

8E1940

Roll No. _____

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B. Tech. VIII-Sem. (Main/Back) Exam. April-2026

Open Elective-II

8AN6-60.2 Factor of Human Interactions

Time: 3 Hours

Maximum Marks: 70

Instructions to Candidates:

Attempt all ten questions from Part A, five questions out of seven questions from Part B and three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. NIL

2. NIL

PART - A

[10×2=20]

(Answer should be given up to 25 words only)

All questions are compulsory

- Q.1 What is meant by human error? Give one example.
- Q.2 Define attention and perception.
- Q.3 What is claustrophobia?
- Q.4 Define peer pressure with an example.
- Q.5 How does stress affect human performance? Mention any two effects.
- Q.6 How do noise and illumination affect human performance? Mention any two reasons.

Q.7 How do alcohol and drugs influence work efficiency? Mention any two reasons.

Q.8 Why is communication important in teamwork?

Q.9 Why is it important to consider human factors in engineering systems?

Q.10 Mention any two methods to prevent hazards in the workplace.

PART – B

[5×4=20]

(Analytical/Problem solving questions)

Attempt any five questions

Q.1 Discuss the effects of shift work and sleep deprivation on human efficiency. -

Q.2 Discuss attention, perception and information processing in human performance.

Q.3 Explain the role of motivation, peer pressure and culture in workplace performance.

Q.4 Explain the factors affecting human performance such as stress, workload, and fatigue.

Q.5 Discuss the impact of repetitive tasks and complex systems on human efficiency. <https://www.pyqonline.com>

Q.6 Explain different types of human errors and their implications in the workplace.

Q.7 Explain the importance of communication within and between teams.
Discuss methods of effective communication.

PART – C

[3×10=30]

(Descriptive/Analytical/Problem Solving/Design Questions)

Attempt any three questions

Q.1 Explain the concept of human factors and discuss their importance in engineering systems. Also discuss incidents caused by human error.

Q.2 (a) Explain human performance and its limitations with respect to vision, hearing and memory.

(b) Explain how physical work conditions and workplace design affect human performance.

Q.3 Discuss methods for recognizing, avoiding and managing hazards in the workplace. Also explain error models and theories?

Q.4 (a) Discuss the impact of alcohol, drugs and medication on workplace efficiency and safety.

(b) Explain how environmental factors like noise, illumination and temperature affect human performance.

Q.5 Discuss team working, leadership and supervision in improving organizational efficiency.