Assignment 1

The due date for submitting this assignment has passed. Due on 2018-02-21, 23:59 IST.
As per our records you have not submitted this assignment.

1) Balancing of Inertia forces can be classified as the following method of vibration control

- System modification
- Active feedback control
- Excitation reduction at source
- Energy harvesting

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Excitation reduction at source

2) The spongy bone of wood-pecker helps used in

- Absorbing low frequency vibration
- Absorbing high frequency vibration
- Adding more strength
- Brain functioning

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Absorbing low frequency vibration

3) Self-excited chatter is

- Originated from fluid-structure interaction
- An outcome of brain-machine interaction
- A case of active vibration control
- Caused due to uneven surface of the work

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Caused due to uneven surface of the work

4) Which of the following is related to the parametric excitation?

- Shock loading
- Source vibration independent of response
- Vortex induced vibration
- Mass, damping and stiffness changing with time

No, the answer is incorrect.
Score: 0
Accepted Answers:
No, the answer is incorrect.
Score: 0

Accepted Answers:
Mass, damping and stiffness changing with time

5) The Strouhal number of a pipe obstructing a river flow is 0.2. The free stream flow velocity is 2 m/s, and the radius of the pipe is 0.5 m. The vortex shedding frequency is

- 0.8 Hz
- 2 Hz
- 0.02 Hz
- 0.4 Hz

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.4 Hz

6) Detuning is referred as the process of

- Changing the loss factor of a vibrating system
- Changing the nature of frequency band
- Changing power spectral density
- Changing the stiffness and inertia of a system

No, the answer is incorrect.
Score: 0

Accepted Answers:
Changing the stiffness and inertia of a system

7) Which of the following statement is false?

- Displacement amplitude at near resonance condition is controlled primarily by damping
- Damping is the only effective means for controlling the vibration.
- There are different controlling parameters in different frequency ranges
- Tacoma narrows bridge failed by aeroelastic flutter

No, the answer is incorrect.
Score: 0

Accepted Answers:
Damping is the only effective means for controlling the vibration.

8) Which of the following statement is false?

- Energy dissipation/cycle in viscous damping is given by the area of ellipse
- Energy dissipation/cycle in Coulomb damping is given by the area of rectangle
- Energy dissipation/cycle in Hysteric damping is dependent on frequency
- Energy dissipation/cycle in Hysteric damping is independent of frequency

No, the answer is incorrect.
Score: 0

Accepted Answers:
Energy dissipation/cycle in Hysteric damping is dependent on frequency

9) Which of the following methods are used for controlling vortex induced vibrations?

- Installing helical spoiler around tall cylindrical structures
- Streamline construction of the marine pier
- Woven plastic ribbon into marine cables
- All are correct

No, the answer is incorrect.
Score: 0

Accepted Answers:
All are correct
10) Which of the following is false with reference to Detuning?

- Technique of changing system parameters to avoid resonance
- De-tuning shifts the natural frequency towards the excitation frequency
- Stock bridge damper is used for de-tuning in overhead power transmission cables
- All are false

No, the answer is incorrect.
Score: 0

Accepted Answers:
De-tuning shifts the natural frequency towards the excitation frequency