

JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Department of Mechanical Engineering (2020-21)

Name of subject :- INTERNAL COMBUSTION ENGINES

Subject code :- 7ME5-11

Year and Sem :- 4TH year 7th SEM

Session :- 2020-21

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COURSE : B.Tech
SEM-VIIth

SUBJECT : ICE
CODE-7ME5-11

ASSIGNMENT I

COURSE OUTCOMES

CO1:- To recognize the reasons of difference among operating characteristic of different engine types and design

Attempt all question:-

Q1:- Elaborate the objectives to be kept in mind during design of combustion chamber?

Q2:- Summarize the application of swirl chamber?

Q3:-Distinguish the difference between SI and CI engine in detail.

Q4:-Elucidate with suitable sketches the working of four stroke Diesel engine.

Q5:-Compare the difference between 2-stroke and 4-stroke engine.

Q6:-What do you understand by heat engine?

Q7:- Compare external combustion engine and internal combustion engine.

Q8:- Explain Working of 4 Stroke S.I. Engine.

Q9:- Explain Working of 4 Stroke C.I. Engine.

Q10:- Explain Working of 2 Stroke S.I. Engine.

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ASSIGNMENT II

COURSE OUTCOMES

CO2:- To express the combustion phenomenon in I C Engine and Interpret different factor affecting on combustion

Attempt all question:-

Q1:- Categorize the desirable qualities for SI engine fuel?

Q2:- Deliberate the parameter which are affecting knock in SI engine?

Q3:- Describe the phenomenon of pre-ignition?

Q4:- Make up a list of various factors for controlling diesel knock.

Q5:- Evaluate the effect of engine variables on flame propagation

Q6:- Illustrate the phenomenon of combustion in S.I.

Q7:- Compare alternative fuels with gasoline

Q8:- Elaborate the process of ignition lag.

Q9:- Identify how the flame propagation is differ in CI and SI engine.

Q10:- Distinguish the variable which effect the delay period.

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ASSIGNMENT III

COURSE OUTCOMES

CO3:- To analyze the operations of various I C Engine systems

Attempt all question:-

Q1:- Categorize the type of injection system in SI engine?

Q2:- Elaborate the process of Battery ignition system?

Q3:- Describe the phenomenon carburetion?

Q4:- Distinguish the difference between conventional and modern ignition system.

Q5:- Elucidate with suitable sketches the working of Aircraft carburettor.

Q6:- Elaborate the CRDI system with neat sketch?

Q7:- Distinguish the difference between Magneto and Battery ignition system?

Q8:- Elaborate the requirement of air-fuel ratio as per different operating conditions.

Q9:- Elucidate solid injection system with suitable sketches.

Q10:- Describe the Magneto Ignition system with suitable sketches.

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ASSIGNMENT IV

COURSE OUTCOMES

CO3:- To analyze the operations of various I C Engine systems

Attempt all question:-

Q1:- Summarize the function of lubrication system?

Q2:- Illustrate the phenomenon and function of lubrication. Also discuss type of lubrication system.

Q3:- Elaborate water cooling system with suitable diagram. What is the function of fins?

Q4:- Evaluate the methods of supercharging in four stroke engines.

Q5:- Categorize properties and rating of lubricating oil.

Q6:- Interpret the theory and functions of lubrication.

Q7:- Illustrate the any two water cooling systems with suitable sketches.

Q8:- Enumerate lubrication system and explain wet sump lubrication system.

Q9:- Describe the mist lubrication system used for a two stroke engine.

Q10:- Explain the scavenging processes in 2-stroke engine.

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ASSIGNMENT V

COURSE OUTCOMES

CO4:- To compare the specials and hybrid engines

Attempt all question:-

Q1:- Illustrate the working of stratified engine in short.

Q2:- Elaborate the effect of variable compression ratio on thermal efficiency?

Q3:- Deliberate the fuel ignition energy requirements.

Q4:- Describe important fuel specification for diesel.

Q5:- Compare alternative fuels with gasoline.

Q6:- Deliberate the properties of Methanol?

Q7:- Categorize the requirements of a dual fuel engine ?

Q8:- Evaluate the engine performance with alcohols in diesel engine.

Q9:- Describe with neat sketch the working of a “Free piston engine”.

Q10:- Describe the stages of combustion in a dual fuel engine?