

Student Name: _____ Roll No: _____

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

- A) Control valve B) Actuator
C) Air service unit D) Pressure relief valve

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

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

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

- A) Steel rule, metal shim B) Knife, wooden blank
C) Wooden plank, metal shim D) Straight edge, feeler gauge

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

- A) Capacitor B) Resistor
C) Conductor D) Insulator

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

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

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

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

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

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

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

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

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

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

10. Which causes the air enter into cylinder?

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

11. What is the working media in pneumatic system?

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

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

- A) 1.170 - 1.200 B) 1.260 - 1.280
C) 1.230 - 1.260 D) 1.200 - 1.230

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

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

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

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

15. What is the smallest reading of vernier caliper?

- A) Least count B) Allowance
C) Tolerance D) Deviation

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

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

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

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

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

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

- C) Less pedal play
D) More pedal play

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

- A) Bore dial gauge
C) Dial test indicator
- B) Telescopic gauge
D) Vernier gauge

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

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

21. What is the energy conversion of battery during charging?

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

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

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

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

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

24. What is the power flow of pneumatic system?

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

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

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

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

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

27. What is the reason for pneumatic brake failure?

- A) Defective unloader valve
B) Defective front wheel slack adjuster

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

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

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

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

30. Which is the power source of pneumatic system?

- A) Actuator
C) Air Compressor
- B) Control valve
D) Air Service unit

31. Which device converts mechanical energy into pneumatic energy?

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

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

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

33. Which valve safe guards the hydraulics jack?

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

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

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

35. What is the purpose of angle plate?

- A) Polishing
C) Grinding
- B) Machining
D) Marking

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

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

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

- A) 8 digit
B) 3 digit

C) 2 digit

D) 5 digit

38. Which shell electrons has least energy?

A) M shell electron

B) N shell electron

C) K shell electron

D) L shell electron

39. What is the mechanical efficiency of an engine?

A) $(FHP/BHP) \times 100$

B) $(BHP/IHP) \times 100$

C) $(IHP/BHP) \times 100$

D) $(BHP/FHP) \times 100$

40. How can identify a four stroke engine?

A) Passages

B) Ports

C) Valves

D) Cavities

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

A) Increase the heat

B) Transmit power

C) Increase the volume

D) Reduce the pressure

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

A) 12 cells

B) 9 cells

C) 6 cells

D) 2 cells

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

A) 180 to 280 psi

B) 400 to 550 psi

C) 290 to 390 psi

D) 90 to 160 psi

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

A) Integrated resistor

B) Ballast resistor

C) Film resistor

D) Printed resistor

45. Which engine has fuel injection pump?

A) Diesel engine

B) CRDI engine

C) MPFI engine

D) Petrol engine

46. Which device converts hydraulic energy into mechanical energy?

A) Actuator

B) Regulator

C) Compressor

D) Control Valve

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

A) Telescopic gauge

B) Feeler gauge

C) Vernier gauge

D) Pitch gauge

48. Which refers the size of hexagonal Allen key?

A) Size of the radius

B) Size of the diagonal

C) Size of the diameter

D) Size across the flat

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

A) Housing

B) Gear meshing

C) Drive gear

D) Driven gear

50. What is indicated horse power?

A) Power developed in the flywheel

B) Power developed in the wheel

C) Power developed in the cylinder

D) Power developed in the propeller shaft

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

A) Prevent excessive pressure

B) Prevent sliding

C) Prevent speed

D) Prevent load

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

A) Pascal's law

B) Boyle's law

C) Charle's law

D) Newton's law

53. 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

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

A) Filter the fuel

B) Excess supply of fuel at idle

C) Controls air fuel mixture into the engine

D) Always holds correct fuel

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

A) Barrel

B) Spindle

C) Anvil

D) Thimble

56. Which is a temperature sensitive resistor?

A) Diode

B) Thyristor

C) Thermistor

D) Transistor

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

A) Wattmeter

B) Voltmeter

C) Ammeter

D) Ohmmeter

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

A) Vehicle size

B) Tyre size

C) Engine size

D) Wheel rim size

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

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

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

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

61. Which engine has carburetor?

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

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

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

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

- A) V- Block
B) Marking table
C) Surface plate
D) Bench vice

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

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

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

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

66. Which law is applied in hydraulic brake system?

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

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

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

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

- A) Internal circlip plier
B) Slip joint plier
C) Flat nose plier
D) Round nose plier

69. What is the purpose of half round chisel?

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

70. How the lead acid Battery is classified?

- A) Dry cell
B) Primary cell
C) Alkaline cell
D) Secondary cell

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

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

72. 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

73. Which is the semi conductor materials?

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

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

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

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

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

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

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

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

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

78. How the screw driver is specified?

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

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

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

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

- A) Sulphuric acid
B) Nitric acid

C) Hydro bromic acid D) Hydro chloric acid

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

- A) Strike the metal in all direction
- B) Fix the handle
- C) Spread the metal in one direction
- D) Strike the metal

82. 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
- B) 11:01
- C) 08:01
- D) 09:01

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

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

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

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

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

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

86. 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 need for check and top up distilled water.
- D) No chance for sulphation of battery terminals

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

95. Which one is the indirect measuring instrument?

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

96. Which screw driver is used in blind space?

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

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

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

98. How electrons move in a conductor?

- A) Current
- B) Resistance
- C) Conductance
- D) Voltage difference

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

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

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

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

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

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

102. What is the purpose of accelerating pump circuit?

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

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

- A) White
- B) Brown
- C) Grey
- D) Black

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

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

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

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

106. When the valve clearance to be adjusted?

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

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

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

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

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

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

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

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

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

111. Which is the Ohm's Mathematical Expression?

- A) $R=(I/V)$
- B) $I=(V/R)$

C) $V=(I/R)$

D) $I=(R/V)$

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

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

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

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

114. What is flaring?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

126. How can identify a two stroke engine?

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

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

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

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

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

129. How is the Battery capacity expressed?

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

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

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

131. How the hammers are specified?

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

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

- A) silicon B) zinc
C) steel D) copper

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

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

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

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

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

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

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

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

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

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

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

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

139. What is heat?

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

140. How many flywheel rotation requiries to compelet one cycle in two stroke engine?

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

141. Which gauge used to check leakage of inlet mainfied?

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

142. Which service unit act as filter, regulator and lubricator

in the pneumatic system?

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

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

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

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

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

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

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

146. Which is the power developed in an engine?

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

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

- A) Gudgeon pin
- B) Crank pin
- C) Piston
- D) Cylinder bore

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

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

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

- A) Maximum deflection of diaphragm
- B) Size of the pumping chamber

C) Maximum stroke of diaphragm

D) Spring pressure on diaphragm

150. What is the material of positive plate in the lead acid Battery?

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

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

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

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

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

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

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

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

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

155. Which engine has more length?

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

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

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