

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