Roll No. .....

24257

B. Tech. 5th Semester (ME)

Examination – December, 2014

DYNAMICS OF MACHINES

Paper : ME – 301-F

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

Before answering the questions, 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 any ***five*** questions from 8 questions.

1. (a) Derive an expression for force acting on the crank by the connecting rod for an engine. 10

(b) Describes all types of engines shaking force in brief. 10

2. Three masses of 8 kg, 12 kg & 15 kg attached at radial distance of 80 mm, 100 mm & 60 mm respectively to a disc on a shaft are in complete balance. Determine the

angular position of the masses 12 kg & 15 kg related to 8 kg mass. 20

3. (a) Classified of different types of governors. 10

(b) Explain the centrifugal governor & its characteristics. 10

4. (a) Explain how V-Engines are balanced. 10

(b) Explain the "field Balancing" and write its application. 10

5. (a) Explain sensitiveness, stability, Isochronisms and hunting in context of governors. 10

(b) Sketch the indicator diagrams of reciprocating engines. 10

6. (a) Explain the balancing of rotors. 10

(b) Derived the expression of gyroscopic couple. 10

7. (a) Explain rope break absorption dynamometer. 10

(b) Explain the belt transmission dynamometer with neat sketch. 10

8. Write short notes on : 20

(a) Stability of two wheel vehicle

(b) Prony breaks dynamometer

(c) Ship stabilization

(d) Balancing of single cylinder engine
