

230/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The petrol engine is working on :  
(A) Constant Pressure Cycle (B) Constant Volume Cycle  
(C) Carnot Cycle (D) None of the above
2. The main difference in operation of petrol engine from diesel engine is that :  
(A) draws air fuel mixture during suction  
(B) draws only air during suction  
(C) inlet valve closes during compression  
(D) exhaust valve opens during exhaust stroke
3. If a single cylinder engine produce a power in each rotation of crank shaft, then the engine is a :  
(A) 4 – stroke engine (B) 2 – stroke engine  
(C) Wankel engine (D) All of the above
4. The antiknocking properties of petrol is expressed in :  
(A) DIN (B) SAE number  
(C) Cetane number (D) Octane number
5. The number of crank pin in the crank shaft of a V-type engine is :  
(A) equal to number of cylinder (B) equal to double of number of cylinder  
(C) equal to half of number of cylinder (D) none of the above
6. The size of flywheel used in single cylinder 4–stroke engine compared to a flywheel of the single cylinder 2–stroke engine of same capacity is :  
(A) larger (B) smaller  
(C) same (D) none of the above
7. Which of the following compound is added to petrol to improve it's anti knocking property?  
(A) Sodium bicarbonate (B) Calcium bicarbonate  
(C) Pottasium nitrate (D) Tetra ethyl lead

8. Diaphragm type mechanical fuel pump is driven by :
- (A) V-belt (B) Chain  
(C) Camshaft eccentric (D) Cooling fan
9. If the engine continues to run after the ignition switch is turned off is called :
- (A) Dieseling (B) Percolation  
(C) Purging (D) Flooding
10. The component of battery coil ignition system which converts battery voltage into breakdown voltage is called :
- (A) Condenser (B) Ignition coil  
(C) Ballast resistor (D) Distributor
11. The mechanism which uses fly weights to advance spark in the engine cylinder is :
- (A) Vacuum advance mechanism (B) Centrifugal advance mechanism  
(C) Manual advance mechanism (D) None of the above
12. The location of exhaust port and transfer port of a two stroke engine which carries out loop flow scavenging is :
- (A) at opposite sides of cylinder (B) at same side of cylinder  
(C) exhaust port located at head (D) transfer port located at head
13. Helical control groove in FIP is provided in :
- (A) Control sleeve (B) Control pinion  
(C) Plunger (D) Pump cylinder
14. Decompressor arrangement is provided for :
- (A) to circulate refrigerant  
(B) to increase volumetric efficiency  
(C) release pressure from cylinder for easy cranking  
(D) decrease fuel supply
15. For proper fitting in to the engine cylinder, the outer surface of which liner needs to be accurately finished :
- (A) Wet liner (B) Dry liner  
(C) Wet liner and dry liner (D) None of the above

16. The space between the piston and cylinder wall is called :
- (A) piston clearance (B) end clearance  
(C) lip clearance (D) none of the above
17. The types of combustion chamber which is made as a depression on the top of piston is called :
- (A) Precombustion chamber (B) Energy cell  
(C) Open combustion chamber (D) Ante chamber
18. Valve train clearance is known as :
- (A) valve lift (B) valve overlap  
(C) guide clearance (D) valve lash
19. Which among the following bearings are commonly known as antifriction bearing?
- (A) foot step bearing (B) journal bearing  
(C) collar bearing (D) ball and roller bearing
20. How many cells are there in a 12 V lead acid battery?
- (A) 12 (B) 2  
(C) 4 (D) 6
21. Which among the following material is used as a solid lubricant?
- (A) Calcium Chloride (B) Calcium Carbonate  
(C) Copper Sulphate (D) Graphite
22. On discharged condition both positive and negative plates of lead acid battery is changed into :
- (A) Pb (B)  $PbSO_4$   
(C)  $PbO_2$  (D) None of the above
23. What is the effect of increase in temperature on specific gravity of electrolyte of lead acid battery?
- (A) Specific gravity decreases (B) Specific gravity increases  
(C) First decreases then increases (D) No effect

24. What will be the open circuit voltage of a cell of a fully charged battery of lead acid type?  
(A) 12.6 V (B) 3.1 V  
(C) 2.1 V (D) 10 V
25. In an electric circuit the ammeter is connected in :  
(A) parallel to the circuit (B) series to the circuit  
(C) either series or parallel (D) none of the above
26. In compound wound starting motors the field coil is :  
(A) Connected parallel with the armature  
(B) Both series and parallel with the armature  
(C) Connected in series with the armature  
(D) None of the above
27. The spark plug gap is in the range of :  
(A) 2 - 3 mm (B) 0.6 to 1 cm  
(C) 0.5 to 1.5 cm (D) 0.6 to 1 mm
28. The centrifugal force on the pressure plate of semi centrifugal clutch can be adjusted by :  
(A) adjusting screw on lever (B) adjusting nut on the pressure plate  
(C) adjusting spring force (D) pivoted ring
29. The type of gear wheels used in sliding mesh gear box is :  
(A) helical gear (B) double helical gear  
(C) spur gear (D) spiral gear
30. The tool which is used to remove gear, bearing, wheels and pulleys from their attaching components are :  
(A) Screw driver (B) Monkey plier  
(C) Pullers (D) Hammer
31. In Semi floating type rear axle, the bearing is located :  
(A) On the axle and inside axle casing (B) On the axle casing and inside the hub  
(C) On the axle and inside the hub (D) None of the above
32. Which of the following is a finishing operation of machined components?  
(A) Broaching (B) Cyaniding  
(C) Vulkanisation (D) Honing

33. The type of jack with diamond shaped frame having a nut on one side and a sleeve on other side :
- (A) Tripod (B) Trolley type  
(C) Scissor type (D) Bottle type
34. Which of the following is not a test conducting for injectors?
- (A) Vacuum test (B) Spray test  
(C) Pressure test (D) Leakage test
35. The advantage tandem master cylinder is that :
- (A) It never fails  
(B) Vehicle does not skid  
(C) Can provide individual fluid lines for all axle  
(D) 100% braking efficiency
36. The part of hydraulic brake system which actuates brake shoes directly :
- (A) Master cylinder (B) Push rod  
(C) Wheel cylinder (D) Brake pedal
37. The brake pads of disc brakes are returned by :
- (A) Retractor spring (B) Rubber seal ring  
(C) Shoe return spring (D) Caliper
38. What operation has to be done on the ends of brake pipe to prevent leakage?
- (A) Purging (B) Reaming  
(C) Counter sinking (D) Flaring
39. The volatile liquid that filled in bellows type thermostat is :
- (A) ethylene glycol (B) freon  
(C) acetone (D) glycerene
40. In tubular type radiator cores :
- (A) Air flows through tubes and coolant passes around  
(B) Coolant passes through tube and air passes around  
(C) Air and coolant passes through tubes  
(D) Air and coolant passes around tubes

41. Which of the following is not an effect of providing cooling fins around engine cylinder?
- (A) Increase heat transfer area (B) Decrease heat transfer rate  
(C) Increase cooling efficiency (D) None of the above
42. The boiling point of water at normal atmospheric pressure is :
- (A) 212° F (B) 273° K  
(C) 100° F (D) 100° K
43. Most of the coolant pumps used in automobiles are of :
- (A) Gear type (B) Vane type  
(C) Reciprocating type (D) Impeller type
44. The commonly used firing order for six cylinder in line engine is :
- (A) 1-5-3-6-2-4 (B) 1-4-3-6-5-2  
(C) 1-6-3-2-5-4 (D) 1-5-2-6-3-4
45. What material is plating on bore of alluminium alloy cylinder blocks to obtain a wear resistant surface?
- (A) Chromium (B) Sulphur  
(C) Silicon (D) Alumina
46. What is the advantage of alluminium alloy piston over cast iron piston of same size?
- (A) higher brittleness (B) less thermal conductivity  
(C) lighter in weight (D) all of the above
47. What is the purpose of providing vertical slot or T-slots on piston?
- (A) for the seating of compression ring  
(B) for the seating of oil ring  
(C) for lubrication  
(D) restrict the change in diameter during thermal expansion
48. The volume of cylinder when piston at TDC is called :
- (A) swept volume (B) clearence volume  
(C) engine displacement (D) piston clearence
49. The nuts and bolts are usually made of :
- (A) cast iron (B) mild steel  
(C) chromium steel (D) none of the above

50. The instrument which is used to measure current voltage and resistance :  
(A) Odometer (B) Tachometer  
(C) Multimeter (D) Galvanometer
51. The needle valve of carburettor is closed and opened by :  
(A) air jet (B) main petrol jet  
(C) throttle valve (D) float
52. Which of the following is a temporary fastening method?  
(A) screwed jointing (B) rivetting  
(C) welding (D) brazing
53. Annealing is a heat treatment process to :  
(A) Soften the steel (B) Harden the core of steel  
(C) Harden the surface of steel (D) Temper the steel
54. The tool which is used to remove broken stud from threaded hole is :  
(A) stud remover (B) stud extractor  
(C) welding holder (D) drift
55. One atmospheric pressure is equal to :  
(A) 1 bar (B)  $10^5$  bar  
(C) 760 mm of  $H_2O$  (D) 1.01325 bar
56. Which of the following is not a unit of work?  
(A) Newton metre/second (B) Newton metre  
(C) Joule (D) Erg
57. The quantity of heat required to raise a unit mass of substance through a unit raise in temperature is called :  
(A) specific heat (B) latent heat  
(C) sensible heat (D) calorific value
58. Which of the following is a cold starting device used in diesel engine?  
(A) choke valve (B) cooling coil  
(C) priming pump (D) glow plug

59. In battery less conventional ignition system, the current generates and supplies for the primary winding of ignition system by :
- (A) Alternator (B) Magneto  
(C) Dynamo (D) Solenoid
60. How many high tension leads are there in a distributor cap for a twin cylinder four stroke engine with a spark plug in each cylinder?
- (A) 1 (B) 2  
(C) 4 (D) 3
61. Which of the following is not a cause for diesel engine does not start?
- (A) air in the fuel system  
(B) blocked or clogged fuel filter or fuel lines  
(C) small leakage in diesel tank  
(D) none of the above
62. Accelerator linkage of a petrol engine using carburettor is connected to :
- (A) choke valve (B) air cleaner  
(C) throttle valve (D) manifold
63. Which of the following two wheeler using DTSi engine?
- (A) Honda eterno (B) Bajaj pulsar – 180  
(C) TVS Star City ES (D) TVS Star Sport
64. The condensor used in battery coil ignition circuit is connected :
- (A) parallel to CB points (B) series to CB points  
(C) either series or parallel to CB points (D) none of the above
65. Which of the following is not an advantage of two stroke engine compared to four stroke engine of same size?
- (A) lighter in weight (B) higher volumetric efficiency  
(C) more power is produced (D) none of the above
66. Which of the following material can be used for making contact points on the rotor of distributor?
- (A) Porcelain (B) Bakelite  
(C) Alumina (D) Nickel



67. Which of the following is not a cause for decrease in mileage of a two wheeler?
- (A) under inflated tyres
  - (B) choke valve remains open during driving
  - (C) speedy driving beyond economic speed
  - (D) none of the above
68. The degree of variation of viscosity of a liquid with temperature is termed as :
- (A) Kinematic viscosity
  - (B) Absolute viscosity
  - (C) Viscosity index
  - (D) All of the above
69. Which type of fuel supply system is commonly used in motor cycle?
- (A) Gravity System
  - (B) Pressure System
  - (C) Vacuum System
  - (D) Pump System
70. The CB point gap is in the range of :
- (A) 0.35 mm to 0.45 mm
  - (B) 0.35 cm to 0.45 cm
  - (C) 0.30 cm to 0.40 cm
  - (D) 1 mm to 1.35 mm
71. The component of battery coil ignition system which helps to avoid spark between CB point is :
- (A) Ballast resistor
  - (B) Condensor
  - (C) Rotor
  - (D) Spark plug
72. Which of the following is not a cause for the vehicle will not take speed according to pressing of accelerator pedal?
- (A) Clutch slipping
  - (B) Brake binding
  - (C) Excessively worn out clutch plate
  - (D) None of the above
73. One horse power is equal to :
- (A) 700 Watt
  - (B) 635.5 Watt
  - (C) 716.5 Watt
  - (D) 735.5 Watt
74. Bronze is an alloy of :
- (A) Copper and Zinc
  - (B) Copper and Lead
  - (C) Copper and Tin
  - (D) Copper, Zinc and Tin

75. What is the advantage of using radiator pressure cap?
- (A) increase the boiling point of water  
 (B) reduce coolant lose  
 (C) maintain the system at a pressure higher than atmosphere  
 (D) all of the above
76. Which among the following is an example of positive clutch?
- (A) Diaphragm clutch (B) Multiplate clutch  
 (C) Single plate pressure spring clutch (D) None of the above
77. If the speed of vehicle is doubled the air resistance is :
- (A) increased by four times (B) decreased by four times  
 (C) increased by two times (D) decreased by two times
78. The component of pressure spring type single plate clutch system which disengage from fly wheel when pressing clutch pedal is :
- (A) pressure plate (B) clutch cover  
 (C) clutch disc (D) release bearing
79. The cross section of brake shoe is of :
- (A) T - Section (B) I - Section  
 (C) H - Section (D) U - Section
80. The power utilised to propel the vehicle is known as :
- (A) FHP (B) BHP  
 (C) DHP (D) IHP
81. Who formulates the fiscal policy in India?
- (A) Planning Commission (B) Finance Commission  
 (C) The Reserve Bank of India (D) Ministry of Finance
82. Which National Park harbours the largest number of one-horned Rhinos?
- (A) Periyar National Park (B) Kanha National Park  
 (C) Kaziranga National Park (D) Corbett National Park

83. Which monument was built to commemorate the visit of King George V and Queen Mary to Bombay?
- (A) India Gate (B) Gateway of India  
(C) Victoria Terminus (D) Elephanta Caves
84. Whose death anniversary was observed as Anti-Terrorism Day on 21<sup>st</sup> May?
- (A) Jawaharlal Nehru (B) Rajiv Gandhi  
(C) Indira Gandhi (D) Mahatma Gandhi
85. The state having a largest area of forest cover in India is :
- (A) Arunachal Pradesh (B) Haryana  
(C) Madhya Pradesh (D) Assam
86. Who fixes the poverty line in India?
- (A) Government (B) Lok sabha  
(C) Rajya Sabha (D) Planning Commission
87. Who discovered the Edakkal caves in Wynad in 1890?
- (A) Fred Fawcett (B) Alexander Cunningham  
(C) K. N. Dikshit (D) John Marshall
88. Who is known as the 'Grand Old Man of India'?
- (A) Khan Abdul Ghaffar Khan (B) Dadabhai Naoroji  
(C) Lala Lajpat Rai (D) Rajagopalachari
89. When the partition of Bengal was annulled?
- (A) 1912 (B) 1910  
(C) 1911 (D) 1905
90. Who was the first Viceroy of India?
- (A) Lord Wellesly (B) Lord Canning  
(C) Lord Minto (D) Lord Dufferin
91. In 1959, who was given the title 'Bharata Kesari' by the Indian President :
- (A) Ayyankali (B) Thycad Ayya  
(C) Mannathu Padmanaban (D) Sahodaran Ayyappan

92. Swadesabhimani' News paper was started by :  
(A) Ramakrishna Pillai (B) Vakkom Abdul Khader Moulavi  
(C) Ayyankali (D) Sree Narayan Guru
93. Who was the leader of 'Ezhava Memorial'?  
(A) Sree Narayana Guru (B) Dr. Palpu  
(C) Sahodaran Ayyappan (D) Ayyankali
94. Who set up the Sanskrit study center 'Thatwaprakashika' in 1906 at Kozhikode?  
(A) Ayyankali (B) V. T. Bhatathirippad  
(C) Sahodaran Ayyappan (D) Vaghdadananda
95. Who said "There is no use for Caste. It curtails man's freedom; destroys his intelligence"?  
(A) Sree Narayana Guru (B) Mahatma Gandhi  
(C) Vakkom Abdul Khader Moulavi (D) Ayyankali
96. Which Indian won Nobel Prize for Peace for his work on promoting child rights?  
(A) Mother Teresa (B) Amarthiya Sen  
(C) C.V. Raman (D) Kailash Satyarthi
97. The 41<sup>st</sup> G7 summit was held at :  
(A) Germany (B) France  
(C) Italy (D) Japan
98. The Bollywood actor who was honoured with the Dada Saheb Phalke Film Foundation Award in 2015 :  
(A) Salman Khan (B) Amitab Bachan  
(C) Shah Rukh Khan (D) Amir Khan
99. Who won 2015 UEFA Champions League Title?  
(A) Juventus (B) Barcelona  
(C) Manchester United (D) Celtic
100. The Chief Election Commissioner of India :  
(A) Hari Shankar Brahma (B) Nasim Zaidi  
(C) V. S. Sampath (D) S.Y. Quraishi