

AM-125

April-2015

B.Sc. (Fire & Safety), Sem.-IV

Automobile Engineering

Time : 3 Hours]

[Max. Marks : 70

1. (a) Explain briefly the various types of chassis construction. 7
OR
State the functions of automobile transmission system.
- (b) Explain the main component of I.C engines. 7
OR
Comparison of petrol and diesel engines.
2. (a) Sketch a simple plain tube carburettor, name its different parts and explain their function. 7
OR
Explain the function of "SPARK PLUG" with neat diagram.
- (b) What is the function of a brake ? 7
OR
Give a neat sketch of magneto ignition system for a four cylinder engine and describe how does it work ?
3. (a) Define Suspension system. Also explain leaf spring with neat diagram. 7
OR
What are the objects of lubrication ?
- (b) Explain "common rail fuel injection system". 7
OR
What are the different methods of engine cooling ?
4. (a) Write notes on: Power Take-off. 7
OR
Write notes on : Ground Clearance
- (b) Write short note on: "Angle of approach" 7
OR
Write short note on "Grade Ability of a vehicle".

5. (1) The function of ___ is to convert reciprocating motion of the piston into the rotary motion with the help of a connecting rod. 14
- (i) Cam (ii) Crankshaft
(iii) Flywheel (iv) Gearbox
- (2) Which of the following does not relate to a spark ignition engine ?
- (i) Ignition coil (ii) Sparkplug
(iii) Carburettor (iv) Fuel injector
- (3) Piston is made of ___ alloys which are light in weight.
- (i) steel (ii) aluminium
(iii) copper (iv) brass
- (4) The diesel engine was developed by_____
- (5) The materials used for cylinder block are
- (i) cast iron and steel (ii) brass and steel
(iii) steel and aluminium alloy (iv) steel and aluminium alloy
- (6) Define “stroke”
- (7) Define “Conventional chassis”.
- (8) The connecting rod generally made of ___ shaped cross-section,
- (i) I (ii) L
(iii) H (iv) C
- (9) The oil pump is driven by the
- (i) camshaft (ii) crankshaft
(iii) battery (iv) alternator
- (10) The function of a carburettor is to control the amount and ratio of air-fuel mixture,
- (i) True (ii) False
- (11) What is the function of an alternator in an automobile ?
- (12) The instrument used to check specific gravity of acid in a battery is
- (i) Anemometer (ii) multimeter
(iii) feeler gauge (iv) hydrometer
- (13) Which of the following is not a part of the chassis ?
- (i) wheels (ii) axles
(iii) seats (iv) steering system
- (14) Two general types of tyres are
- (i) Tube tyre and tubeless (ii) solid and tubeless
(iii) Air and pneumatic (iv) None of the above
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