that indicate distance travelled by a vehicle, such as motor cycle and motor vehicle automobile.

(a) Odometer
(b) Fuel indicator
(c) Speedometer
(d) Speedometer sensor

18. _____ indicator is used to display the accelerator opening level to maintain the set speed.

(a) Cruise control
(b) Proximity sensor
(c) T coil
(d) Speedometer sensor

19. _____ is used to know the quantity of fuel available in the fuel tank.

(a) Fuel gauge
(b) Speedometer
(c) Odometer
(d) Fuel injector

20. _____ is used to know the pressure of lubricating oil during the working of the engine and serves as a warning signal to the driver against any sudden failure of the lubrication system.

(a) Fuel gauge
(b) Oil pressure gauge
(c) Temperature gauge
(d) Pressure gauge

21. _____ is used to convert the rotary motion into reciprocating motion with the help of the cam lobe.

(a) Camshaft
(b) Tappet
(c) Piston
(d) Timing chain

22. _____ is used to support rotating components and to reduce friction between the static and rolling components.

(a) Bearing
(b) Shaft
(c) am
(d) None of these

23. _____ is used in the cooling system is to cool hot water coming out of engine.

(a) Radiator
(b) Lubrication
(c) Coolant
(d) Thermal sensor

24. _____ is device, prevents the engine from overheating by activating radiator cooling fan, measuring the coolant temperature and controlling the level gauges and warning lights on the engine control unit.

(a) Thermo switch
(b) Traction sensor
(c) oolant
(d) Temperature indicator

25. _____ is a property of lubricating oils which determines their ability to flow.

(a) Viscosity (b) Fire point

(c) Flash point (d) Wettability

26. _____is a device which increase the pressure of the air fuel mixture from the carburettor before it enters the engine.

(a) Superchargers (b) Nitro

(c) Turbo (d) Muffler

27. _____ increases the amount of air delivered to the engine cylinder, thereby more fuel can be burnt which increases engine power.

(a) Supercharger (b) Intercooler

(c) Turbocharger (d) Exhauster

28. In motor cycles and scooters, fuel feed system used is

(a) Gravity feed system (b) Vacuum feed system

(c) Forced feed system (d) Fuel injector system

29. _____is a measure to determine the burning quality of the gasoline.

(a) Cetane number (b) Octane number

(c) Fuel density (d) B tane number

30. _____ is the ability of the gasoline to evaporate, so that its vapour will adequately mix with air for combustion.

(a) Volatility (b) Evaporation

(c) Viscosity (d) Condensation

31. _____ is provided in the fuel tank to minimize the slushing of fuel due to movement inside the tank.

(a) Filter (b) Baffle

(c) Filler Neck and cap (d) Float

32. The function of _____is to deliver finely atomized fuel under high pressure to the combustion chamber for the engine.

(a) Fuel pump
(b) Fuel injector
(c) Carburettor
(d) Air filter

33. Arrange in correct sequence to produce power in four-stroke engine operation.

1. Power stroke
2. Suction stroke
3. Exhaust stroke
4. Compression stroke

(a) 2, 1, 3, 4
b) 2, 4, 1
(c) 1, 2, 4, 3
d) 4, 2, 1, 3

34. ompression Ignition engine operates under constant _____ cycle.

(a) Pressure
(b) Temperature
(c) Volume
(d) Heat

35. Which type of engine has more efficiency ?

(a) 4 stroke engine
(b) 2 stroke engine
(c) Both of these
(d) Diesel engine

36. isplacement volume of a piston is

(a) Swept volume
(b) Engine volume
(c) Volumetric efficiency
(d) Efficiency

37. _____ is used to display the engine rotation in revolution per minute.

(a) Engine RPM meter
(b) Odometer
(c) Speedometer
(d) Tachometer

38. hoose the correct dismantling procedure of diesel engine from the vehicle.

(a) Park the vehicle on a level surface

(b) Choke all the four wheels with wooden blocks

(c) Unscrew the bonnet mountings and remove it along with the grill

(d) All the above

39. cylindrical shape which reciprocates inside the cylinder bore is

(a) Crankshaft (b) Valve

(c) Camshaft (d) Piston

40. hoose the suitable property of a piston is given below

(a) Able to withstand high temperature and pressure of combustion

(b) A good conductor of heat

(c) Light enough to minimise the inertia load

(d) All of these

41. The lowest portion of the piston is called as

(a) TDC (b) Skirt (c) BDC (d) Land

42. The gap between the ring and the groove in the piston is checked by

(a) Measuring scale (b) Feeler gauge

(c) Vernier calliper (d) Screw gauge

43. Ratio of the volume of the charge in the cylinder above the piston at bottom dead centre and the volume of the charge when the piston is at top dead centre is

(a) Compression ratio (b) Volumetric ratio

(c) Clearance ratio (d) Displacement ratio

44. Piston pins are made hollow because

(a) to reduce inertia load due to the reciprocating motion

(b) to make it lighter

(c) to fast heat dissipation

(d) to avoid friction

45. The capacity of the bearing to adjust to the conditions of crankcase distortion and crankshaft warpage and conform to the journal at all times is termed as

(a) Fatigue strength
(b) Conformability
(c) Embedability
(d) Surface action

46. _____ is used to connect and disconnect transmission of power from the engine flywheel to the gear box drive shaft.

(a) Gear
(b) Clutch
(c) Crankshaft
(d) Pressure plate

47. Which of the following is not true regarding the diesel engine with respect to turbine engine ?

(a) Large power achieved by relatively small size
(b) Low efficiency
(c) Less hazardous
(d) Low torque

48. ir cooling in an engine is example for _____ type of cooling.

(a) Direct
(b) Indirect
(c) Forced circulation
(d) Thermostat

49. Water circulation is obtained due to the difference in the densities of hot and cold water, this is a

(a) Thermo-siphon system
(b) Water circulation system
(c) Pump circulation system
(d) Air cooled system

50. The friction between two moving surfaces which are in contact with each other is minimised by

(a) Oiling
(b) Greasing
(c) Lubrication
(d) Cooling

