

Mechanical Engineering viva question and Answers

classmate

Date

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Q. 1. What is engine?

Ans:- Engine is a machine designed to convert one form of energy into mechanical energy.

Q. 2. What is heat engine?

Ans:- Heat engine convert heat into thermal energy and further into mechanical energy.

Q. 3. What is diff. b/w IC engine and EC engine?

Ans:- IC Engine

EC Engine

(i) fuel combustion take place inside cylinder.

(i) fuel combustion take place outside engine.

(ii) Temp. (T) and pressure (P) Higher than EC engine.

(ii) T, and P less than IC engine.

Q. 4. What is V_s , V_c , C.R., Bore, stroke and stroke length?

Ans:- V_s (Swept volume) :- volume swept by piston during one stroke.

V_c (Clearance volume) :- Volume b/w cylinder head and piston at TDC.

* C.R. (clearance ratio) $\alpha = V_c / V_s$

Bore:- diameter of each cylinder.

Stroke:- distance within cylinder the piston travels.

Stroke length:- distance b/w TDC and BDC.

Q. 5. Where the power comes in IC engine?

Ans:- Combustion engine employ the expansion of hot gases to push a piston within cylinder so converting linear motion to rotating motion of crankshaft generate power.

Q.6. Why the ^{intake} exhaust valve made bigger than ^{exhaust} intake valve?

Ans:- In intake stroke to allow the sufficient amount of air and air fuel mixture.

For presence of inner pressure no need of big exhaust valve.

Q.7. What is compression ratio of petrol and diesel engine?

Ans:- petrol engine:- 10-14, diesel engine $\Rightarrow$ 16-22

Q.8. Spark plug gap?

Ans:- 0.6 mm to 1.8 mm

Q.9. What is spark voltage?

Ans:- 12000 - 25000 volts and more.

Q.10. Diff. b/w petrol and diesel engine?

petrol engine	diesel engine
- Follow otto cycle,	- follow diesel cycle
- Air and petrol mixed in carburetor	- Air and diesel mixed in cylinder.
- Spark ignition	- Compression ignition
- Low compression Ratio	- Higher com. Ratio
- Less power output	- Higher power output
- Lighter	- Heavier
- contain spark plug	- contain fuel injector

Q.11. diff. b/w two and four stroke engine?

Two stroke engine	four stroke engine
- One power stroke in two stroke	- One power stroke in four stroke.
- High low efficient	- High efficient.
- Lighter Flywheel Required	- Higher Flywheel Required
- It contains port	- It contain valves.

Q-12. What is purpose of choke valve?

Ans:- The choke valve is designed to restrict the flow of air in carburettor of an engine.

Q-13. Purpose of fuel pump and injector in diesel engine?

Ans:- The purpose of fuel pump is to deliver fuel from fuel tank to fuel injector and purpose of fuel injector to inject fuel in engine.

Q-14. Name of four strokes?

- Ans:-
- (1) Suction or Intake stroke.
 - (2) Compression stroke.
 - (3) power/work/expansion stroke.
 - (4) Exhaust or outtake stroke.

Q-15. Diff. b/w C.I and S.I engine?

Ans: SI engine	CI engine
- Otto cycle, petrol engine	- Diesel cycle, diesel engine
- Higher speed	- Lower speed
- High maintenance cost	- low maintenance cost.
- less noise	- more noise
- less power	- High power.

Q-16. Why we need spark in SI engine?

Ans:- petrol has lower flash point and vaporised easily and quickly so suitable source is needed for ignition.

Q-17. Why we need fuel injector in CI engine?

Ans:- Diesel has high flash point and fuel is ignited at combustion high compression so fuel injector is used to inject fuel in engine at compression stroke.