



Reg. No.

INTERNATIONAL CENTRE FOR APPLIED SCIENCES
(Manipal University)
II SEMESTER B.S. DEGREE EXAMINATION – JUNE 2016
SUBJECT: HUMAN FACTORS IN ENGINEERING & DESIGN (HS 121)
(BRANCH: E&C / E&E/ MECH / IP / AVI)
FRIDAY, 17th JUNE, 2016

Time: 3 Hours

Max. Marks: 100

✓ **Answer ANY FIVE full Questions.**

1A. Expand the following acronyms.

- IIE.
- OSHA
- MTTF
- IEA

1B. Answer the following very briefly.

- What are exteroceptors?
- What is bandwidth?
- What is diopter?
- What is JND?
- Write Murrell's Formula?
- What is work surface height?
- What is samotography?
- What is Kyphotic?

1C. Explain man-machine-Environment interaction with the neat illustration.

(02+08+10)

2A. Compare and contrast man and machine capabilities.

2B. Discuss the characteristics of system approach.

2C. What are biases in decision making?

(08+06+06)

3A. Briefly discuss different types of information

3B. Explain the different stages of information processing with neat illustration?

3C. What are the difference between capabilities of Eye and Camera.

(06+08+06)

- 4A. List out different visual capabilities and explain three of them with relative examples.
- 4B. What are the guidelines to be followed to select analog displays?
- 4C. Explain when auditory displays are used/not used with examples? (08+06+06)
- 5A. Explain different types of auditory displays with relevant examples?
- 5B. List out and explain any three human functions in reception of auditory displays.
- 5C. Explain the relationship between Stress and Performance. (06+08+06)
- 6A. Explain the factors affecting the energy expenditure?
- 6B. Explain the relationship between strength and endurance.
- 6C. List different of types of controls and explain any two of them with relevant examples. (08+06+06)
- 7A. List out the factors affecting design of control and explain any three of them.
- 7B. List out primary uses of Anthropometric data and explain any of two applications with relevant examples.
- 7C. Define and explain work space dimensions. (08+06+06)
- 8A. Explain a horizontal workspace area with help of a neat illustration
- 8B. Discuss the implications of work space heights for different working situations.
- 8C. List out the guide lines in arranging the components and explain any two of them. (06+08+06)

