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

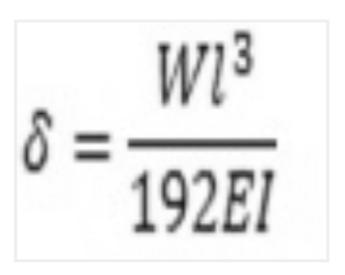
Subject: Dynamics of machinery (3151911)
AcademicYear: 2021-22 (Odd) Class: 5th Semester
Time : 15 minutes
Maximum 5 Marks will be count (all questions can be attempted)
* Required
* This form will record your name, please fill your name.
1
The unit of critical speed of shaft is * (1 Point)
○ RPM
○ m/sec
O mm/sec
RPS

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 $^{\star}$ (1 Point)
○ yes
O no
4
Stiffness of the shaft is defined as load required per deflection * (1 Point)
○ Unit
○ Tenth
○ Half
None of the options
Option 2

Critical speed of shaft depends upon \_\_\_\_ \* (1 Point)

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

6



The static deflection due to self weight at the mid-point of a shaft fixed at both the ends is given by,  $^{\star}$  (1 Point)

- TRUE
- FALSE

The deflection of shaft becomes at the critical speed * (1 Point)
○ Zero
○ Infinite
Half of the static deflection
O 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)
Opositive
○ 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

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