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Iti

Question Paper

Duration: 90 Mins

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Student Name: _____	Roll No: _____
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1. How many crank shaft rotations required to get one power in four stroke single cylinder diesel engine?

- A) Two
C) Four
- B) One
D) Three

2. What is the purpose of the dip stick used in the engine?

- A) To check oil density
C) To check oil level
- B) To check oil pressure
D) To check oil temperature

3. Which engine has fuel injection pump?

- A) CRDI engine
C) Petrol engine
- B) MPFI engine
D) Diesel engine

4. What is the purpose of valve in AC fuel pump?

- A) Allow the fuel to suck and deliver
C) Supply correct quantity of fuel
- B) Creating suction
D) Creating pressure

5. Which types of cooling system the rate of cooling is very low?

- A) Air cooling system
C) Forced feed system
- B) Thermo siphon system
D) Pump circulation system

6. What is the procedure to be carried out if an electric shock victim unable to release his grip from the conductor?

- A) Make sure the power is turned off
C) Place the victim on one side with head down
- B) Cover all burns with a dry loose dressing
D) Ask a bystander to help you to move the

7. Which tool is used to remove the piston ring?

- A) 'C' clamp
C) Drift punch
- B) Ring expander
D) Circlip plier

8. Which gauge used to measure the cylinder bore weariness?

- A) Depth gauge
C) Compression gauge
- B) Vacuum gauge
D) Dial gauge

9. What is the mechanical efficiency of an engine?

- A) (FHP/BHP)x100
C) (BHP/IHP)x100
- B) (IHP/BHP)x100
D) (BHP/FHP)x100

10. How many national automotive testing and R&D infrastructure projects (NATRIP) are established in India?

- A) 5
C) 6
- B) 4
D) 7

11. Which is the key element in converting reciprocating motion in to rotary motion?

- A) Gudgeon pin
C) King pin
- B) Connecting rod
D) Cam shaft

12. Which association of india is playing crucial role in less pollution?

- A) AASI (Automobile Association of South India)
C) ARAI (Automotive research association of India)
- B) AAI (Automobile Association of India)
D) AIA (Automotive industry Association)

13. What is the compression ratio of an engine, its clearance volume is 10 c.c and swept volume is 90 c.c?

- A) 10:01
C) 09:01
- B) 08:01
D) 11:01

14. Which year Hindustan motor established ambassador car industry in India?

- A) 1900
C) 1980
- B) 1900
D) 1940

15. What is the main purpose of the lubricant?

- A) Increase the wearness
C) Increase the friction
- B) Increase the noise
D) Minimise the friction

16. Which equipment used for quick inspection under chassis of a car?

- A) Screw jack
C) Stand
- B) Trolley jack
D) Two post hoist

17. Which type of energy conservation opportunity involves stopping of water leakage points?

- A) Major energy conservation opportunities
B) Extra major energy conservation
C) Medium energy conservation opportunities
D) Minor energy conservation opportunities

18. How oil deliver from the crank shaft main bearings to connecting rod bearings?

- A) Through sprocket
B) Through drilled oil passages
C) Through vibration damper
D) Through crank pulley

19. How the water pump get drive in pump circulation cooling system?

- A) By gear
B) By belt
C) By chain
D) By coupling

20. What is the cause of excessive loading?

- A) Bearing spread
B) Bearing struck
C) Fatigue failure
D) Bearing crush

21. What is the purpose of water pump in cooling system?

- A) Flushing out the cooling system
B) Reduce the water pressure
C) Increase the water temperature
D) Force the water circulation

22. Which type of fuel contains more carbon monoxide?

- A) Liquid fuel
B) Unburnt fuel
C) Burnt fuel
D) Solid fuel

23. What is the load taken by taper roller bearing?

- A) Axial and radial load
B) Thrust load
C) Radial and axial load
D) Radial load

24. What is the property allows a bearing to with stand impact load for a reasonable time?

- A) Tensile strength
B) Toughness
C) Hardness
D) Fatigue strength

25. How the AC mechanical pump's fuel delivery pressure is determined?

- A) Size of the pumping chamber
B) Maximum stroke of diaphragm
C) Maximum deflection of diaphragm
D) Spring pressure on diaphragm

26. How the ports are opened and closed in two stroke engine?

- A) Movement piston pin
B) Movement of piston
C) Movement of valve
D) Movement of Rocker arm

27. Which is the bearing used in differential and wheel of a heavy vehicles?

- A) Ball bearing
B) Roller bearing
C) Needle bearing
D) Taper roller bearing

28. Which part allows to flow water from upper tank to lower tank of the radiator?

- A) Core tubes
B) Water pump
C) Fins
D) Bottom hole

29. When it is required to change the water pump bearing?

- A) Water leakage
B) Bearing noisy
C) Fan belt loose
D) Low water pressure

30. Which service equipment is used to lift a car?

- A) Hydraulic press
B) Arbor press
C) Hydraulic valve
D) Hydraulic hoist

31. Which mixture is used in radiator reverse flushing cleaning?

- A) Flushing water with engine oil
B) Flushing water with coolant oil
C) Flushing water with soap oil
D) Flushing water with air (gun) pressure

32. Which is the most preferred use of taper roller bearings?

- A) Differential and wheel hub
B) Fly wheel and water pump
C) Connecting rods
D) Gear boxes

33. Which is the compression pressure of C.I engine?

- A) 90 to 160 psi
B) 290 to 390 psi
C) 180 to 280 psi
D) 400 to 550 psi

34. Where the fly wheel is fitted in the engine?

- A) Primary shaft
B) Cam shaft
C) Rocker arm shaft
D) Crank shaft

35. Which engine is used the Petrol oil lubrication system?

- A) Steam engine
B) Four stroke engine
C) Two stroke engine
D) Battery car

36. Which part is lubricated by splash lubrication system?

- A) Main journal
B) Crank pin
C) Cylinder wall
D) Timing gears

37. Which part of the human body need to protect in high noise level at work place?

- A) Nose
B) Ear
C) Eye
D) Head

38. How can identify a two stroke engine?

- A) Cavities
- B) Valves
- C) Passages
- D) Ports

39. Which is the load taken by the roller bearing?

- A) Radial and axial load
- B) Radial load
- C) Axial load
- D) Thrust load

40. Which of the following fuel quality determines fuel to flow?

- A) Viscosity
- B) Cetane number
- C) Octane number
- D) Volatility

41. A cycle consisting of one constant pressure, one constant volume and two isentropic processes is known as

- A) Isothermal
- B) Constant pressure
- C) Constant volume
- D) Diesel Cycle

42. What is brake horse power?

- A) Power available at the gear box
- B) Power available at the wheels
- C) Power available at fly wheel
- D) Power available at the cylinder

43. How many times, ports are open in two rotation of crank shaft in two stroke engine?

- A) One time
- B) Three times
- C) Two times
- D) Four times

44. Which of the following fuel quality determines burning property of diesel?

- A) Octane number
- B) Cetane number
- C) Viscosity
- D) Volatility

45. Where the metal fins are provided in the air cooled engine?

- A) Intake manifold
- B) Valve door
- C) Cylinder and head
- D) Exhaust pipe

46. What is the property of bearing helps to absorb dirt and metal particles?

- A) Surface action
- B) Embedability
- C) Conformability
- D) Thermal conductivity

47. What is the purpose of metal fins in air cooling system?

- A) Maintain the heat
- B) Supply the heat
- C) Reduce the heat
- D) Increase the heat

48. What is the type of hardening done on crank shaft?

- A) Induction hardening
- B) Case hardening
- C) Surface hardening
- D) Curve hardening

49. Which type of lubrication system is used in two stroke engine?

- A) Wet sump lubrication
- B) Petrol-oil lubrication
- C) Splash lubrication
- D) Dry sump lubrication

50. What is the specification of 6J x 15?

- A) Tyre size
- B) Engine size
- C) Wheel rim size
- D) Vehicle size

51. Which is the engine called as constant volume cycle?

- A) S.I engine
- B) C.I engine
- C) Turbine engine
- D) Steam engine

52. When did first car rolled in the street of Calcutta?

- A) 1887
- B) 1910
- C) 1950
- D) 1810

53. What is the reason for corrosion of bearing?

- A) Over heated
- B) Over loaded
- C) Less clearance
- D) Water mixed with lubricant

54. How the set of operations performed in sequence of motion of the piston in an engine produce power is called?

- A) Efficiency
- B) Stroke
- C) Stroke
- D) Cycle

55. What is the class of gas burning fire?

- A) Class - A
- B) Class - D
- C) Class - C
- D) Class - B

56. What is the process of driving exhaust gases in two stroke engine out of cylinder?

- A) Super charging
- B) Scavenging
- C) Combustion
- D) Intaking

57. What is the purpose of a radiator pressure cap?

- A) Release the excess pressure
- B) Retain the atmospheric pressure
- C) Retain the vacuum pressure
- D) Maintain the water temperature

58. Which is transferring energy for the piston to crankshaft?

- A) Cam shaft
- B) Gudgeon pin
- C) Connecting rod
- D) King pin

59. Which tool is required to remove the valves?

- A) Valve spring lifter
- B) Scraper
- C) Box spanner
- D) Torque wrench

60. What is the formula for Frictional horse power (FHP)?

- A) IHP - BHP
- B) IHP + BHP
- C) BHP / IHP
- D) IHP / BHP

61. Which one is the properties of lubricant

- A) Oil viscosity should not be same in hot and cold condition
- B) Oil viscosity should be suit the operating conditions
- C) Should develop foam
- D) Boiling temperature should be low

62. How many flywheel rotation requires to complete one cycle in two stroke engine?

- A) Four
- B) Three
- C) Two
- D) One

63. Which is connected with piston through piston pin?

- A) Cam shaft
- B) Gudgeon pin
- C) Connecting rod
- D) Rocker arm

64. Which measuring instrument used to check the fly wheel face out?

- A) Dial indicator
- B) Outside micrometer
- C) Feeler gauge
- D) Compression gauge

65. How many valves are used in radiator cap?

- A) Four valves
- B) One valve
- C) Two valves
- D) Three valves

66. What is the name the portion below the piston boss?

- A) Crown of the piston
- B) Skirt of the piston
- C) Ring section of the piston
- D) Land of the piston

67. Which is the major energy conservation opportunity?

- A) Laps in housekeeping
- B) Replacement of household appliance
- C) Stopping of leakage
- D) Replacement machineries

68. Which type of material toxic may cause for lung cancer?

- A) Graphite
- B) Wood
- C) Asbestos
- D) Fiber

69. What is the type of fire with wood, cloth, and paper?

- A) Class - B
- B) Class - C
- C) Class - D
- D) Class - A

70. Which digit indicate the engine type in 17 digit of VIN number?

- A) 5 digit
- B) 8 digit
- C) 2 digit
- D) 3 digit

71. Which is the starting system used in heavy vehicles?

- A) Compressed air cranking
- B) Hand cranking
- C) Gasoline engine cranking
- D) Electric motor cranking

72. Which part is connect the piston with crank pin?

- A) Push rod
- B) Connecting rod
- C) Crank Shaft
- D) Cam Shaft

73. Which is the most preferred use of bush bearings?

- A) Oil pumps
- B) Crank shaft
- C) Connecting rods
- D) Fly wheel

74. Which ministry of India regulate the motor vehicle activity?

- A) Minister of defence
- B) Minister of finance
- C) Minister of rural and development
- D) Minister of road transport and highways

75. Which part connect the piston with connecting rod?

- A) Crank pin
- B) Spilt pin
- C) Piston pin
- D) Cotter pin

76. When it is required to coincide the mark with timing gears?

- A) During assembling cam shaft
- B) During assembling radiator
- C) During assembling water pump
- D) During assembling oil pump

77. What is the material of cylinder block?

- A) Brass
- B) Cast iron
- C) Zinc alloy
- D) Bronze

78. What type of bearing fitted in the connecting rod big end?

- A) Taper roller bearing
- B) Shell bearing
- C) Ball bearing
- D) Needle bearing

79. Which fire extinguisher suitable for class 'C' fire?

- A) Foam filled extinguisher
- B) Water filled extinguisher
- C) Dry powder fire extinguisher
- D) Carbon-di-oxide fire extinguisher

80. Which part of body, if bleeding profusely is considered serious and need professional attention?

- A) Buttock
- C) Leg

- B) Wrist
- D) Knee

- A) Mechanical
- C) Pneumatic brake

- B) Hydraulic
- D) Electrical brake

81. Which is the most preferred use of roller bearings?

- A) Gear boxes
 - C) Fly wheel
- B) Connecting rods
 - D) Differential

91. When the valve clearance to be adjusted?

- A) Fully opened
 - C) Partially closed
- B) Fully closed
 - D) Just opened

82. What is the purpose of the timing chain?

- A) To connect alternator
 - C) To connect water pump pulley
- B) To connect crank or cam shaft gear
 - D) To connect A/C compressor

92. Which is used to determine the stroke of an engine?

- A) Cycle
 - C) Length of connecting rod
- B) Dia of piston
 - D) Throw

83. Which part drives the oil pump?

- A) Crank Shaft
 - C) Timing gears
- B) Cam Shaft
 - D) Crank pulley

93. Which is the bearing used in gear boxes?

- A) Ball bearing
 - C) Needle bearing
- B) Taper roller bearing
 - D) Roller bearing

84. Which engine has more length?

- A) 'V' engine
 - C) Inline engine
- B) Opposed engine
 - D) Radial engine

94. What is your immediate action on completion of first aid?

- A) Call emergency service
 - C) Call your friend
- B) Call fire service
 - D) Call taxi

85. What is the speed ratio cam shaft to crank shaft?

- A) Half
 - C) Triple
- B) Double
 - D) Equal

95. Which part helps to increase the water boiling point in water cooling system?

- A) Radiator fins
 - C) Radiator core tubes
- B) Radiator cap
 - D) Radiator hose

86. What is ovality of a crank shaft?

- A) Difference in dia measured only at bottom
 - C) Difference in dia measured thrust to non thrust across dia
- B) Difference in dia measured from top to bottom of a crank shaft outer dia
 - D) Difference in dia measured only at top

96. Which comes under first aid?

- A) Immediate care and support given to injured person
 - C) Assessing a victim's vital signs
- B) Completing a primary source
 - D) Treating a victim for a shock

87. Which equipment is to support under lifting vehicle before working underneath the vehicle for safe work?

- A) Stand
 - C) Slings chain
- B) Lifting crane
 - D) Hydraulic jack

97. What is ovality of a bore?

- A) Difference in dia measured only at bottom
 - C) Difference in dia measured only at top
- B) Difference in dia thrust to non thrust side of cylinder
 - D) Difference in dia measured top to bottom

88. Which instrument is used to check the vacuum of the cylinder?

- A) Compression gauge
 - C) Wire gauge
- B) Dial gauge
 - D) Vacuum gauge

98. What is the purpose of throttle valve in the carburetor?

- A) Always holds correct fuel
 - C) Controls air fuel mixture into the engine
- B) Excess supply of fuel at idle
 - D) Filter the fuel

89. Which of the following fuel quality determines burning property of petrol?

- A) Octane number
 - C) Volatility
- B) Cetane number
 - D) Viscosity

99. What is the purpose of accelerating pump circuit?

- A) Provides extra fuel during pick up speed
 - C) Provides mixture for low speed
- B) Provides an economic mixture
 - D) Provides mixture for idle speed

90. Which type of brake used in heavy vehicle parking?

100. What is indicated horse power?

- A) Power developed in the cylinder
B) Power developed in the flywheel
C) Power developed in the wheel
D) Power developed in the propeller shaft

101. What is the volume of the space above the piston at TDC?

- A) Clearance volume
B) Total volume
C) Displace volume
D) Swept volume

102. What is the type of mechanical hazards in workshop?

- A) Current leakage
B) Wrong layout of machinery
C) Sickness
D) Un guarded machinery

103. Which lubrication system is used separate oil tank?

- A) Wet sump lubrication
B) Splash lubrication
C) Dry sump lubrication
D) Petrol - oil lubrication

104. Where the emulsion tube is provided in solex carburetor?

- A) Main jet
B) Idle jet
C) Cold starter
D) Choke

105. What is the working cycle of compression ignition engine?

- A) Diesel cycle
B) Rankin cycle
C) Sterling cycle
D) Otto cycle

106. What is the property of a bearing helps to with stand metal to metal contact?

- A) Fatigue strength
B) Surface action
C) Embeddability
D) Thermal conductivity

107. Which is the cause for lifting equipment failure?

- A) Under load
B) Oil seal leak
C) Oil change
D) Check oil level

108. Which device is best for control toxic waste?

- A) Air compressor
B) Wire brush
C) Cotton waste
D) Vacuum cleaner

109. What is the cause for uneven wear of bearings?

- A) Over heat
B) Excessive lubrication
C) No lubrication
D) Bend twist

110. Which engine has carburetor?

- A) Kerosene
B) Mineral oil
C) Petrol
D) Diesel

111. Where is the air fuel mixture compressed in the two stroke petrol engine?

- A) Intake port
B) Exhaust port
C) Transfer port
D) Combustion chamber

112. What is the cause of water leakage in water pump?

- A) Worn out bearing
B) Worn out shaft
C) Worn out impeller
D) Worn out seal

113. Which instrument is used to check the tappet clearance?

- A) Telescopic gauge
B) Screw pitch gauge
C) Wire gauge
D) Feeler gauge

114. Which type of fire extinguisher suitable for class 'A' fire?

- A) Carbon-di-oxide
B) Dry powder
C) Foam or water
D) Halon

115. Which tool is used to measure the diameter of the crank shaft main journal?

- A) Master ring gauge
B) Outside micrometer
C) Three point internal micrometer
D) Inside micrometer

116. Where heat dissipation take place in cooling system?

- A) Water jackets
B) Radiator
C) Fan
D) Water pump

117. Which causes the air enter into cylinder?

- A) Carburetor air-horn pressure
B) AC fuel pump pressure
C) Engine vacuum
D) Air filtering

118. Which oil is used in cooling system?

- A) Lubricant oil
B) Coolant oil
C) Hydraulic oil
D) Mineral oil

119. How can identify a four stroke engine?

- A) Ports
B) Passages
C) Cavities
D) Valves

120. How the amount of work done in a specification is called?

- A) Torque
B) Stroke length
C) Cycle
D) Power

121. Which part is used to pump the water in water pump?

- A) Pulley
B) Impeller
C) Bearing
D) Shaft

122. Which is the power developed in an engine?

- A) IHP
- B) IHP
- C) BHP
- D) RHP

123. Which is the engine having cylinders in 180 Degree?

- A) Radial engine
- B) Opposed engine
- C) Inline engine
- D) V- engine

124. Which area is restricted to smoking?

- A) Corporation limit area
- B) Water filling area
- C) Gram market area
- D) Fuel refilling area

125. What is the effect if thermostat valve is struck?

- A) Engine gets over heating
- B) Engine does not stop
- C) Engine does not start
- D) Engine gets over cooling

126. What is the stroke length of the engine if its throw of the crankshaft is 40 mm?

- A) 80 mm
- B) 40 mm
- C) 60 mm
- D) 20 mm

127. What is the effect of taper and ovality of a bore?

- A) Miss firing
- B) Difficult starting
- C) Compression loss
- D) False valve timing

128. Which of the following fuel quality determines to evaporate?

- A) Cetane number
- B) Volatility
- C) Viscosity
- D) Octane number

129. When the thermostat valve open in engine?

- A) Low temperature of engine
- B) Operating temperature of engine
- C) Freezing temperature of engine
- D) High temperature of engine

130. A cycle consisting of one constant pressure, one constant volume and two isentropic processes is known as

- A) Isothermal
- B) Diesel Cycle
- C) Constant volume
- D) Constant pressure

131. Which is the bearing used in water pump?

- A) Taper roller bearing
- B) Roller bearing
- C) Ball bearing
- D) Needle bearing

132. What is the reason pump does not suck the oil?

- A) Filter clogged
- B) Less radial clearance
- C) Relief valve struck
- D) More backlash

133. What is the material of piston pins?

- A) HSS
- B) Nickel chromium steel
- C) Bronze
- D) Cast iron

134. What is the purpose of the radiator in the cooling system?

- A) Cool the hot air
- B) Cool the water pump
- C) Cool the hot oil
- D) Cool the hot water

135. What is the purpose of needle valve in carburetor?

- A) Controls the air flow of the engine
- B) Always holds correct level of fuel
- C) Decrease the fuel pressure
- D) Excess supply of fuel at idle

136. Which type of pump is used in water cooling system?

- A) Reciprocating pump
- B) Centrifugal pump
- C) Gear pump
- D) Diaphragm pump

137. How many crank shaft rotation required to open exhaust valve one time in four stroke engine?

- A) One
- B) Two
- C) Three
- D) Four

138. What is heat?

- A) Energy
- B) Torque
- C) Force
- D) Velocity

139. Which type of fire extinguisher unsuitable for electric fire?

- A) CTC
- B) CO₂
- C) Dry powder
- D) Foam

140. What is the material for cam shaft?

- A) Copper alloy
- B) Zinc alloy
- C) Forged alloy steel
- D) Aluminium alloy

141. Which system the gear type oil pump is used?

- A) Cooling system
- B) Air conditioning system
- C) Fuel system
- D) Lubrication system

142. Which device is vaporizing of fuel and mixing it with air in petrol engine?

- A) Tank
- B) Fuel filter
- C) AC fuel pump
- D) Carburetor

143. Which type of workshop equipment used to deliver the air pressure to hydraulic hoist?

- A) Vacuum pump
- B) Compressor

C) Jib crane

D) Hydraulic pump

C) To set the valve clearance D) To set the engine timing

144. What is the material used to produce crank shaft?

A) Cast iron

B) Wrought iron

C) High speed steel

D) Chromium vanadium
nickel steel

148. Where is the compression ring is fitted in the piston?

A) Compression ring above
the oil ring in the piston

B) Compression ring bottom
of the piston skirt

C) Compression ring
between oil ring and piston
pin

D) Compression ring
between piston pin and
bottom of skirt

145. Which tool used to remove the crank shaft pulley?

A) Ring spanner

B) Double and spanner

C) Puller

D) Pipe wrench

149. What is the effect if the radiator cores are clogged?

A) Increase coolant flow

B) Slow coolant flow

C) Stop coolant flow

D) Free coolant flow

146. What is the angle of throw for 4 cylinder engine?

A) 180 Degree

B) 60 Degree

C) 90 Degree

D) 120 Degree

150. Why suction tube in the tank is raised above?

A) To enter condensed water

B) To act atmospheric
pressure

C) To enter air

D) To avoid suction of water
in fuel

147. What is the purpose of the fly wheel timing mark?

A) To coincide the gears

B) To set the F.I.P timing