

X

NPTEL

reviewer4@nptel.iitm.ac.in ▼

Courses » Machinery Fault Diagnosis And Signal Processing

Announcements **Course** Ask a Question Progress FAQ

Unit 11 - Week 9

[Register for Certification exam](#)

Course outline

[How to access the portal](#)[Week 0](#)[Week 1](#)[Week 2](#)[Week 3](#)[Week 4](#)[Week 5](#)[Week 6](#)[Week 7](#)[Week 8](#)**Week 9**

- Lecture 41 :Journal and Anti-Friction Bearings
- Lecture 42: Gears
- Lecture 43: Pumps and Cavitation
- Lecture 44 : IC Engines
- Lecture 45 : machinery Diagnostic Chart
- Week 9 : Lecture Material
- Quiz : Assignment 9
- Feedback for

Assignment 9

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-04-03, 23:59 IST

1) 1 point
What would be the vane pass frequency at 1800 RPM for a pump impeller having 30 vanes?

- a. 30 Hz
- b. 10 Hz
- c. 900 Hz
- d. 1800 Hz

- (a)
- (b)
- (c)
- (d)

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

(c)

2) The causes of gearbox faults are 1 point

- a. Lack of lubrication
- b. Excessive load
- c. Both a. and b.
- d. None of these

- (a)
- (b)
- (c)
- (d)

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

(c)

3) What are the characteristics of vibration signal from bearings? 1 point

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -

A project of



In association with



Funded by

Powered by

[DOWNLOAD VIDEOS](#)[Assignment Solution](#)

Develo

- (a)
 (b)
 (c)
 (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

4)

The high frequency of defective bearing is due to the excitation of resonant frequency of defective race(s)

- a. True
b. False

- (a)
 (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

5) Following is (are) the source(s) of vibration in a bearing

- a. Waviness of the rings
b. Surface roughness
c. Presence of dirt
d. All of the above

- (a)
 (b)
 (c)
 (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

6)

A gear of 30 teeth is rotating at 1200 RPM, calculate the gear mesh frequency

- a. 20 Hz
b. 40 Hz
c. 600 Hz
d. 300 Hz

- (a)
 (b)
 (c)
 (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)



1 point

1 point

1 point

7) 1 point
 The vibration characteristics of gear defect are the side-bands at (GMF-Gear Mesh Frequency N_1 - rotational speed of pinion in RPM, N_2 - rotational speed of gear in RPM)

- a. $GMF \pm \frac{N_1}{60}, GMF \pm \frac{N_2}{60}$
- b. $GMF \pm \frac{N_1 \times N_2}{60}$
- c. $GMF \pm \left(\frac{N_1 - N_2}{60} \right)$
- d. $GMF \pm \left(\frac{N_1 + N_2}{60} \right)$

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

8) The vibration characteristic frequency indicates oil whirl is 1 point

- a. 1 times of the rotational speed
- b. 1.5 times of the rotational speed
- c. 0.6 to 0.7 times the rotational speed
- d. 0.42 to 0.48 times the rotational speed

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

9) The formation and collapsing of bubbles in fluid machines is known as 1 point

- a. Capillarity
- b. Convection
- c. Condensation
- d. Cavitation

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

10) 1 point

Determine the engine firing frequency for a 4-stroke, 4-cylinder engine when the output is rotating at 1800 RPM

- a. 30 Hz
- b. 50 Hz
- c. 60 Hz
- d. 72 Hz

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

11) The ball bearing works on the principle of hydrodynamic lubrication

1 point

- a. True
- b. False

- (a)
- (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(b)

12) Fault detection using kurtosis comes under

1 point

- a. Time domain analysis
- b. Frequency domain analysis
- c. Time-frequency analysis
- d. None of the above

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

13) Component under test is said to be faulty if

1 point

- a. $1 < \text{kurtosis} < 2$
- b. $2 < \text{kurtosis} < 4$
- c. $4 < \text{kurtosis} < 6$
- d. $\text{kurtosis} > 6$

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(d)

14) For the case of damaged gear, the vibration would be dominant in

1 point

- a. Axial direction
- b. Radial direction
- c. Both a. and b.
- d. None of the above

- (a)
- (b)
- (c)
- (d)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(c)

15)

1 point

Vane pass frequency and its harmonics are the dominant frequencies in the frequency spectrum for the case of increased turbulence

- a. True
- b. False

- (a)
- (b)

No, the answer is incorrect.

Score: 0

Accepted Answers:

(a)

Previous Page

End