

237/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The micrometer screw gauge it has an accuracy of :
(A) ± 0.1 mm (B) 0.2 mm
(C) 0.002 mm (D) ± 0.01 mm
2. Which one of the following is not a part of chassis?
(A) Wheels (B) Passenger seats
(C) Rear axles (D) Front axle
3. The capacity of a battery is :
(A) Ability to store chemical energy (B) Ability to store electrical energy
(C) Ability to store heat energy (D) Ability to store kinetic energy
4. The included angle is the sum of the :
(A) Camber and castor (B) Caster and SAI
(C) Chamber and SAI (D) Chamber and toe-in
5. With the increase of battery temperature, the specific gravity of electrolyte :
(A) Decreases (B) Remains the same
(C) Increases (D) None of these
6. A vehicle pulls to the right during tracking; technician x says that a worn start rod bushing could be the cause. Technician y says that a bent right could be the cause :
(A) x only (B) y only
(C) Both x and y (D) Neither x nor y
7. Give the name of the most suitable instrument for measuring the diameter of the engine cylinder.
(A) Steel rule (B) Try square
(C) Screw gauge (D) Vernier calipers

8. The automobile engines crank shaft is made of :
- (A) Cast steel (B) Cast iron
(C) Forged steel (D) High carbon steel
9. The main function of the ignition condenser is :
- (A) increasing contact arcing of terminals
(B) reduces primary spark
(C) reduces secondary spark
(D) reduces arcing at the contacts
10. The angle between the central line of the king-pin and vertical line is called :
- (A) King-pin inclination (B) Chamber angle
(C) Caster angle (D) Turning angle
11. The essential difference between brazing and soldering is the :
- (A) melting temperature of work piece
(B) melting temperature of the flux
(C) type of filler materials
(D) melting temperature of filler materials
12. In a vehicle with a single plate clutch, loss of free pedal can be caused by a :
- (A) Broken clutch linkage (B) Weak pressure plate springs
(C) Broken release bearing (D) Worn clutch disc fading
13. The most effective air cleaner in case of diesel engine is :
- (A) Wet type (B) Oil bath type
(C) Dry type (D) Water bath type
14. The function of a generator in an automobile is to :
- (A) Convert electrical energy into mechanical energy
(B) Convert mechanical energy into electrical energy
(C) Convert engine power into electrical power
(D) Continually recharge the battery
15. The engine oil consumption is also affected by :
- (A) Speed and engine wear (B) Tyre wear
(C) Hard steering (D) Over heating of cooling water

16. The type of starter motor employed in automobile vehicle is the :
- (A) Compound motor (B) Shunt wound motor
(C) Series wound motor (D) Induction motor
17. If the brake efficiency of a vehicle is 72%, then the braking quality is said to be :
- (A) Fair (B) Poor
(C) Good (D) Very good
18. The slip joint permits a change in the :
- (A) Angle of drive (B) Rotation of the shaft
(C) Speed of the shaft (D) Length of the shaft
19. Solder is an alloy of :
- (A) Copper and tin (B) Copper and zinc
(C) Zinc and aluminium (D) None of these
20. The choke in an automobile meant is for supplying :
- (A) Rich mixture (B) Weak mixture
(C) Lean mixture (D) None of these
21. The distance b/w the centre of the front wheel is called as :
- (A) Turning angle (B) Wheel angle
(C) Axle length (D) Wheel track (front)
22. _____ type of spring is most commonly used for suspend in heavy goods vehicles.
- (A) Coil springs (B) Torsion spring
(C) Semi elliptic leaf spring (D) Quarter elliptic leaf spring
23. In a diesel engine, fuel and air mix together in the :
- (A) Carburettor (B) Fuel pump
(C) Fuel injector (D) Combustion chamber
24. The current required for the horn operation is :
- (A) 20 to 30 Amps (B) 25 to 30 Amps
(C) 10 to 25 Amps (D) 15 to 20 Amps
25. In an automobile gear transmission the counter shaft drive gear is meshed with the gear on the :
- (A) Clutch shaft (B) Main shaft
(C) Axle shaft (D) Propeller shaft

26. The main advantage of synchronising unit is :
- (A) Makes gear changing easy and minimizes noise
 - (B) High mechanical efficiency
 - (C) High noise level
 - (D) None of these
27. The fundamental operating principle of alternators :
- (A) Electromagnetic induction
 - (B) Electromagnetic pressure
 - (C) Pascal's law
 - (D) Fleming's law
28. The ignition quality of Diesel fuel oil is expressed by an index called :
- (A) Specific gravity
 - (B) Thermal efficiency
 - (C) Octane number
 - (D) Cetane number
29. _____ component that connects the rack to the steering knuckles is :
- (A) Pinion
 - (B) Splint shaft
 - (C) Universal joint
 - (D) Tie rod
30. The possible causes of a low discharged battery may be due to :
- (A) Defective wire connection
 - (B) Defective ignition coil
 - (C) Defective battery
 - (D) Defective alternator and battery
31. The part not to be lubricated is the :
- (A) Differential gear box
 - (B) Gear box
 - (C) Crank shaft
 - (D) Thermostat
32. _____ is a device which permits current to flow through it in only one direction.
- (A) Galvanometer
 - (B) Voltmeter
 - (C) Ammeter
 - (D) Rectifiers
33. _____ types of gear boxes are used in motor cycles.
- (A) Constant mesh
 - (B) Progressive type gear box
 - (C) Epicyclic gear box
 - (D) Synchronous mesh gear box
34. The secondary windings of the ignition coil consist of :
- (A) Few turns of heavy wire
 - (B) Thousands of turns of small wire
 - (C) Many turns of heavy wire
 - (D) None of these

35. The air fuel mixture required at the time of engine starts is :
- (A) Lean mixture (B) Rich mixture
(C) Medium mixture (D) None of these
36. The discharged lead acid battery has on its plates :
- (A) Sulphuric acid (B) Lead peroxide
(C) Spongy lead (D) Lead sulphate
37. The relationship between resistance, current and voltage can be expressed in the form of an equation is known as :
- (A) Chal's law (B) Boyle's law
(C) Ohm's law (D) Kirchoff's law
38. High anti knock value of fuel is necessary to make use of the :
- (A) Lower compression ratios (B) Medium compression ratios
(C) Higher compression ratios (D) None of these
39. The device for smoothing out the power impulses from the engine is called :
- (A) Gear box (B) Clutch
(C) Guverner (D) Fly wheel
40. The inner end of the axle shaft is splined to the :
- (A) Planet pinion (B) Bevel pinion
(C) Crown wheel (D) Sun gear
41. If the engine coolant leaks into the engine oil, then engine oil :
- (A) Turns black (B) Turns grey in colour
(C) Appears milky (D) Brown in colour
42. _____ type of reflector used for automobile head lights is :
- (A) Circular (B) Hyperbolic
(C) Spherical (D) Parabolic
43. _____ is the tendency of the fuel to change from the liquid state to the vapour state at any given temperature.
- (A) Density (B) Volatility
(C) Plasticity (D) Viscosity

44. Which of the classification indicates a multigrade oil?
- (A) SAE 90 (B) SAE 30
(C) API 60 (D) SAE 20 W-50
45. The melting temperature of the solder is :
- (A) 150° C (B) 361° C
(C) 183° C (D) 200° C
46. The type of axle on bus is :
- (A) Three quarter floating (B) Semi floating
(C) Fully floating (D) None of these
47. Automobile gears are generally made of :
- (A) Aluminium alloy (B) Cast iron
(C) Medium carbon steel (D) Alloy steel
48. The free pedal play in car clutch is about :
- (A) 5 mm (B) 30 mm
(C) 20 mm (D) 80 mm
49. _____ is a gas that pollutes the air and mainly released by cars and other vehicles.
- (A) Nitrogen gas (B) Carbon-di-oxide
(C) Carbon monoxide (D) Hydrogen gas
50. If the compression ratio in IC engine increases then its thermal efficiency will :
- (A) decreases (B) increases
(C) same (D) none of these
51. The radiator core is made of :
- (A) Copper (B) Aluminium
(C) Cast iron (D) Brass
52. In Maruthi Car the brakes used are :
- (A) Drum brake (B) Vaccum brake
(C) Disc on front and drum on rear (D) Drum on front and disc on rear

53. When the oil pressure gauge resists no pressure at all then :
- (A) The engine rpm should be increased
 - (B) The engine rpm should be decreased
 - (C) Add new oil
 - (D) Engine should be stopped immediately
54. The venturi in the carburettor causes :
- (A) Decrease of air velocity
 - (B) Decrease of fuel flow
 - (C) Increase of air velocity
 - (D) None
55. What type of water which is good for use in the coolant is?
- (A) Acid water
 - (B) Cool water
 - (C) Hard water
 - (D) Soft water
56. The parking brakes employed in vehicles are operated :
- (A) Hydraulically operated
 - (B) Mechanically operated
 - (C) Pneumatically operated
 - (D) None of these
57. The brake lining consists mainly of :
- (A) Cast iron
 - (B) Copper
 - (C) Asbestos
 - (D) Rubber
58. The common firing order of six cylinder engine is :
- (A) 1, 5, 3, 6, 2, 4
 - (B) 1, 5, 2, 4, 6, 3
 - (C) 1, 3, 5, 2, 4, 6
 - (D) 1, 6, 5, 4, 3, 2
59. The function of a shackle with a leaf spring is to :
- (A) Allow pivoting of spring end
 - (B) Control the front torque
 - (C) Control the side vibration
 - (D) Allow spring length to change
60. In two stroke cycle engine has :
- (A) In take and exhaust valve, operated by one cam
 - (B) In take and exhaust valve, operated by two cam
 - (C) Only ports covered and uncovered by push rod and rocker arm
 - (D) Only ports, covered and uncovered by piston to effect charging and exhausting

61. Indicated horse power could be determined by the following formula :

(A) $\frac{\text{PLANK}}{33,000}$

(B) $\frac{\text{PLANK}}{48,000}$

(C) $\frac{\text{PLANK}}{39,000}$

(D) $\frac{\text{PLANK}}{40,000}$

62. To removing trapped air from the hydraulic brake system is known as :

(A) Bleeding

(B) Cleaning

(C) Facing

(D) Trapping

63. The tractive effort increases if the wheel diameter is :

(A) decreased

(B) not changed

(C) increased

(D) none of these

64. In heavier vehicles tubeless tyres cannot be used because :

(A) Rims are well shaped but no air tightness is present

(B) Rims are flat based and they are not air light

(C) Rims are flat based and they are air light

(D) Rims are well shaped and air tightness is present

65. To measure voltage in a circuit the voltmeter is connected in :

(A) both series and parallel

(B) series

(C) parallel

(D) either series or parallel

66. In an alternator the magnetic field is produced in the :

(A) Stator

(B) Regulator

(C) Rotor

(D) Body

67. The minimum number of oil compression rings in an automobile engine is :

(A) Two

(B) One

(C) Four

(D) Three

68. The part of crank shaft to which connecting rod is connected is called :

(A) Crank web

(B) Small end

(C) Big end

(D) Crank pin

69. For tightening cylinder head bolts we should prefer to use :
- (A) Torque wrench (B) Opened spanner
(C) Ring spanner (D) Adjustable spanner
70. Most popular manual steering gear for car today is :
- (A) Cam and roller bearing (B) Worm and nut type
(C) Worm and wheel type (D) Rack and pinion type
71. Internal energy of a perfect gas depends on :
- (A) Temperature, specific heat and pressure
(B) Temperature, specific heat and enthalpy
(C) Temperature, specific heat and entropy
(D) Temperature only
72. The RPM of driving wheel is :
- (A) $\frac{\text{Vehicle speed}}{\text{Wheel diameter}}$ (B) $\frac{\text{Wheel diameter}}{\text{Vehicle speed}}$
(C) $\frac{\text{Vehicle speed}}{\text{Wheel circumference}}$ (D) $\frac{\text{Wheel circumference}}{\text{Vehicle speed}}$
73. The purpose of tyre rotation on automobiles is to :
- (A) Avoid ply separation (B) Equalize wear
(C) Get better ride (D) None of the above
74. In heavier vehicles tubeless tyres cannot be used because :
- (A) Well rims (B) V rims
(C) W rims (D) Flat rims
75. The common purpose of the over-running clutch in the starter drive is to :
- (A) Disengage the armature when the engine starts
(B) The solenoid during cranking
(C) Pull the starter gear out of mesh
(D) Keep the hold in winding energized during cranking

76. The tendency of knocking in CI engines increases with :
- (A) Decrease in cooling water temperature
 - (B) Increase in cooling water temperature
 - (C) Increase in air fuel ratio
 - (D) Decrease of compression ratio
77. The smaller gears inside the differential casing are :
- (A) Ring gear
 - (B) Sun gear
 - (C) Bevel gear
 - (D) Pinion gear
78. Prony brake is used for testing of :
- (A) Small engines
 - (B) High speed engines
 - (C) Slow speed engines
 - (D) Large engines
79. Which of the following does not relate to compression ignition engine?
- (A) Fuel
 - (B) Guverner
 - (C) Fuel injector
 - (D) Carburettor
80. The engine cylinder head is usually cast in :
- (A) One piece
 - (B) Two piece
 - (C) Three piece
 - (D) Four piece
81. Who is known as *Muthukutty Swami*?
- (A) Swami Vaghatananda
 - (B) Ayyankali
 - (C) Vaikunta Swami
 - (D) Chattami Swamikal
82. Who was the founder of All India Harijan Sangh in 1932?
- (A) Gandhiji
 - (B) Gokhale
 - (C) Dr. B.R. Ambedkar
 - (D) Vivekanandan
83. Caldera is a feature associated with :
- (A) Volcanoes
 - (B) Earthquakes
 - (C) Rocks
 - (D) Mountain
84. Which river is often called *Dakshina Ganga*?
- (A) Krishna
 - (B) Godavari
 - (C) Narmada
 - (D) Mahanadi

85. Who is the author of *Agnichirakukul*?
- (A) Indira Gandhi (B) Dr. Manmohan Singh
(C) Narasimha Rao (D) Dr. A.P.J. Abdul Kalam
86. Guruvayur Satyagraha was in :
- (A) 1930-31 (B) 1931-32
(C) 1932-33 (D) 1933
87. *Ente Koodu*, a Project of the Department of Social Justice, Government of Kerala aimed :
- (A) Shelter for aged persons (B) Shelter for tribal people
(C) Shelter for destitute women (D) Hostel for students
88. Tomb of Pazhassi Raja situated in the district :
- (A) Wayanad (B) Kannur
(C) Kozhikode (D) Kasargode
89. Who started the Newspaper *Swadeshabhimani*?
- (A) Ramakrishna Pillai (B) Sree Narayana Guru
(C) Chattampi Swamikal (D) Vakkom Moulavi
90. Deoband School during National Movement was related with :
- (A) Traditional Hindu Scholars (B) Traditional Muslim Scholars
(C) Traditional Sikh Scholars (D) Parsi Scholars
91. Who started a school at Thuruthimalikkunnu near Arpookkara for the education of children belonged to depressed class?
- (A) Ayyankali (B) Kumaranasan
(C) K.P. Kesava Menon (D) St. Kuriakose Elias Chavara
92. Which of these is not one of the Seven Sisters?
- (A) Tripura (B) Assam
(C) Uttarakhand (D) Mizoram

93. The length of coastline of mainland India is about :
- (A) 6100 KM (B) 7500 KM
(C) 6200 KM (D) 7600 KM
94. Which is the 29th State of India?
- (A) Jharkhand (B) Telengana
(C) Chattisgarh (D) Uttarkhand
95. East flowing river of Kerala :
- (A) Periyar (B) Kabani
(C) Kallada (D) Chaliyar
96. The event related to General Dyer :
- (A) Wagonn Tragedy (B) Chauri Chaura Incident
(C) Calcutta Massacre (D) Jallianwala Bhagh Tragedy
97. The aim of it is *Know and inform and not to argue and win*. Sree Narayana Guru made this remarks related to :
- (A) Religious Conference Aluva (B) Advaita Ashram
(C) Sivagiri Centre (D) Aruvipuram Installation
98. FIFA World Cup Football tournament of 2018 scheduled to take place in :
- (A) Germany (B) France
(C) Russia (D) England
99. Who won the Vallathol Award of 2014?
- (A) M.T. Vasudevan Nair (B) Dr. Amalendu Krishna
(C) P. Narayana Kurup (D) K.R. Meera
100. The department launched in Kerala for making indigenous systems of medicine more popular :
- (A) Ayurveda (B) Alternative Medicine
(C) Homeopathy (D) Ayush