

006/2016

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Pick out the odd one from the following :
(A) cylinder block (B) crank case
(C) crank shaft (D) cylinder head
2. In an engine the temperature of the piston will be more at :
(A) the crown of the piston (B) the skirt of the piston
(C) the piston walls (D) the land of the piston
3. Which part is not common between the petrol and diesel engines?
(A) Air cleaner (B) Silencer
(C) Crank shaft (D) Spark plug
4. The firing order of a four cylinder inline engine is usually :
(A) 1-2-3-4 (B) 1-2-4-3
(C) 1-3-4-2 (D) 4-1-2-3
5. The device for smoothing out the power impulses from the engine :
(A) crank shaft (B) flywheel
(C) clutch (D) shock absorber
6. Which vehicle is provided with single wheel drive?
(A) Tractor (B) Truck
(C) Motor cycle (D) Car
7. Engine alternator is driven by :
(A) V-belt drive (B) Flat belt drive
(C) Gear drive (D) Chain drive
8. The least count of a inside micrometer is :
(A) 0.02 mm (B) 0.01 mm
(C) 1 mm (D) 0.001 mm

9. An engine running in closed garage is dangerous because the exhaust gas contains :
- (A) water vapour (B) air
(C) carbon dioxide (D) carbon monoxide
10. To tighten nuts or bolts accurately, use :
- (A) ring spanner (B) torque wrench
(C) open jaw spanner (D) combination wrench
11. To cut threads in a hole, use a :
- (A) die (B) tap
(C) stud extractor (D) reamer
12. Before you work under a car, make sure that :
- (A) the tires are inflated
(B) use a creeper
(C) the car is supported on safety stands
(D) the car is supported on hydraulic jack
13. The component which adjust the length of the propeller shaft according to the movement of the rear axle :
- (A) universal joint (B) slip joint
(C) constant velocity joint (D) lap joint
14. The instrument used for measuring the specific gravity of electrolyte in a battery :
- (A) cell tester (B) voltmeter
(C) hydrometer (D) thermometer
15. The stroke of an engine in which the exhaust valve is fully closed :
- (A) suction (B) compression
(C) power (D) exhaust
16. Grade of the lubricating oil used in differential unit :
- (A) SAE 30 (B) SAE 140
(C) SAE 90 (D) SAE 40

17. Number of sparks required in one minute for a 4 stroke 4 cylinder petrol engine working at 3000 RPM :
- (A) 6000 (B) 3000
(C) 1500 (D) 750
18. Find out the odd one from the following :
- (A) Master cylinder (B) Engine cylinder
(C) Wheel cylinder (D) Brake drum
19. The property of lubricating oil to resist flow is called :
- (A) viscosity (B) flash point
(C) pore point (D) fire point
20. Shape of head lamp reflector of vehicles :
- (A) spherical (B) hyperbolic
(C) convex (D) parabolic
21. Type of clutch used in motor cycle :
- (A) single plate (B) multiplate
(C) diaphragm (D) centrifugal
22. Which one of the following engine part is made of aluminium alloy?
- (A) crank shaft (B) piston rings
(C) connecting rod (D) piston
23. What type of fuel feed system is used in two wheelers?
- (A) Pump feed system (B) Pressure feed system
(C) Gravity feed system (D) Thermo syphon system
24. Hydraulic brakes work on the principle of :
- (A) Pascal's law (B) Newton's law
(C) Faraday's law (D) All of the above
25. When the air pass through the air horn of the carburettor :
- (A) pressure decreased in the venturi
(B) pressure increased in the venturi
(C) temperature increased in the venturi
(D) pressure and temperature increased in the venturi

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34. Which one is not the component of water cooling system?
- (A) Radiator (B) Water Pump
(C) Alternator (D) Fan
35. In diesel engine, the fuel is injected into the engine cylinder :
- (A) At the end of power stroke
(B) At the beginning of power stroke
(C) At the end of exhaust stroke
(D) At the end of compression stroke
36. In the electronic ignition system, the primary circuit is opened and closed by :
- (A) C.B. points (B) Breaker cam
(C) Timer (D) ECU

26. Air cooled engines are fitted in which vehicles?
(A) Trucks (B) Cars
(C) Air bus (D) Scooters
27. While starting an engine, the starter motor pinion meshes with :
(A) clutch (B) gearbox top gear
(C) flywheel ring gear (D) differential sun gear
28. A 4 cylinder engine has a capacity of 1.2 Litres. The swept volume of one cylinder is :
(A) 1200 cm³ (B) 600 cm³
(C) 300 cm³ (D) 150 cm³
29. If the air fuel mixture ignites before the spark occurs at the spark plug, this condition is called :
(A) Detonation (B) Ignition
(C) Vaporisation (D) Pre ignition
30. In turbo charged engines, the turbo charger is driven by :
(A) Belt from the engine crank shaft (B) Belt from the engine cam shaft
(C) The force of the intake air (D) The force of the exhaust gas
31. Injector is not located in :
(A) Crank case (B) Cylinder head
(C) Induction manifold (D) Intake port
32. A constant velocity universal joint is used at the :
(A) Front end of the propeller shaft
(B) Rear end of the propeller shaft
(C) Differential end of the axle shaft on front wheel drive vehicle
(D) Road wheel end of the axle shaft on front wheel drive vehicle
33. The crown wheel and pinion is called the :
(A) Final drive (B) Differential
(C) Rear housing (D) Rear drive

42. A smoky blue exhaust may be due to :
(A) Burning of oil in the combustion chamber
(B) Burning of rich mixture
(C) Carburettor leaks
(D) Incorrect valve adjustment
43. During braking, the brake shoes are moved outward to force the lining against the :
(A) Drum
(B) Disc
(C) Ring
(D) Cone

50. The purpose of a thermostat in an engine cooling system is to :
- (A) Prevent the coolant from boiling
 - (B) Indicate to the driver the coolant temperature
 - (C) Raise the boiling point of coolant
 - (D) Allow the engine to warm up quickly
51. In which engine stroke, the pressure in the cylinder is less than atmospheric pressure?
- (A) Suction
 - (B) Compression
 - (C) Power
 - (D) Exhaust
52. The sealed beam head light bulb consists of :
- (A) two filament
 - (B) one filament
 - (C) three filament
 - (D) none of the above
53. Two types of oil pumps are generally used. They are :
- (A) Gear and Diaphragm
 - (B) Vacuum and pressure
 - (C) Rotor and gear
 - (D) Rotor and electric
54. The clearance between the valve and rocker arm is measured by using :
- (A) inside micrometer
 - (B) feeler gauge
 - (C) wire gauge
 - (D) outside micrometer
55. The device used to reduce the exhaust noise is known as :
- (A) exhaust manifold
 - (B) muffler
 - (C) tail pipe
 - (D) exhaust pipe
56. In case of Trucks, the suspension springs provided on rear wheels are :
- (A) coil spring
 - (B) torsion bar
 - (C) leaf spring
 - (D) leaf spring and coil spring
57. Valve overlap means :
- (A) early opening of inlet valve
 - (B) early opening of exhaust valve
 - (C) both valves are closed
 - (D) both valves are open
58. The camshaft rotates at :
- (A) same speed as the crank shaft
 - (B) half the speed of crank shaft
 - (C) twice the speed of crank shaft
 - (D) none of the above

59. In diesel engine, the fuel is ignited by :
- (A) the heat of compressed hot air (B) an electric spark
(C) the hot exhaust gas (D) all the above
60. Aluminium cylinder blocks require :
- (A) cast iron liners (B) brass liners
(C) aluminium liners (D) no liners
61. Wheel base of a vehicle is the :
- (A) distance between the front tyres
(B) distance between the front and rear axles
(C) total length of the vehicle
(D) none of the above
62. The capacity of a battery is usually expressed in terms of :
- (A) volts (B) watts
(C) ampere hours (D) none of the above
63. Which air cleaner is mostly used in diesel engines?
- (A) dry type (B) wet type
(C) paper pleated type (D) oil bath type
64. Temperature gauge indicates the temperature of :
- (A) Lubricating oil (B) Engine cylinder
(C) Engine piston (D) Jacket cooling water
65. The function of diesel feed pump is to :
- (A) pump the fuel from the tank into the injection pump
(B) pump the oil into the main gallery
(C) send back fuel from the injector to the tank
(D) pump the fuel from the injection pump to the injector
66. An engine converts heat energy into :
- (A) Mechanical energy (B) Kinetic energy
(C) Chemical energy (D) Electrical energy

67. An engine has a clearance volume of 100 cm^3 and piston displacement volume of 800 cm^3 . The compression ratio is :
- (A) 8 : 1 (B) 9 : 1
(C) 7 : 1 (D) 1 : 8
68. The quantity of air petrol mixture that enters the engine cylinder is regulated by the :
- (A) float (B) needle valve
(C) throttle valve (D) main jet
69. Which transmission unit provides a smooth take up of the drive?
- (A) gear box (B) clutch
(C) final drive (D) differential
70. Deposit of carbon in the exhaust system :
- (A) will increase noise level (B) will increase back pressure
(C) will reduce back pressure (D) will have no effect on back pressure
71. If a tyre is marking with $8.25 \times 20 \times 10 \text{ PR}$, 8.25 means :
- (A) Diameter of tyre (B) Diameter of rim
(C) Radius of tyre (D) Width of tyre
72. Incorrect tyre pressure causes :
- (A) over heating (B) rapid tyre wear
(C) unsafe steering (D) all of the above
73. The starting system consists of :
- (A) Battery, Switch, Dynamo (B) Battery, Switch, Starter motor
(C) Magnetto, Switch, Starter motor (D) Magnetto, Switch, Dynamo
74. The wheel and axle causing support the entire weight of the vehicle in the :
- (A) semi floating axle (B) drive or live axle
(C) three-quarter floating axle (D) full floating axle
75. Braking is produced by the frictional contact between the brake drum and :
- (A) brake shoes (B) expanding cam
(C) wheel cylinder piston (D) brake shoe return spring

76. The electrolyte used in lead acid battery is :
- (A) Nitric acid (B) Citric acid
(C) Sulphuric acid with water (D) Hydrochloric acid with water
77. The device in the cooling system that increases the boiling point of the water :
- (A) Pressure cap (B) Drain Plug
(C) Radiator (D) Thermostat
78. The gap between the electrodes of a spark plug :
- (A) 0.1 mm (B) 0.2 mm
(C) 1 mm (D) 0.3 mm
79. The purpose of a shock absorber is to :
- (A) absorb the vibration of spring
(B) prevent the spring deflection
(C) absorb the road shock
(D) all of the above
80. While turning a curve, the outer wheel of the car travel more distance than the inner wheel. Which device is facilitating this movement?
- (A) Stub axle (B) Final drive
(C) Differential (D) Propeller shaft
81. Which state is known as 'Orchid garden of India'?
- (A) Sikkim (B) Arunachal Pradesh
(C) Meghalaya (D) Assam
82. City of Surat is situated near the river of :
- (A) Sabarmati (B) Tapti
(C) Yamuna (D) Satlej
83. Who is regarded as the 'father of Indian planning'?
- (A) Dadabai Naoroji (B) Amartyasen
(C) Jawaharlal Nehru (D) M. Visweswarayya

84. 'Jawahar Rosegar Yojana' (JRY) was started by :
- (A) Indira Gandhi (B) Jawaharlal Nehru
(C) Rajiv Gandhi (D) Narasimha Rao
85. Which of the following was the chief organiser of the revolt of 1857 in Bihar?
- (A) Pir Ali (B) Amarsingh
(C) Nanasaheb (D) Kunwar Singh
86. Subhash Chandra Bose was re-elected president of the congress at the Tripuri session in 1939, by defeating :
- (A) Pattabhisitaramayya (B) Jawaharlal Nehru
(C) Dr. Rajendra Prasad (D) Mahatma Gandhi
87. Who was the first to unfurl the first Indian national flag, the parent and precursor of the flag of independent India?
- (A) Dadabai Naoroji (B) Taraknath Das
(C) Madam Bhikaiji Cama (D) Sohansing Bakna
88. On whose birthday 'Panchayat Day' is observed :
- (A) Mahatma Gandhi (B) Indira Gandhi
(C) Jawaharlal Nehru (D) Balwant Rai Mehta
89. Which of the following acted as president of the Indian National Congress for six consecutive years?
- (A) Abulkalam Azad (B) Jawaharlal Nehru
(C) Gopal Krishna Gokhale (D) None of these
90. Biological park of Kerala is :
- (A) Iravikulam (B) Silent Valley
(C) Wynad (D) Agastya Mountain
91. 'Samatwa Samajam' was organised by :
- (A) Vagbatananda (B) Ayya Vaikundar
(C) V.T. Bhattathirippad (D) Kumara Guru
92. "Jatikkummi" – a poem against caste discrimination was written by :
- (A) Ayyankali (B) Mannathu Padmanaban
(C) Pandit Karuppan (D) None of these

93. Who edited the journal 'Mitavadi'?
- (A) C. Krishnan (B) Ramakrishna Pillai
(C) T.K. Madhavan (D) Vakkom Moulavi
94. Vagbatananda was the disciple of :
- (A) Sree Narayana Guru (B) Chattampi Swami
(C) Brahmananda Sivayogi (D) K. Ayyappan
95. 'Yajanayatra' was conducted by :
- (A) A.K. Gopalan (B) Dr. Palpu
(C) Vakkom Moulavi (D) V.T. Bhattathirippad
96. Bharata Ratna recipient popularly called as "Prince of Beggars" is :
- (A) A.B. Vajpayee (B) Morarji Desai
(C) Lal Bahadur Shastri (D) Madan Mohan Malavya
97. The commission appointed to probe the solar panel scam in Kerala :
- (A) Rangarajan Commission (B) Sivarajan Commission
(C) Narendran Commission (D) Verma Commission
98. What is the name given to the mobile app launched by Delhi Police for women's safety?
- (A) Himmat (B) Nirbhay
(C) Shourya (D) Veer
99. Recipient of Kendra Sahitya Akadami Award 2014 :
- (A) M.K. Sanu (B) C.V. Bala Krishnan
(C) Subhash Chandran (D) M.N. Paloor
100. Name the first country visited by Narendra Modi, after becoming the Prime Minister of India :
- (A) Nepal (B) Bhutan
(C) USA (D) Srilanka