24257

B. Tech. 5th Semester (ME)

Examination – December, 2016

DYNAMICS OF MACHINES

Paper : ME-301-F

Time : Three Hours]   *[Maximum Marks : 100*

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions. Question Number 1 is *compulsory* and attempt at least one question from each Section.

1. Explain following :   5 × 4 = 20

   (i) Indicator Diagram

   (ii) Field Balancing

   (iii) Inertia Governors

   (iv) Gyroscopic stabilization

     P. T. O.

SECTION – A

2. What do you understand by static and dynamic force analysis ? Explain static force analysis of planer mechanism in detail by taking some suitable example. 20

3. Draw indicator diagram of reciprocating engines. Explain bearing loads in a single cylinder engine. 20

SECTION – B

4. What is balancing ? Explain balancing of rotors with labelled diagram. 20

5. Explain balancing of single and multi cylinder engines with labelled diagram. What IS firing order ? 20

SECTION – C

6. What is the function of Governor ? Explain hunting, sensitiveness, stability of Governor with suitable diagram. 20

7. What do you understand by Dynamorneter ? Explain its different types with labelled diagram. 20

SECTION – D

8. What is ship stabilization ? Generate an expression for Gyroscopic couple. 20

9. Derive expressions for stability of four wheel and two wheel vehicle moving on curved path. 20

––––––––