

PSC Tradesman Automobile - Heat Engines Technical Education - EKM KNR Dists Examination Previous Year Question Paper

***Exam Name: Tradesman Automobile - Heat
Engines Technical Education - EKM KNR Dists***

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Medium of Questions: English



35/2015

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The unit of temperature in SI unit is :
(A) Kilogram (B) Centigrade
(C) Kelvin (D) Celsius
2. Crank case dilution is :
(A) Dilution of lubricating oil (B) Addition of water in crank case
(C) Dilution of diesel in crank case (D) None of these
3. The top ring on the piston is known as :
(A) Ring grove (B) Compression ring
(C) Oil ring (D) Scraper ring
4. The purpose of Feeler gauge is :
(A) Measuring the small gap (B) Measuring the length of a rod
(C) Measuring the diameter of a cylinder (D) Measuring length of a beam
5. Viscosity of the oil is the measure of it's :
(A) Resistance flow (B) Velocity flow
(C) Temperature flow (D) Current flow
6. The voltage per cell in a lead acid battery is :
(A) 1 volt (B) 1.5 volt
(C) 8 volt (D) 2 volt
7. The chamber angle is usually :
(A) $1/4^{\circ}$ (B) Between $1/2^{\circ}$ to 2°
(C) Between 1° to 3° (D) Between 4° to 6°
8. The cylinder block of heavy engine is made of :
(A) High carbon steel (B) Nickel or chromium steel
(C) Cast iron (D) Medium carbon steel

A

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[P.T.O.]

9. Ohms law relates potential difference with :
(A) Time (B) Voltage
(C) Current (D) Power
10. The standard firing order for an in-line 6 cylinder IC engine is :
(A) 1-5-3-6-2-4 (B) 1-3-5-4-2-6
(C) 1-6-5-4-2-3 (D) 1-4-5-2-3-6
11. The dynamo in an automobile is basically :
(A) DC generator (B) Transformer
(C) Resistance (D) All of the above
12. The knocking tendency of spark ignition engine is reduced by:
(A) Advancing ignition timing
(B) High compression ratio
(C) Low exhaust gas temperature
(D) Adding dope like tetra ethy lead to the fuel
13. The gear ratio of camshaft and crankshaft is :
(A) 1:1 (B) 1:2
(C) 1:6 (D) 1:8
14. The maximum temperature in the IC engine cylinder is :
(A) 700 – 1200°C (B) 1000 – 1500°C
(C) 2000 – 2500°C (D) 1500 – 2000°C
15. Which is more viscous lubricating oil?
(A) SAE 50 (B) SAE 40
(C) SAE 70 (D) SAE 90
16. Scavenging is usually done to increase :
(A) Thermal efficiency (B) Speed of the engine
(C) Less fuel consumption (D) Power output

17. All the four wheel drive automobiles has :
(A) Water cooled engine (B) Air cooled engine
(C) Four stroke engine (D) Two differentials
18. The radiator is usually made of :
(A) Bronze (B) Cast iron
(C) Steel (D) Copper
19. Air standard efficiency of an IC engine depends on :
(A) Compression ratio (B) Fuel used
(C) Velocity ratio (D) Power ratio
20. The materials used for cylinder head are generally :
(A) Alluminium (B) High carbon steel
(C) Mild steel (D) Cast iron
21. Which law states that pressure remaining constant the volume of a fixed mass of gas is directly proportional to it's absolute temperature?
(A) Boyle's law (B) Charle's law
(C) Regnault's law (D) Joule's law
22. The air fuel ratio of petrol engine is controlled by :
(A) Fuel injection pump (B) Governer
(C) Injector (D) Carburettor
23. ————— tool is used for lightening the nuts and bolt with a specified torque.
(A) Adjustable wrench (B) Torque wrench
(C) Pipe wrench (D) Tubular spanner
24. The volume sept by the piston in moving from TDC to BDC is called :
(A) Piston displacement (B) Clearance volume
(C) Engine capacity (D) Total volume
25. The total piston displacement of all the engine cylinders is :
(A) Engine capacity (B) Valve capacity
(C) Fuel tank capacity (D) Rocker arm capacity

26. A smoky blue exhaust is due to :
- (A) incorrect valve adjustment
 - (B) incorrect tappet adjustment
 - (C) burning of oil in combustion chamber
 - (D) rich mixture in the combustion chamber
27. Engine torque is transmitted to the gear box through :
- (A) Gear box
 - (B) Belt
 - (C) Chain
 - (D) Clutch
28. Speedometer drive is usually taken from :
- (A) Fan belt
 - (B) Rear wheel
 - (C) Dynamo
 - (D) Front wheel
29. Free clutch pedal play in car clutches is about :
- (A) 10 mm
 - (B) 60 mm
 - (C) 90 mm
 - (D) 30 mm
30. The specific gravity for fully charged lead acid battery is :
- (A) 1.150 –1.160
 - (B) 1.175–1.185
 - (C) 1.125–1.135
 - (D) 1.220–1.230
31. The bellows type valve, the bellows are filled with liquid such as :
- (A) kerosene
 - (B) diesel
 - (C) oil
 - (D) alcohol or acetone
32. A compressed air break system is a type of :
- (A) mechanical brake
 - (B) hand brake
 - (C) vacuum assisted brake
 - (D) friction brake
33. Multi oil indicate :
- (A) SAE 20W–50
 - (B) SAE 120
 - (C) SAE 90
 - (D) APISF

34. The coil spring in wish bone suspension placed between the :
(A) Upper wish bone and the cross member
(B) Shock absorber and the cross member
(C) Lower wish bone and the cross member
(D) Three wish bones
35. The packing brake generally acts on :
(A) Propeller shaft (B) Front wheels
(C) Rear wheels (D) Front and rear wheel
36. The rating of diesel fuel is given by :
(A) 1.5 (B) octane number
(C) cetane number (D) 2PLN
37. The central gear of an epi cyclic gear set is called a :
(A) Internal gear (B) Planet gear
(C) Ring gear (D) Sun gear
38. The torque increased in a vehicle obtained by :
(A) Decreasing power (B) Decreasing speed
(C) Decreasing fuel consumption (D) Increasing fuel consumption
39. The condition that causes vapour locking in a brake system :
(A) An excessively high engine speed on a downhill road
(B) Over cooling of the brake during high speed driving
(C) Keeping the vehicle without use for an extended period
(D) Overheating of the fluid due to frequent brake application
40. The oil pump is driven by the :
(A) cam shaft (B) primary shaft
(C) main shaft (D) crank shaft directly
41. Less or uneven pressure of air in the wheels shall result in :
(A) smooth steering (B) hard steering
(C) front axle shifted (D) loose tie rod

42. The oil or fluid used in torque converter is :
(A) SAE -90 (B) SAE 30-40
(C) Mineral oil (D) Brake oil
43. Valve ring compressor is used to _____ the valve springs while removing or installing the engine valve.
(A) Depress (B) Compress
(C) Brittleness (D) Toughness
44. The fully charged battery is brought to a temperature of :
(A) 90°F (B) 45°C
(C) 120°F (D) 80°F
45. The transmission in which various speeds are obtained automatically are known as :
(A) Constant power transmission (B) High torque transmission
(C) Low speed transmission (D) Automatic transmission
46. The rotary motion of the crank shaft is in turn used to drive the _____ for generating power.
(A) Motor (B) Transformer
(C) Engine (D) Generator
47. Baffles are provided on engine to :
(A) Reduce fuel consumption (B) Improve engine performance
(C) Improve heat transfers rate (D) Reduce the knocking effect
48. Which of the following statement is true statement?
(A) Heavier fly wheel is needed in two stroke engine
(B) Lighter flywheel is needed in four stroke engine
(C) Low thermal efficiency in four stroke engine
(D) Volumetric efficiency is less in two stroke engine
49. The tacometer is used to measure the:
(A) Engine oil viscosity (B) Engine compression
(C) Engine temperature (D) Engine rpm

50. During combustion, fuel and water particles escape from the combustion chamber into the crank chamber, which dilute the lubricating oil contained in the oil sump is known as :
- (A) Crank case dilution (B) Crank case burning
(C) Crank case explosion (D) Crank case ventilation
51. The order or sequence in which the firing takes place in different cylinders of a multi cylinder engine is called :
- (A) Air-fuel ratio (B) Power ratio
(C) Fuel ratio (D) Firing order
52. When the top of the wheel is fitted inward, then it is called :
- (A) Kins pin inclination (B) Positive camber
(C) Caster angle (D) Negative camber
53. The main function of a suspension is to :
- (A) Correct the effect of steering automatically
(B) Wheel alignment is not distributed during driving
(C) Steering wheel can driven a suitable amount of steering force
(D) Absorb vibration and impact forces from the road surface
54. The type of rear axle used in a car and light commercial vehicles are:
- (A) Semi -floating axle (B) Full floating axle
(C) Three-quarter floating axle (D) None of these
55. The function of gear box in an automobile is to :
- (A) Vary speed
(B) Vary torque
(C) To disconnect the road wheels from the engine when desired
(D) Permanent speed reduction
56. Which instrument is used to measure specific gravity?
- (A) Hydrometer (B) Thermometer
(C) Barometer (D) Tacometer

57. _____ are provided in the clutch smooth engagement.
- (A) Coil spring (B) Caution spring
(C) Torsion spring (D) Spring basic disc
58. A ring gear is provided around the engine flywheel :
- (A) To start the engine using self starter (B) To operate the valves
(C) To maintain better engine speed (D) To maintain the water pump speed
59. _____ serves to adjust the length of the propeller shaft when demanded by the rear axle movement.
- (A) Universal joint (B) Cap joints
(C) Corner joint (D) Slip joint
60. The torque available at the contact between wheels and rod is :
- (A) Tractive effect (B) Gear effect
(C) Brake effect (D) axle effect
61. The Rear wheels should follow in the tracks of front wheels in a parallel position is called:
- (A) Turning radius (B) Uniform motion of wheel
(C) Negotiating turn (D) Tracking
62. Which of the following is false statement?
- (A) Thermal efficiency is low in petrol engine
(B) Thermal efficiency is high in diesel engine
(C) Petrol engine works on constant volume cycle
(D) Compression ratio varies from 6.1 to 9.1 in Diesel engine
63. The basic frame work of an engine is :
- (A) cylinder head (B) oil sump
(C) cylinder block (D) connecting rod
64. The oil sump is made of :
- (A) cast iron (B) aluminium alloy
(C) zinc sheet (D) pressed steel sheet

65. While smoke from a diesel engine can be expected during :
(A) Start up or idling (B) High load operation
(C) High Speed operation (D) All of the above
66. The term BTDC stands for :
(A) Below Top Dead Centre (B) Before Top Dead Centre
(C) Back Top Dead Centre (D) Balance Top Dead Centre
67. The advantages of tube less tyre over tube type tyre is :
(A) slow air leakage (B) chances of running flat is less
(C) better fuel efficiency (D) all of these
68. Differential gear box oil is usually renewed after :
(A) 6000 km (B) 4000 km
(C) 1500 km (D) 2500-6000 km
69. An over inflated tyre will wear the tread most near the :
(A) centre (B) corner
(C) edges (D) none of these
70. Piston, compression rings and made of :
(A) spring steel (B) Alluminium
(C) copper alloy (D) cast iron
71. The power to be transmitted to the road wheels at varied lengths and varied angles is :
(A) axle shaft (B) primary shaft
(C) bevel shaft (D) propeller shaft
72. In an automobile the wheels convert rotary motion into :
(A) Reciprocating motion (B) Downward motion
(C) Upward motion (D) Longitudinal one
73. For maximum engine speed and power, additional fuel must be supplied ————— help in providing additional fuel for maximum power.
(A) chock valve (B) Throttle valve
(C) Additional nozzle (D) Economizer valve

74. In otto cycle engines the knocking tendency is reduced by :
(A) Adding dope like tetraethy load to the fuel
(B) High exhaust temperature
(C) Less compression ratio
(D) High compression ratio
75. Bendix drive is generally known as:
(A) Front axle drive
(B) Rear axle drive
(C) Bendix gear drive
(D) Inertia drive
76. The front and rear wheel, tyre pressure of Ambassador car is :
(A) 15 psi – 18 psi
(B) 20 psi – 25 psi
(C) 24 psi – 25 psi
(D) 26 psi – 28 psi
77. Brake bleeding is the process of removing _____ from the system.
(A) Brake oil
(B) Air
(C) Vacuum
(D) Excess pressure
78. _____ is the conventional material for engine cylinder heads and block.
(A) Alluminium
(B) Steel
(C) Vacuum
(D) Cast iron
79. The type of wheels preffered in sport vehicles are:
(A) Wire wheel
(B) Copper alloy wheel
(C) Alluminium alloy wheel
(D) Disc wheel
80. In modern car the head light dimming switch is mounted on the :
(A) Dash board
(B) Steering column
(C) Side board
(D) Flour board
81. In which district of Kerala is the Mathikettan Shola National Park situated?
(A) Palakkad
(B) Wayanad
(C) Idukki
(D) Pathanamthitta
82. The first Biosphere Reserve in India is :
(A) Nilgiri Biosphere Reserve
(B) Sunderban Biosphere Reserve
(C) Nandadevi Biosphere Reserve
(D) Gulf of Mannar Biosphere Reserve

83. In which year Indian parliament passed the National Rural Employment Guarantee Act?
(A) 2005 (B) 2000
(C) 2009 (D) 2004
84. The NABARD was set up in the year :
(A) 1982 (B) 1985
(C) 1987 (D) 1984
85. The founder of the Servants of India Society is :
(A) Gopala Krishna Gokhale (B) Balagangadhara Tilak
(C) Subhash Chandra Bose (D) Annie Basant
86. The revolt of 1857 broke out in :
(A) Lucknow (B) Kanpur
(C) Meerut (D) Allahabad
87. River that flows through the Silent Valley National Park :
(A) Kabani (B) Kunthypuzha
(C) Kallaipuzha (D) Bhavani
88. Who is the Kerala Government Chief Whip?
(A) Sakthan Nadar (B) P.C. George
(C) K.Radhakrishnan (D) G. Karthikeyan
89. Who is the men's singles champion in Australian open tennis 2014?
(A) Rafael Nadal (B) Roger Federer
(C) Stanislas Wawrinka (D) Novac Djokovic
90. Nobel prize winner in literature in 2013 is :
(A) James Rothman (B) Alice Munro
(C) Peter Hanson (D) Michael Levit
91. Who wrote the Book "Mokshapradeepam"?
(A) Mannathu Padmanabhan (B) Dr. Palpu
(C) Kumara Guru (D) Brahmananda Swami Sivayogi

92. Ayyankali was born in the year :
(A) 1773 (B) 1873
(C) 1883 (D) 1863
93. Kuriakose Elias Chavara died in 1871 at :
(A) Kainakary (B) Koonammavu
(C) Mannanam (D) Ramapuram
94. Who wrote the book 'Jaathikkummi' ?
(A) Dr. Palpu (B) Vagbhatananda
(C) K.P. Karuppan (D) Vallathol
95. Who founded Swadeshabhimani news paper?
(A) Ramakrishna Pillai (B) Panampilli Govinda Menon
(C) K.Kelappan (D) Vakkom Maulavi
96. The first secretary of SNDP Yogam:
(A) Sree Narayana Guru (B) K.P.Karuppan
(C) Ayya Vaikundar (D) Kumaranasan
97. Who wrote the book 'Vedadhikara Niroopanam'?
(A) Kuriakose Elias Chavara (B) V.T. Bhattathirippad
(C) Chattampi Swamikal (D) Dr. Palpu
98. Winner of ezhuthachan award 2013 is :
(A) Prof. M.K.Sanu (B) Dr. M Leelavathi
(C) O.N.V. Kuruppu (D) M.T. Vasudevan Nair
99. The 2014 Asian Games is scheduled to take place in :
(A) Indonesia (B) Thailand
(C) Philippines (D) South Korea
100. The best actor in Kerala state Film Award 2013 is :
(A) Biju Menon (B) Prithviraj
(C) Mohan Lal (D) Manoj K. Jayan