

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
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