

C.U.SHAH UNIVERSITY

Winter Examination-2015

Subject Name : Automobile Engines

Subject Code : 4TE04AEN1

Branch : B.Tech (Auto)

Semester :IV Date :21/11/2015

Time :2:30 To 5:30

Marks :70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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- Q-1 Attempt the following questions: (14)**
- 1) In 4- stroke multi-cylinder engine, each cylinder has (01)**
(a) One valve (b) Six valve (c) Three valve (d) All of above
 - 2) Diesel engine is generally preferred for road transport because (01)**
(a) Capital cost (b) Operating cost
(c) Maintenance cost (d) Manufacturing Cost
 - 3) No of exhaust manifold in V-8 engine is (01)**
(a) One (b) Two (c) Three (d) Four
 - 4) Which part is not common in SI and CI engines? (01)**
(a) Air cleaner (b) Dynamo (c) Silencer (d) Fuel injector
 - 5) Octane rating of petrol is (01)**
(a) 40-50 (b) 80-90 (c) 95-100 (d) 110-120
 - 6) In SI engine, gas which does not burn and passes out is (01)**
(a) O₂ (b) N₂ (c) CO₂ (d) CO
 - 7) Pressure of injected fuel in diesel engine lies between (01)**
(a) 100-200 bar (b) 50 to 100 bar (c) 20 to 30 bar (d) 5- 10 bar
 - 8) Water in lubrication oil forms (01)**
(a) Oxidation (b) Decomposition (c) Dilution (d) sludge formation
 - 9) Amount of fuel supplied to the diesel engine with variable load is controlled by (01)**
(a) Cam shaft (b) Crank shaft (c) Control rack (d) Chock



- 10) Cetane number of diesel fuel is measure (01)
 (a) Viscosity (b) Volatility (c) Delay period (d) Ignition quality
- 11) Connecting rod is attached to the piston by (01)
 (a) Gudgeon pin (b) Crank pin (c) Lower cap (d) Rod cap
- 12) Which part of carburetor resist air flow for cold starting (01)
 (a) Throttle (b) Float (c) Chock (d) Jet
- 13) Blow by gases are emitted from (01)
 (a) Tail type (b) Crank case (c) Fuel tank (d) Pump
- 14) Which oil is more viscous? (01)
 (a) SAE 20 (b) SAE 40 (c) SAE 70 (d) SAE 80

Attempt any four questions from Q-2 to Q-8

- Q-2 Attempt all questions (14)**
 (a) Draw valve timing diagram of SI engine and CI engine. (04)
 (b) Give classification of Automobile engine. (05)
 (c) Write short note on Bosch type fuel pump (05)
- Q-3 Attempt all questions (14)**
 (a) Explain with neat sketch Common Rail Diesel Injection. (07)
 (b) Explain working of Simple carburetor along with limitations. (07)
- Q-4 Attempt all questions (14)**
 (a) What is meant by abnormal combustion? Explain the phenomena of knock in SI engines. (07)
 (b) Explain with neat sketch stages in combustion of C.I. Engine. (07)
- Q-5 Attempt all questions (14)**
 (a) Explain multi point fuel injection system. (07)
 (b) Write short note on combustion chamber for SI engines. (07)
- Q-6 Attempt all questions (14)**
 (a) Explain with neat sketch Thermo syphon cooling system. (07)
 (b) What is function lubrication system in engine? Explain working of any lubrication system with neat sketch. (07)
- Q-7 Attempt all questions (14)**
 (a) Give importance of emission norms. (07)
 (b) Describe the emissions from Automobile and its environment effect. (07)
- Q-8 Attempt all questions (14)**
 (a) Explain turbo charger. (07)
 (b) Explain method of measurement of indicated power of multi cylinder engine. (07)

