110/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. A heat engine converts :
   (A) Heat energy into mechanical energy
   (B) Mechanical energy into heat energy
   (C) Heat energy into electrical energy
   (D) Chemical energy into electrical energy

2. The engine valves are closed by :
   (A) Cam shaft
   (B) Crank shaft
   (C) Valve spring
   (D) Piston

3. Inlet valve is made up of :
   (A) Nickel chromium alloy steel
   (B) High carbon steel
   (C) Tungsten steel
   (D) Mild steel

4. Indicated Horse power equation is :
   (A) $\frac{2\pi NT}{4500}$
   (B) $\pi r^2 h$
   (C) $\frac{BHP}{IHP} \times 100$
   (D) $\frac{PLAN}{4500} \times K$

5. Piston rings are made up of :
   (A) Stainless steel
   (B) High grade cast iron
   (C) High Carbon steel
   (D) Aluminium alloy

6. The function of FIP is :
   (A) Stormising the fuel
   (B) Filtering the fuel
   (C) To deliver specific quantity of fuel at specific time
   (D) Suck the fuel from the fuel tank

7. Which one of the governor is also called spring loaded centrifugal governor?

(A) Mechanical
(B) Hydraulic
(C) Pneumatic
(D) Servo

8. Ohm's Law expressed resistance is :

(A) $\frac{\text{Voltage}}{\text{Current}}$
(B) $\frac{\text{Current}}{\text{Voltage}}$
(C) Current × Voltage
(D) $\frac{\text{Resistance}}{\text{Voltage}}$

9. Positive plate of lead acid battery consists of grid filled with a paste of :

(A) Pb
(B) PbO_2
(C) $PbSO_4$
(D) H_2SO_4

10. Radiator pressure cap contains :

(A) Pressure valve
(B) Thermostat valve
(C) Rotary valve
(D) Pressure and Vacuum valve

11. The oil pump is generally driven by :

(A) Crank shaft
(B) Cam shaft
(C) Distributor
(D) Fan

12. What is the purpose of heat dam in a piston?

(A) to enable the piston run cooler
(B) to keep the water temperature constant
(C) to balance the piston
(D) to reduce the piston weight

13. What do you mean by compression ratio?

(A) $\frac{\text{Swept Volume}}{\text{Clearance Volume}}$
(B) $\frac{\text{Total Volume}}{\text{Clearance Volume}}$
(C) $\frac{\text{Total Volume}}{\text{Swept Volume}}$
(D) $\frac{\text{Clearance Volume}}{\text{Swept Volume}}$

14. Engine misfiring is due to :

(A) Excessive valve clearance
(B) Less valve clearance
(C) More piston clearance
(D) More valve guide clearance

15. Least count of micrometer is :

(A) 0.02 mm
(B) 0.1 mm
(C) 0.01 mm
(D) 0.5 mm

16. To change reciprocating motion to rotary motion, the engine has :

(A) Crank shaft and Cam shaft
(B) Piston and connecting rod
(C) Crank shaft and connecting rod
(D) Connecting rod and Crank shaft

17. Manual press operated by hand is called :

(A) Hydraulic press
(B) Arbor press
(C) Fly press
(D) Pneumatic press

18. The reamer is used for :

(A) Drilling holes in thin sheet
(B) Distribute force over a large area
(C) Removing burns
(D) Enlarging and Finishing holes

19. Washers help to :

(A) Improve appearance
(B) Distribute force over a large area
(C) Distribute force to the bolt
(D) Cover the clearance hole of the work piece

20. In which engine crank shaft length is maximum?

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

21. A hole is drilled between crank shaft main journal and crank pin for :

(A) Balancing of crank shaft
(B) Reducing crank shaft weight
(C) Lubricating connecting rod bearings
(D) Reducing crank shaft vibration

22. In a dry sump lubrication system, scavenging pump is used to :

(A) Pump oil from sump to tank
(B) Pump oil directly to all moving parts
(C) Develop additional oil pressure
(D) Pump oil from sump to filter

23. The pipe connecting fuel tank and FIP are called :

(A) High pressure pipe
(B) Over flow pipe
(C) Leak off pipe
(D) Suction pipe

24. Feed pumps are driven by :

(A) Cam shaft of engine
(B) Camshaft of FIP
(C) Crank shaft
(D) Valve train

25. Which is the lowest part of the piston?

(A) Ring
(B) Pin
(C) Skirt
(D) Dam

26. Warpness of cylinder head is caused by :

(A) Over heating of cylinder head
(B) Over cooling of cylinder head
(C) Over tightening of nuts
(D) Uneven tightening of nuts

27. Vent holes are provided in wet cells :

(A) To pour electrolyte
(B) To allow gases to escape during charging only
(C) To allow gases to escape charging and discharging
(D) To allow gases to escape discharging only

28. The centrifugal advance mechanism advances the timing when fly weights :

(A) Fly outward
(B) Contract inward
(C) Remain constant
(D) Move upward

29. The dynamo used in automobile is :

(A) Single pole
(B) Two poles
(C) Three poles
(D) Five poles

30. In charging system the regulator acts as :

(A) An automatic control
(B) An electronic control
(C) Manual control
(D) Semi automatic control

31. Piston ring gap in the cylinder bore is :

(A) 0.0035 – 0.0055 mm
(B) 0.035 – 0.055 mm
(C) 0.35 – 0.55 mm
(D) 3.5 – 5.5 mm

32. The instrument used to measure cylinder bore diameter is :

(A) Outside micrometer
(B) Vernier caliper
(C) Telescope gauge
(D) Bore dial gauge

33. Worn out camlobe lead to :

(A) Decrease volumetric efficiency
(B) Increase the valve–opening height
(C) Increase the valve clearance
(D) Decrease the engine life

34. Worn out control rack teeth will cause :

(A) Keep Plunger and Barrel in Sunlight
(B) Worn out cylinder bore
(C) Piston ring's damaged
(D) Misalignment of the plunger

35. The ratio of work output to the burnt fuel energy is called :

(A) Thermal efficiency
(B) Brake efficiency
(C) Mechanical efficiency
(D) Volumetric efficiency

36. Oil filters element should replace every :

(A) 2 years
(B) 2000 miles
(C) Oil changing
(D) Every filling of oil

37. A smoking blue exhaust is due to :

(A) Learn mixture
(B) Excessive fuel consumption
(C) Burning of oil in the combustion chamber
(D) Incorrect valve adjustment

38. Name the gauge used to check bearing clearance :

(A) Wire gauge
(B) Dial gauge
(C) Purg gauge
(D) Plastic gauge

39. Distributor shaft supported by :

(A) Ball bearing
(B) Shell bearing
(C) Bush bearing
(D) Needle bearing

40. To set ignition timing fly wheel TDC mark is conicide with :

(A) Timing back plate
(B) Mark on Cam shaft gear
(C) Mark on Crank shaft gear
(D) Fly wheel housing pointer

41. The two-stroke cycle engine has ports in the :

(A) Piston
(B) Cylinder walls
(C) Cylinder head
(D) All of these

42. Scavenging is the process of removing :

(A) burnt gases from the engine cylinder
(B) burnt gases from the crank case
(C) burnt gases from the cylinder head
(D) all of these

43. In a diesel engine, fuel and air mix together in the:

(A) carburettor
(B) injector
(C) combustion chamber
(D) inlet port

44. The use of flywheel is :

(A) To rotate the engine by starting motor
(B) To mount clutch assembly
(C) To store the energy
(D) None of these

45. Compression ratio of modern petrol engine is :

(A) 7:1
(B) 13:1
(C) 18:1
(D) 10:1

46. Function of ECM is :

(A) To charge the engine according to the requirement
(B) To start the engine smoothly
(C) To control the emission
(D) To increase engine life

47. Air fuel mixture should be lean for :

(A) starting
(B) cruising
(C) idling
(D) none of these

48. In the throttle – body injection system, there is :

(A) one injector for the engine
(B) one injector for each cylinder
(C) one injector for each spark plug
(D) none of these

49. In the cam, the distance between the base circle and the nose is called :

(A) flank
(B) lobe
(C) lead
(D) lift

50. The ratio between BHP and IHP is called :

(A) thermal efficiency
(B) engine efficiency
(C) mechanical efficiency
(D) power efficiency

51. Air compossor is used for :

(A) multipurpose
(B) to lift the car only
(C) to lift and remove the wheel
(D) to grind the chisel

52. The catalyst which is used in the reducing converter is :

(A) platinum
(B) rhodium
(C) charcoal
(D) sodium

53. Engine r.p.m is checked by :

(A) ammeter
(B) voltmeter
(C) hydrometer
(D) tachometer

54. The engine unit temperature gauge is immersed in :

(A) fuel
(B) fluid
(C) oil
(D) water

55. Important pollutants of the engine exhaust are :

(A) HC, CO_2 and H_2O
(B) HC, CO and NOx
(C) HC, CO and CO_2
(D) All of these

56. The ends of stator winding attached to the :

(A) field coil (B) carbon brush

(C) copper brush (D) diodes

57. The charcoal particles of the canister adsorb :

(A) gasoline vapour (B) nitrogen oxide

(C) carbon monoxide (D) all of this

58. The space required to accommodate the rotating flywheel magneto is :

(A) more (B) wider

(C) narrow (D) less

59. Adjustment of the ignition timing can be done by :

(A) Vacuum gauge (B) Stop watch

(C) Stroboscopic light (D) Dwell meter

60. Perished wiper blade causes :

(A) over heat (B) noise

(C) stops completely (D) slow working

61. The unit which controls the maximum oil pressure in the lubricating system is :

(A) pump rotor (B) oil filter

(C) pressure release valve (D) By pass valve

62. In horn, the diaphragm vibration per second is :

(A) 3 times (B) 30 times

(C) 300 times (D) 3000 times

63. The engine fan in the maruti car is controlled :

(A) mechanically (B) electrically

(C) hydraulically (D) pneumatically

64. The head light parts can be replaced in :

(A) prefocused bulb (B) sealed beam

(C) flush fitting type (D) halogen bulbs

65. Aneroid is a device :

(A) for cold starting
(B) for easy running
(C) for decompression
(D) for controlling emission

66. The flasher light bulbs flash at the rate of :

(A) 40 – flashes/ min
(B) 80 – flashes/ min
(C) 100 – flashes/ min
(D) 120 – flashes/ min

67. Series winding of solenoid is generally made of :

(A) thin wire
(B) P.V.C wire
(C) flex wire
(D) thick wire

68. The starter armature rotates due to magnetic poles :

(A) attraction
(B) repulsion
(C) vibration
(D) attraction and repulsion

69. When the dynamo voltage is more than the battery Voltage, the voltage flows to the :

(A) field winding
(B) shunt winding
(C) series winding
(D) armature winding

70. Distributor shaft is supported by :

(A) ball bearing
(B) shell bearing
(C) bush bearing
(D) needle bearing

71. The main purpose of pressure radiator cap is to :

(A) pressurise the system
(B) increase air water circulation
(C) help to develop vacuum in the system
(D) avoid build up of pressure

72. The maximum value of axial force at the clutch which a driver can apply while driving, without getting fatigued is approximately :

(A) 10 N
(B) 100 N
(C) 500 N
(D) 5000 N

73. In which type of steering gearbox variable steering ratio is achieved?

(A) worm and roller steering gear
(B) worm and nut steering gear
(C) worm and sector steering gear
(D) rack and pinion steering gear

74. The component of the torque converter that allows multiplication of torque is the :

(A) turbine
(B) impeller
(C) pump
(D) stator

75. Salisbury type rear axle casing is also known as :

(A) banjo type casing
(B) unitized carrier casing
(C) separate carrier casing
(D) none of these

76. Maximum room in the engine compartment is provided with :

(A) Wishbone type suspension
(B) Mcpherson strut suspension
(C) Rigid axle suspension
(D) Vertical guide suspension

77. The steering ratio for manual steering of cars is approximately :

(A) 5
(B) 50
(C) 15
(D) 100

78. The purpose of tyre sipes is to :

(A) increased tread tyres
(B) decrease noise level
(C) increase traction
(D) provide softer ride

79. The maximum disc runout allowed on the vehicle is generally :

(A) 1 mm
(B) 0.5 mm
(C) 0.1 mm
(D) 0.01 mm

80. If proportioning valve is not working :

(A) front brakes may lock
(B) rear brakes may lock
(C) front brakes may drag
(D) rear brakes may drag

81. Wagon tradegy was a tragic incident in connection with :

(A) Quit India Movement
(B) 1857 Revolt
(C) Malabar Rebellion
(D) First World War

82. Who was the President of the Lahore session of Indian National Congress?

(A) Subhash Chandra Bose
(B) Jawaharlal Nehru
(C) Mahatma Gandhi
(D) Moulana Azad

83. Kanneerum Kinavum is the autobiography of :

(A) V.T. Bhattathiripad
(B) E.M.S. Nambodhiri
(C) Mannath Padmanabhan
(D) Kumaranasan

84. Lucknow pact was in the year :

(A) 1915
(B) 1914
(C) 1916
(D) 1919

85. Birth place of Ayyankali :

(A) Kaladi
(B) Chempazhanthi
(C) Kollur
(D) Venganoor

86. Doctrine of Lapse was introduced by :

(A) Lord Canning
(B) Lord Lytton
(C) Lord Dalhousie
(D) Lord Wellesley

87. The incident which persuaded Gandhiji to stop non co-operation movement :

(A) Dandi March
(B) Chauri Chaura incident
(C) Rowlet Act
(D) Jalianwalabag Massacre

88. The First Indian State formed on linguistic basis was :

(A) Kerala
(B) Tamil Nadu
(C) Goa
(D) Andhra Pradesh

89. Who was called the Lincoln of Kerala?

(A) Dr. Palpu
(B) Pandit K.P. Karuppan
(C) Vagbhatananda
(D) K. Kelappan

90. Sati was abolished by William Bentick in :

(A) 1829
(B) 1839
(C) 1821
(D) 1921

91. The social reformer Poykayil Yohannan was popularly known as :

(A) Kumaraguru
(B) Vagabhadananda
(C) Ayyankali
(D) Dr. Palpu

92. The First Lady President of Indian National Congress :

(A) Indira Gandhi
(B) Vijayalakshmi Pandit
(C) Sarojini Naidu
(D) Annie Beasant

93. The boundary line between India and Pakistan :

(A) Macmohan line
(B) Durant line
(C) Radcliff line
(D) Countoor line

94. Who among the following is not a member of Cabinet Mission?

(A) A.V. Alexander
(B) George Simon
(C) Pethick Lawrance
(D) Stafford Crips

95. Sir Sayed Ahamed Khan was the founder of :

(A) Khilafat movement
(B) Sudhi movement
(C) Quit India movement
(D) Aligarh movement

96. The only Indian leader who participated in the three round table conferences was :

(A) Gandhiji
(B) B.R. Ambedkar
(C) Rajendra Prasad
(D) C.R. Das

97. Who is the father of Kerala Renaissance?

(A) K.Kelappan
(B) Sahodaran Ayyappan
(C) Sree Narayana Guru
(D) Kumaranasan

98. Political Party formed by Subhash Chandra Bose :

(A) Gaddar Party
(B) Swarajist Party
(C) Bombay association
(D) Forward Block

99. The place where the revolt of 1857 was broke out :

(A) Meerut
(B) Surat
(C) Delhi
(D) Lucknow

100. Brahmananda Sivayogi was the founder of :

(A) Ananthamatham
(B) Atma vidyasangam
(C) N.S.S.
(D) S.N.D.P