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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **09ME255** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **Computer Workstation Ergonomics** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | List the one professional organization of ergonomics in United Kingdom. | 1 |
| 2. | Give the meaning of the following Greek terms. a. Ergon b. Nomos | 1 |
| 3. | What is Biomechanics? | 1 |
| 4. | Name any two new measurement techniques used for collecting anthropometric data. | 1 |
| 5. | Name any two sensors of the human body. | 1 |
| 6. | What is response time? | 1 |
| 7. | Name some data entry devices used in computer workstations. | 1 |
| 8. | Define Job content. | 1 |
| 9. | Write the list of four large population groups which are of special concern to ergonomists. | 1 |
| 10. | Define “disability”. |  |
| **PART- B(5 X 3= 15 MARKS)** | | |
| 11 | Discuss in brief the various Ergonomic directions in Europe. | 3 |
| 12 | Define the following terms which are used in classical anthropometry: i) Height ii) Breadth iii) Depth. | 3 |
| 13 | Write short notes on the three types of reflexes. | 3 |
| 14 | Draw a block diagram and show the interactions among person, task, workstation design and performance. | 3 |
| 15 | Give general guidelines for design workstations for aging vision. | 3 |
| **PART- C 5 X 15= 75 MARKS)** | | |
| 16. | Write about few professional organizations in the world and mention their activities in detail. | 15 |
| (OR) | | |
| 17. | With a diagram, explain the development from basic sciences to applied disciplines in ergonomics. | 15 |
| 18. | With neat sketches show the concept of “preferred” working zones of upper and lower arm of a hand. | 15 |
| (OR) | | |
| 19. | Discuss the muscular system of a human body in detail with neat sketch. | 15 |
| 20. | Using block diagrams explain how one can model human as a processor of signals and explain the “Signal loop” for human under the following headings:   1. The human processor (5) 2. Energy input side (5) 3. Energy output side (5) | 15 |
| (OR) | | |
| 21. | Describe the stress experienced by and individual and groups. Discuss. | 15 |
| 22. | Discuss the sit and stand-up ergonomics computer workstation design procedure. Use necessary sketches. | 15 |
| (OR) | | |
| 23. | Discuss the problems and solutions involved with designing the Motoric and Visual interface for computer workstation. | 15 |
| 24. | Discuss the needs for making special ergonomic designs for women and men, under the topics given below:   1. Size and strength (5) 2. Sensory abilities (5)   c. Copying with environmental stress (5) | 15 |
| (OR) | | |
| 25. | What are the factors to be considered to design the computer workstation for pregnant women? With neat sketch explain the procedure. | 15 |