

Student Name: _____ Roll No: _____

1. How the number of positive and negative plates are compared in a lead acid Battery?

- A) Positive plates is one more than negative plates
 B) Negative plate is one less than positive plate
 C) Negative plate is one more than positive plates
 D) Positive plate is equal to the negative plate

A) Power developed in the propeller shaft

B) Power developed in the flywheel

C) Power developed in the cylinder

D) Power developed in the wheel

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

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

10. Which unit supplies a fine mist of oil in pneumatic system?

A) Actuator

B) Pressure relief valve

C) Control valve

D) Air service unit

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

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

11. What is the colour of positive plates in the charged lead - acid - battery?

A) White

B) Grey

C) Brown

D) Black

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

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

12. What is the purpose of angle plate?

A) Polishing

B) Grinding

C) Marking

D) Machining

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

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

13. Which is the power source of pneumatic system?

A) Control valve

B) Actuator

C) Air Compressor

D) Air Service unit

6. Which causes the air enter into cylinder?

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

14. Which instrument is used to check the run-out of crankshaft journals?

A) Dial test indicator

B) Vernier gauge

C) Bore dial gauge

D) Telescopic gauge

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

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

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

A) 7

B) 4

C) 5

D) 6

8. What is the use of Ohmmeter in an electrical circuit?

- A) Measure the current
 B) Measure the voltage
 C) Measure the resistance
 D) Measure the power

16. Which instrument is used to check the continuity of the field coils of DC motor?

A) Voltmeter

B) Ohmmeter

C) Ammeter

D) Wattmeter

9. What is indicated horse power?

17. Which device have the ability to store electrical charge?

A) Capacitor

B) Conductor

C) Resistor

D) Insulator

C) $I=(R/V)$

D) $V=(I/R)$

18. How the lead acid Battery is classified?

A) Secondary cell

B) Dry cell

C) Alkaline cell

D) Primary cell

19. How electrons move in a conductor?

A) Voltage difference

B) Current

C) Conductance

D) Resistance

20. Which plier used for bending narrow strips of thin metal sheet?

A) Flat nose plier

B) Internal circlip plier

C) Slip joint plier

D) Round nose plier

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

A) Volatility

B) Cetane number

C) Octane number

D) Viscosity

22. Which gauge used to check leakage of inlet manifold?

A) Emission gauge

B) Pressure gauge

C) Vacuum gauge

D) Feeler gauge

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

A) AC fuel pump

B) Tank

C) Carburetor

D) Fuel filter

24. What is the smallest reading of vernier caliper?

A) Allowance

B) Least count

C) Deviation

D) Tolerance

25. What is the purpose of the cross pein in the hammer?

A) Strike the metal in all direction

B) Strike the metal

C) Fix the handle

D) Spread the metal in one direction

26. Which acid is used in the lead acid Battery?

A) Nitric acid

B) Hydro chloric acid

C) Sulphuric acid

D) Hydro bromic acid

27. Which part of engine can be measured by dial gauge?

A) Gudgeon pin

B) Piston

C) Crank pin

D) Cylinder bore

28. Which is the Ohm's Mathematical Expression?

A) $I=(V/R)$

B) $R=(I/V)$

29. What is the reason for pneumatic brake failure?

A) Less pedal play

B) Defective front wheel slack adjuster

C) Defective unloader valve

D) More pedal play

30. Which material is required to make integrated circuit chips?

A) copper

B) zinc

C) steel

D) silicon

31. Which type of the circuit has an infinite resistance?

A) Series closed circuit

B) Open circuit

C) Parallel closed circuit

D) Short circuit

32. What is the name of beveled graduated sleeve of outside micro meter?

A) Spindle

B) Barrel

C) Anvil

D) Thimble

33. Which is used for marking and setting of work?

A) V- Block

B) Surface plate

C) Marking table

D) Bench vice

34. What is the energy conversion of battery during discharge?

A) Chemical energy into electrical energy

B) Electrical energy into chemical energy

C) Electrical energy into heat energy

D) Electrical energy into mechanical energy

35. Which engine has carburetor?

A) Kerosene

B) Petrol

C) Mineral oil

D) Diesel

36. What is the specific gravity reading range of half charged battery?

A) 1.200 - 1.230

B) 1.170 - 1.200

C) 1.230 - 1.260

D) 1.260 - 1.280

37. Which instrument is prohibited to connect with live wire?

A) Ohmmeter

B) Ammeter

C) Voltmeter

D) Wattmeter

38. Which is a temperature sensitive resistor?

A) Diode

B) Thermistor

C) Thyristor

D) Transistor

39. What is the energy conversion of battery during

charging?

- A) Electrical energy into chemical energy
- B) Electrical energy into mechanical energy
- C) Electrical energy into heat energy
- D) Chemical energy into electrical energy

40. Which valve regulate the flow rate in hydraulic system?

- A) Pressure relief
- B) By pass
- C) Non return
- D) Delivery

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

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

42. Which shell electrons has least energy?

- A) L shell electron
- B) N shell electron
- C) M shell electron
- D) K shell electron

43. How the semi conductor material can be identified with atomic structure?

- A) Two electrons in the outer most orbit
- B) Five electrons in the outer most orbit
- C) Three electrons in the outer most orbit
- D) Four electrons in the outer most orbit

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

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

45. What is the permissible voltage drop in the electrical circuit?

- A) 0.3 V
- B) 0.2 V
- C) 0.4 V
- D) 0.1 V

46. What is the effect if the unloader valve is in open position?

- A) Continuously allow the air to the atmosphere
- B) Maintain the required air pressure
- C) Allow the air in to the air tank
- D) Release the air to the brake valve

47. What is the purpose of accelerating pump circuit?

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

48. How many switching position in 4/2 directional control valve?

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

49. Which screw driver is used in blind space?

- A) Philips screw driver
- B) Ratchet screw driver
- C) Stumpy screw driver
- D) Offset screw driver

50. Which valve safe guards the hydraulics jack?

- A) Non return valve 2
- B) Non return valve 1
- C) Shut off valve
- D) Relief valve

51. Which cable is the thickest used in the automobile wiring?

- A) Horn cable
- B) Head light cable
- C) Starter motor cable
- D) Wiper motor cable

52. Which electronic component is used as a solid state switch?

- A) Capacitor
- B) Resistor
- C) Inductor
- D) Transistor

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

- A) To avoid suction of water in fuel
- B) To enter condensed water
- C) To enter air
- D) To act atmospheric pressure

54. Which is the power developed in an engine?

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

55. Which hand tool used for circular cut in sheet metal work?

- A) Combination plier
- B) Bend snip
- C) Straight snip
- D) Side cutting plier

56. How is the Battery capacity expressed?

- A) Voltage rating
- B) Voltage - hour rating
- C) Ampere rating
- D) Ampere - hour rating

57. What is the material of possitive plate in the lead acid Battery?

- A) Antimony
- B) Lead peroxide
- C) Tin
- D) Spongy lead

58. What is the working media in pneumatic system?

- A) Oil
- B) Air
- C) Diesel
- D) Stream

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

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

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

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

61. Which device converts hydraulic energy into mechanical energy?

- A) Regulator
- B) Control Valve
- C) Actuator
- D) Compressor

62. What is the reason for fuse blown out in an electrical circuit?

- A) Parallel circuit
- B) Open circuit
- C) Series circuit
- D) Short circuit

63. What is the function of hydraulic oil in hydraulic system?

- A) Transmit power
- B) Reduce the pressure
- C) Increase the volume
- D) Increase the heat

64. What is the direction of driven gear in an external gear pump?

- A) Same direction
- B) Perpendicular direction
- C) Opposite direction
- D) Inclined direction

65. What is the use of ratchet stop in out side micro meter?

- A) Prevent sliding
- B) Prevent excessive pressure
- C) Prevent speed
- D) Prevent load

66. Which law is applied in hydraulic brake system?

- A) Charles law
- B) Boyle's law
- C) Newton's law
- D) Pascal's law

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

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

68. Which component of air brake system converts pneumatic into mechanical energy?

- A) Brake valve
- B) Reservoir
- C) Compressor
- D) Brake chamber

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

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

70. What is heat?

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

71. Which act as a seal in the external gear pump?

- A) Drive gear
- B) Housing
- C) Driven gear
- D) Gear meshing

72. Which metal tube is used for single thickness flare?

- A) Bronze
- B) Brass
- C) Copper
- D) Aluminium

73. Which refers the size of hexagonal Allen key?

- A) Size of the diagonal
- B) Size of the radius
- C) Size across the flat
- D) Size of the diameter

74. Which measuring gauge needs to be set up to a fixed dimension before use?

- A) Vernier dial gauge
- B) Dial bore gauge
- C) Depth gauge
- D) Dial test indicator

75. Which digit indicate the engine type in 17 digit of win number?

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

76. Which instrument is used to measure the electrical resistance?

- A) Wattmeter
- B) Voltmeter
- C) Ammeter
- D) Ohmmeter

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

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

78. How can identify a two stroke engine?

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

79. Which gauge used to check the spark plug gap?

- A) Telescopic gauge
- B) Feeler gauge
- C) Vernier gauge
- D) Pitch gauge

80. What is the advantage of free maintenance sealed battery?

- A) No need for disconnect the terminals to remove battery
B) No need for recharging of battery
C) No chance for sulphation of battery terminals
D) No need for check and top up distilled water.

81. Which type of socket spanner can be turned to an angle?

- A) Swivel socket spanner
B) Socket spanner
C) Spark plug socket spanner
D) Deep socket spanner

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

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

83. Which spanner used for zero setting in outside micrometer?

- A) Ring spanner
B) Adjustable spanner
C) Double end spanner
D) Hooks spanner

84. When the valve clearance to be adjusted?

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

85. How many crank shaft rotations required to get one power in four stroke single cylinder diesel engine?

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

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

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

87. Which type of chisel used to remove excess metal from welded joint?

- A) Half round chisel
B) Flat chisel
C) Cross cut chisel
D) Diamond point chisel

88. How the screw driver is specified?

- A) Width and diameter of the edge
B) Thickness and length
C) Shape and length
D) Length of blade and width of tip

89. What is the material of negative plate in the lead acid Battery?

- A) Lead peroxide
B) Antimony
C) Tin
D) Spongy lead

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

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

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

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

92. Which engine has more length?

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

93. What is the type of inner drive gear used in the internal gear oil pump?

- A) Helical gear
B) Spiral gear
C) Rotor gear
D) Spur gear

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

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

95. Which instrument used to check the piston ring end gap?

- A) Telescopic gauge
B) Feeler gauge
C) Vernier gauge
D) Pitch gauge

96. How many cells are in the 12V Battery?

- A) 6 cells
B) 2 cells
C) 9 cells
D) 12 cells

97. What is the working principle of dial test indicator?

- A) Linear motion into rotary motion
B) Linear motion into reciprocating motion
C) Leverage motion
D) Spring motion

98. Which measuring instrument used to measure the Ampere, volt and resistance?

- A) Galvana meter
B) Multi meter
C) Energy meter
D) Wattmeter

99. Which engine has fuel injection pump?

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

100. What type of emf is proceduced if the conductor moved and cut the magnetic fied?

- A) Statistically induced emf
B) Electro-chemical induced emf
C) Dynamically induced emf
D) Electro-magnetic induced emf

101. Which instrument is used to check the right angle?

- A) Steel rule
- B) Spring Joint caliper
- C) Try square
- D) Firm joint caliper

102. Which part in the internal gear pump act as seal?

- A) Gears
- B) Crescent-shaped spacer
- C) Gasket
- D) Sealing ring

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

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

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

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

105. Which part operates the brake shoe in the hydraulic brake system?

- A) Break pedal
- B) Break drum
- C) Wheel cylinder
- D) Master cylinder

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

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

107. 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

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

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

109. What is the ampere hour rating if battery deliver 5 ampere and period of 20 hours?

- A) 110 Ampere hour
- B) 90 Ampere hour
- C) 80 Ampere hour
- D) 100 Ampere hour

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

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

111. What is the net resistance 'R' if 'R1' and 'R2' resistance are connected in series?

- A) $R = R1/R2$
- B) $R = R1 \times R2$
- C) $R = R1 + R2$
- D) $R = R1 - R2$

112. What is the mechanical efficiency of an engine?

- A) $(FHP/BHP) \times 100$
- B) $(BHP/IHP) \times 100$
- C) $(BHP/FHP) \times 100$
- D) $(IHP/BHP) \times 100$

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

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

114. What is the purpose of colour code in cables?

- A) Colour refers the current rating
- B) Easy identification of each circuit
- C) Refers the size of the wire
- D) Colour refers the voltage rating

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

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

116. Which precision instrument used for taking external, internal and depth measurement?

- A) Inside micrometer
- B) Vernier caliper
- C) Outside micrometer
- D) Depth micrometer

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

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

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

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

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

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

120. Which valve save the pneumatic brake components against damage?

- A) Brake valve
- B) Unloader valve
- C) Check valve
- D) Relay valve

121. Which device used to step up the voltage in the spark ignition system?

- A) Spark plug
- B) Condenser
- C) Ignition coil
- D) High Tension Cable

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

- A) 60 Degree
- B) 90 Degree
- C) 180 Degree
- D) 120 Degree

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

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

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

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

125. Which tool used to tighten the nuts and bolts at recommended tightness?

- A) Adjustable wrench
- B) Stud wrench
- C) Torque wrench
- D) Pipe wrench

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

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

127. 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) Excess supply of fuel at idle
- D) Decrease the fuel pressure

128. What is brake horse power?

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

129. What is the distance covered by the spindle in one full rotation of thimble in outside micrometer?

- A) 2 mm
- B) 0.5 mm
- C) 1.5 mm
- D) 1.0 mm

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

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

131. What is the specific gravity of fully charged battery?

- A) 1.260 - 1.280
- B) 1.170 - 1.200
- C) 1.240 - 1.250
- D) 1.210 - 1.230

132. What is flaring?

- A) Decreasing the length of a tube
- B) Decreasing the diameter of a tube
- C) Increasing the diameter of a tube end
- D) Increasing the length of a tube

133. Which device converts mechanical energy into pneumatic energy?

- A) Alternator
- B) Actuator
- C) Compressor
- D) Generator

134. Which valve is to be closed before lifting the load with hydraulic jack?

- A) Shut of valve
- B) Non return valve-2
- C) Non return valve-1
- D) Relief valve

135. Which is the semi conductor materials?

- A) Arsenic and boron
- B) Gallium and indium
- C) Aluminium and antimony
- D) Germanium and silicon

136. Which device transmit the pressure equally to all wheel cylinders in hydraulic brake?

- A) Booster cylinder
- B) Master cylinder
- C) Servo cylinder
- D) Slave cylinder

137. Which law states that the pressure intensity of a static liquid equal in all direction?

- A) Charle's law
- B) Newton's law
- C) Pascal's law
- D) Boyle's law

138. Which component is used to measure the engine coolant temperature?

- A) Diode
- B) Thermistor
- C) Resistor
- D) Transistor

139. Which service unit act as filter, regulator and lubricator in the pneumatic system?

- A) Valve unit
- B) Compressor unit
- C) Actuator unit
- D) Air service unit

140. What is the power flow of pneumatic system?

- A) Actuator - Control valve - Compressor
- B) Compressor - Actuator - Control valve
- C) Control valve - Compressor - Actuator
- D) Compressor - Control valve - Actuator

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

- A) Electrical brake
- B) Hydraulic
- C) Mechanical
- D) Pneumatic brake

142. What does number 25 in the cable size (25/0.012) indicate?

- A) Number of the strand
- B) Length of the strand
- C) Diameter of the strand
- D) Thickness of the cable

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

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

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

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

145. Which one is the indirect measuring instrument?

- A) Inside caliper
- B) Steel rule
- C) Outside micrometer
- D) Inside micrometer

146. How the hammers are specified?

- A) Metal and shape
- B) Weight and shape
- C) Size and shape
- D) Metal and weight

147. Which law state that 'The current is directly proportional to the voltage and inversely proportional to the resistance'?

- A) Boyle's Law
- B) Ohm's Law
- C) Newton's Law
- D) Hook's Law

148. What are the two instruments used to measure the warpage of the fly wheel?

- A) Knife, wooden blank
- B) Steel rule, metal shim

C) Straight edge, feeler gauge

D) Wooden plank, metal shim

149. Which type of pump used in the hydraulic jack?

- A) Gear pump
- B) Plunger pump
- C) Internal gear pump
- D) Vane pump

150. What type of resistor is used in the vehicle flasher unit?

- A) Integrated resistor
- B) Printed resistor
- C) Film resistor
- D) Ballast resistor

151. Which gauge is used to check the inflation of tyre?

- A) Feeler gauge
- B) Vacuum gauge
- C) Pressure gauge
- D) Wire gauge

152. Which measure the liquid's resistance of flow?

- A) Viscosity
- B) Gravity
- C) Elasticity
- D) Quality

153. Which type of the circuit leads to hazard effect?

- A) Short circuit
- B) Series circuit
- C) Open circuit
- D) Parallel circuit

154. What is the purpose of half round chisel?

- A) Cut curved grooves
- B) Cut excess metal
- C) Cut keyways
- D) Squaring metal at corners

155. How can identify a four stroke engine?

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

156. What is the use of ball pein hammer head?

- A) Strike the metal
- B) Strike soft metal
- C) Stamp the specifications
- D) Spread the metal In all direction