GTU MID SEM-DOM(3151911)-AY 2021-22 - C05- PART 4

Subject: Dynamics of machinery (3151911)
AcademicYear: 2021-22 (Odd)
Class: 5th Semester
Time : 15 minutes

Maximum 5 Marks will be count (all questions can be attempted)

* Required

* This form will record your name, please fill your name.

1

The unit of critical speed of shaft is ____ *
(1 Point)

- RPM
- m/sec
- mm/sec
- RPS

2

Ashaft supported at ends in short bearings/ball bearings may be assumed as _____ *
(1 Point)

- Simply supported
- One end fixed and other supported
- Both the ends fixed
- None of the options

3

Whirling speed of shaft is the same as natural frequency of oscillations but unit is different *
(1 Point)

- yes
- no

4

Stiffness of the shaft is defined as load required per ____ deflection *
(1 Point)

- Unit
- Tenth
- Half
- None of the options
- Option 2

5

Critical speed of shaft depends upon ____ *
(1 Point)

- Stiffness of the shaft
- Static deflection
- Gravity
- All of the options

6

$$\delta = \frac{Wl^3}{192EI}$$

The static deflection due to self weight at the mid-point of a shaft fixed at both the ends is given by, *
(1 Point)

- TRUE
- FALSE

7

The deflection of shaft becomes _____ at the critical speed *
(1 Point)

- Zero
- Infinite
- Half of the static deflection
- None of the options

8

When the centre of gravity of the mass is below the centre of the shaft/shaft axis, the eccentricity is taken _____ *
(1 Point)

- Positive
- Negative

9

The moment of inertia of a circular shaft having outer diameter and inner diameter of 75 mm and 40 mm respectively is, _____m4 *
(2 Points)

- 1.4 X (10)^(-6)m^4
- 1.23 X (10)^(-6)m^4
- 1.8 X (10)^(-4)m^4
- 1.25 X (10)^(-4)m^4