C14-EE-**306**

4248

BOARD DIPLOMA EXAMINATION,(C-14)
MARCH /APRIL-2019
DEEE – THIRD SEMESTER EXAMINATION

GENERAL MECHANICAL ENGINEERING

Time: 3 Hours **Max. Marks:80**

PART-A

10X3=30M

Instructions : 1) Answer **all** questions and each question carries **three** marks.
2) Answer shojuld be brief and straight to the point and shall not exceed five simple sentences.

1) State the Hooke's law and write its equation.
2) A rod of 30 mm diameter and 1.2 m long is subjected to an axial pull of 84.8 KN. Young's Modulus of the rod material is 200KN/mm^2. Determine the elongation of the rod.
3) State the meaning of shaft ? How do you classify shaft.
4) Write the Torsion Equation and Mention the terms involved in it.
5) List out the various components of an I.C.Engines.
6) Write any three differences between Petrol Engine and Diesel Engine.
7) State the working principle of steam turbine?
8) Mention the various Boiler Mountings and Accessories.
9) List out different types of pumps.
10) Mention different types of lubricants.

cont.....

PART-B

5X10=50

Instructions: 1) Answer any **five** questions.Each question carries **ten** marks.

2) Answer should be comprehensive and the criteria for valation is the content but not he length of the answer.

11) Draw the Stress-Strain diagram for Mild steel and explain the terms involved in it. 10M

12) A bar of length 3 m has a diameter of 50 mm over half of its length and a diameter of 25 mm over the other half. Young's Modulus is $2.06X10^5$ N/mm^2 and the bar is subjected to a pull of 50 KN. Find the stress in each section and the total elongation of the bar. 10M

13) Find the diameter of solid shaft required to transmit 750 KW power at 250 RPM. The maximum allowable shear stress is not exceeded 50 N/mm^2 and twist is not exceeded 2^0 in a length of 2m. Take Modulus of rigidity $G=0.8X10^5N/mm^2$. 10M

14) Explain the working of Four stroke petrol engine with the help of neat sketch. 10M

15) Explain the working of simple carburetor with the help of neat sketch. 10M

16) Describe the Lamont Boiler with the help of neat sketch. 10M

17) a) How do you classify the steam turbines.

b) Distinguish between Impulse Turbine and Reaction Turbine.[4+6]

18) Explain working of Centrifugal pump with the help of neat sketch. 10M

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