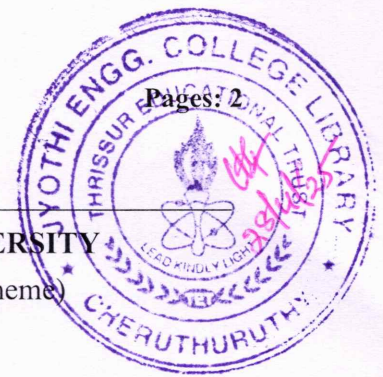


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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (R,S) Exam April 2025 (2019 Scheme)

Course Code: MRT456

Course Name: ERGONOMICS

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

- | | | |
|----|--|-----|
| 1 | Explain the chances of human variability in ergonomics. | (3) |
| 2 | Write a short description on the concept of design to everyone. | (3) |
| 3 | Explain about work surface design. | (3) |
| 4 | Explain about the work space factors which exacerbate postural stress in manual handling. | (3) |
| 5 | List out the methods of worker protection in extreme climates. | (3) |
| 6 | Write a short note on building sickness syndrome. | (3) |
| 7 | Explain the importance of virtual environments in ergonomics. | (3) |
| 8 | Explain about visual fatigue. | (3) |
| 9 | List out the advantages and disadvantages of human centred design process for interactive systems. | (3) |
| 10 | List the various steps needed for an ergonomic approach to design. | (3) |

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

- 11 With the help of suitable sketches and graphs, explain in detail about the causes (14)
and preventive measures of low back pain.

OR

- 12 Draw and explain in detail about human machine system. (14)

Module II

- 13 Prepare a detailed note on Visual display terminal design. (14)

OR

- 14 Explain the design of a handle with neat sketches. (14)

Module III

- 15 Which are the factors affecting the physical work capacity? Explain each one in (14)
detail.

OR

- 16 Explain in detail about the protective methods against extreme climate. (14)

Module IV

- 17 What are the factors to be considered to meet the visual comfort in a work place? (14)
List out and explain in detail about the various factors.

OR

- 18 a) Explain the measures to be taken on industrial noise control. (8)
b) Prepare a short note on the design of controls. (6)

Module V

- 19 Explain in detail about the cross-cultural considerations in ergonomic design. (14)

OR

- 20 Write a detailed note on human-computer interaction. (14)
