Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, December 2021
Mechanical Vibration & Noise Engineering [ME-703]
Branch: ME

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.

Q.1 (a) Define "Principle mode of vibration".
(b) What do you understand by "semi definite system"?

Q.2 (a) What is expansion theorem? what is it's importance.
(b) Differentiate between periodic motion and harmonic motion.

Q.3 (a) Discuss in brief various types of critical damping?
(b) Write short technical notes on "Industrial Noise Control" and "Auditory Effect of Noise"?

Q.4 (a) Define and explain following terms related to vibration:
i) Natural frequency of vibrations
ii) Fundamental mode of vibrations
iii) Degree of freedom of vibrations system.

Q.5 (a) Write detailed notes on "Vibration Absorber" and "Torsional Vibration Absorber".
(b) Write detailed notes on noise standards and limits and Industrial noise Control"

Q.6 (a) What are beats? How do you connect several springs to increase the overall stiffness?
(b) Write short technical notes on "Industrial Noise Control" and "Auditory effect of Noise"?

Q.7 What are the three elementary part of vibrating system? Define the number of degree of freedom of vibrating system.

Q.8 What is the difference between deterministic and random vibration? Give two practical example of each. What are the common type of damping?

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, December 2021
Operation Research & Supply Chain [ME-704]
Branch: ME

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions out of eight.

2. All question carry equal marks.

Q.1 (a) What are the essential characteristics of a linear programming model ?
(b) Discuss the importance of scm. .

Q.2 (a) What is inbound & out bound logistics ?
(b) Discuss basic elements of waiting line situations.

Q.3 (a) Give the advantage of MRP.
(b) What is just-in-time?

Q.4 (a) Explain the different methods useful for decision making under uncertainty.
(b) Explain the terms
i) Key decision
ii) Objective
iii) Constraints in the context of linear optimization models

Q.5 Find the initial basic feasible solution to the following transportation problem by north west corner rule.

	To			Supply
	2	7	4	5
	3	3	1	8
	5	4	7	7
From	1	6	2	14
Demond	7	9	18	

Q.6 (a) Give the mathematical formulation of an assignment problem. Explain how to view the problem in terms of an LPP set-up .

Q.7 (a) Explain bullwhip effect in SCM system
(b) Define saddle point in a game ? Explain.

Q.8 (a) Define lead time variance & safety stack in inventory management. Explain.?
(b) Define multiple server model in queuing system explain.

Enrollment No.....

Diploma in Engineering (Polytechnic)
Seventh Semester Examination, December 2021
Automobile Engineering [ME705]
Branch-ME

Time: 3:00 Hrs **Max Marks 70**

Note : Student should not write anything on question paper. Attempt any five questions out of eight.

Q.1 (a) Explain the working of petrol engine with neat sketch?

(b) Explain the working of carburetor?

Q.2 (a) What is battery rating and list commonly used battery rating?

(b) Give a brief overview of low emission norm.

Q. 3 (a) With the help of neat sketch explain the function of following
i) Bumper ii) Frames
(b) What is crank case blower how it is controlled?

Q.4 (a) What is the function of required and requirement of starting sisters
(b) With neat sketch explain various part of headlight assembly of a car ?

Q.5 (a) Define the following
i) Samber angle (CAMBER ANGIL)
ii) Caster angle
iii) King pin inclination
iv) Toe in
(b) Define briefly the working of a hydraulic torque converter

Q.6 (a) Give the simplified diagram of independent front suspension ?

(b) With the help of line diagram explain construction and work of a viper and horn in an automobile?

Q.7 (a) What are the function of clutch explain briefly the principle of operation of a clutch?
(b) What in transfer case with the help of schematic figure short the position of transfer case in four wheel drive vehicle.

Q .8 (a) Explain the need and working of EGR system for controlling NOx formation?
(b) Enlist the Admission that are considered significant for measurement and performance studding?

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, December 2021
Work Study & Ergonomics [ME-701(C)]
Branch: ME

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.

Q.1 (a) Explain techniques of work measurement ?

(b) What are the different types of wage system ? Explain in brief ?

Q.2 (a) Explain how an over use injury may occur ?

(b) Discuss the methods of job analysis ?

Q.3 (a) Define work study and explain the need for work study in an enterprise.

(b) What should method study come first ? State the procedure of method study ?

Q.4 (a) Discuss the different warning signals ?

(b) What are motion system ? briefly Describe MOST.

Q.5 (a) What are work factor system ? Explain ?

(b) What are the methods of recording time for generating stardard data give their advantage and limitation ?

Q.6 (a) Write down the types of visual display ?

(b) What are the characteristics of ergonomics ?

Q.7 (a) Write short note on taylor's . Incentive scheme ?

(b) Broadly give tragedy of work sampling ?

Q.8 (a) What are the objectives of method study ?.

(b) Write down the visual indicators and working signals ?

Enrollment No.....

Bachelor of Engineering
Seventh Semester Main Examination, December 2021
Renewable Energy System [ME-702]
Branch: ME

Time: 3:00 Hrs **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.

Q.1 (a) What is the use of pyrheliometer and pyranometer.

(b) Describe the principle of pyrheliometer.

Q.2 (a) Explain operation and maintenance of biogas plant ?

(b) Describe solar cooling and refrigeration ? in details.

Q.3 (a) At state classification and characteristics of fuel cells.

(b) State principle of "Ocean wane energy" and " Tidal energy" conversion.

Q.4 (a) Briefly compare types of hydro turbines.

(b) Write short not on hydrogenous production and storage.

Q.5 (a) At state its working principle . draw SOFC fuel cell.

(b) Discuss the method of collecting wind data and estimation of energy.

Q.6 (a) What are the factors Affecting the generation of biogas. also diagram.

Q.7 (a) Discuss any two commercial method for hydrogens production .
(b) Describe with neat diagram the principle of solar Air heater.

Q.8 Short note on (any two)
(i) Solar stells (ii) Ocean energy conversion
(iii) Selection of hydro turbines.