

Code: 20ME2601B

**III B.Tech - II Semester – Regular / Supplementary Examinations
APRIL 2024**

**HUMAN FACTORS IN ENGINEERING
(Common to All Branches)**

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level

CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Explain the psychological capabilities and limitations.	L2	CO1	7 M
	b)	Summarize the concept of Human Factors Engineering and Ergonomics.	L2	CO1	7 M
OR					
2	a)	Discuss about Respiration, Pulse rate and blood pressure during physical work.	L2	CO1	7 M
	b)	What is the physical work capacity and explain the evaluation of work capacity test.	L2	CO1	7 M
UNIT-II					
3	a)	Demonstrate anthropometry. List any four anthropometric measurements.	L2	CO2	7 M

	b)	Why is anthropometric in industrial design important? Explain.	L2	CO2	7 M
OR					
4	a)	Explain why ergonomics is important in the workspace.	L2	CO2	7 M
	b)	Interpret the Limitations of anthropometric data.	L2	CO2	7 M
UNIT-III					
5	a)	What is the machine control and what are the uses of multiple displays? Explain.	L2	CO3	7 M
	b)	Explain the major controls used in automobiles.	L2	CO3	7 M
OR					
6	a)	How to design of office furniture and also explain how to redesign of instruments.	L2	CO3	7 M
	b)	What is the design for shift work and explain the best shift pattern for working?	L2	CO3	7 M
UNIT-IV					
7	a)	Illustrate how does lighting affect employees?	L3	CO4	7 M
	b)	What are the reactions to colors? And explain about color continuation.	L2	CO4	7 M
OR					
8	a)	Summarise the purpose of indirect illumination. List some of the examples of indirect lighting.	L2	CO4	7 M

	b)	Explain special purpose lighting for illumination and quality control.	L2	CO4	7 M
UNIT-V					
9	a)	Discuss the noise analysis and cite where we use noise reduction?	L2	CO4	7 M
	b)	Explain the hearing protection importance at work place.	L2	CO4	7 M
OR					
10	a)	Explain the performance annoyance of noise and interface with communication.	L2	CO4	7 M
	b)	What is called vibration? Explain performance effect of vibration.	L2	CO4	7 M