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Note : Attempt all the **twenty** questions. Each question carries 2 marks. Answer should not exceed 15 words.

1 State First Law of Thermodynamics.

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2 In what form the energy can cross the boundaries of a closed system ?

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3 What is an adiabatic process and an adiabatic system ?

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4 State Fourier's law of conduction.

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5 Give the definition of Froude's Number.

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6 Define the mean effective pressure for a reciprocating engine.

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7 Write the phases of combustion in a C.I. engine.

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8 What do you understand by MHD generator ?

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9 List various non-conventional energy sources.

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10 What is a boiler draft and of how many types ?

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11 Define relative humidity.

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12 Define Adiabatic Saturation Temperature.

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13 What are the three common sources of irreversibilities which make actual vapour compression cycle differ from the ideal one ?

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14 What is purpose of governing a turbine ?

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15 Define specific speed of a turbine.

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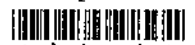
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16 List practical applications of Bernoulli's Equations.

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17 Define a pitot tube and its uses.

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18 Define a solar cell.

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19 Define Slip and Percentage Slip of Reciprocating Pump.

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20 What is Euler head ?

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PART - B

Marks : 60

Note : Attempt all the **twelve** questions. Each question carries 5 marks. Answer should not exceed 50 words.

21 Draw main characteristics of Centrifugal Pump.

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22 Which cycle is more efficient for the same compression ratio, Otto or Diesel ? Explain.

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- 23 On a hot summer day, a student turns his fan on when he leaves the room in the morning. When he returns in the evening will the room be warmer or cooler than the neighbouring room ? Why ? Assume all doors and windows are kept closed.

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- 24 Explain dropwise condensation.

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25 What is significance of Nusselt number ?

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26 Discuss the factors which must be considered while choosing the type of generation in power plant.

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27 Draw the pressure variation curve for a fluid flowing through a convergent-divergent nozzle.

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28 Explain Effective Temperature.

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29 Define Vena-contracta and discuss why is it formed.

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30 Define Bernoulli's theorem and its use.

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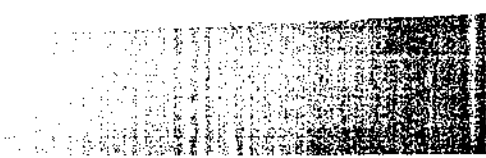
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31 Explain characteristics of Entropy.

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32 Discuss impulse momentum equation and its use.

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PART - C

Marks : 100

Note : Attempt any 5 questions. Each question carries 20 marks. Answer should not exceed 200 words.

33 What are the important requirements of an ideal cycle ? Define ideal efficiency, isentropic efficiency, overall efficiency, work ratio and specific steam consumption.

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38 Why engines are supercharged ? Explain different methods of supercharging. Why is it avoided in S.I. engines ?

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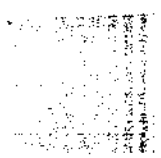
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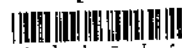
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SPACE FOR ROUGH WORK / रफ कार्य के लिए जगह

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SPACE FOR ROUGH WORK / रफ कार्य के लिए जगह

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