

- Q.8 State different types of gauges.
Q.9 State different types of sleepers.
Q.10 Define airport classifications.

PART – B

[5×4=20]

(Analytical/Problem solving questions)

Attempt any five questions

- Q.1 Define the highway alignment. Explain the requirements of an ideal highway alignment.
Q.2 Explain the desirable properties of bitumen. Compare tar and bitumen.
Q.3 Explain total reaction time of driver by 'PIEV' theory.
Q.4 Explain the term superelevation in pavement.
Q.5 Define the term extrawidening at curves and transition curves.
Q.6 Mention the requirements of an ideal permanent way.
Q.7 Explain the factors which influence the airport site selection.

PART – C

[3×10=30]

(Descriptive/Analytical/Problem Solving/Design Questions)

Attempt any three questions

- Q.1 Calculate the length of transition curve and shift using following data –
Design speed = 80 kmph and radius of circular curve is 300 metre.
Allowable rate of introduction of superelevation is 1 in 150.
Pavement width including extra widening = 7.5 metre.
Q.2 Describe the method for constructing a WBM road.
Q.3 What are the various flexible pavement design methods? Explain each one in brief.
Q.4 Define creep. What are the possible causes and effect of creep?
Q.5 What are the various factors affecting the necessary size of an airport?

7E1712

Roll No. _____

Total No. of Pages: **2****7E1712****B. Tech. VII - Sem. (Re Back) Exam., - 2025****Civil Engineering****7CE4-01 Transportation Engineering****Time: 3 Hours****Maximum Marks: 120****Min. Passing Marks: 42***Instructions to Candidates:*

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

Schematic diagrams must be shown wherever necessary. Any data you feel missing may 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. NIL2. NIL**PART – A****[10×2=20]****(Answer should be given up to 25 words only)****All questions are compulsory**

- Q.1 Enumerate different modes of Transportation.
- Q.2 State classification of Roads.
- Q.3 Define Highway alignment.
- Q.4 Define the Camber and its objective.
- Q.5 Explain super elevation in roads.
- Q.6 Define the desirable properties of Bitumen.
- Q.7 Define kerb parking and its significance.
- Q.8 Define Gauge of a railway track and its type.
- Q.9 Enumerate different types of sleepers.
- Q.10 State Airport classifications.

PART – B

[5×8=40]

(Analytical/Problem Solving Questions)

Attempt Any Five Questions

- Q.1 Discuss the merits and demerits of different road patterns. Use schematic diagram for defining road patterns.
- Q.2 How the carriageway width is decided? What are the different carriageway width adopted for different categories of roads?
- Q.3 What are different types of construction joints in concrete pavements? Explain with neat sketch.
- Q.4 Specify the material required for construction of WBM roads. What are the uses and limitation of WBM roads?
- Q.5 Explain the desirable properties of road aggregates.
- Q.6 Enlist the different materials used as ballast. Also explain the functions and requirements of good quality ballast to be used for railways.
- Q.7 Explain the factors which influence the airport site selection.

PART – C

[4×15=60]

(Descriptive/Analytical/Problem Solving/Design Questions)

Attempt Any Four Questions

- Q.1 What are the various requirements of an ideal highway alignment? Explain with Sketches the various factors controlling the alignment of roads.
- Q.2 Explain the process of introducing super elevation in a horizontal curve in the field.
- Q.3 Write construction steps for constructing a cement concrete road.
- Q.4 Describe the requirements for an ideal permanent way with neat sketch.
- Q.5 What are the various factors affecting the necessary size of an airport?
-



25310

7E1813

Roll No. _____

Total No. of Pages: 2

7E1813

B. Tech. VII - Sem. (Main / Back) Exam., Nov-Dec 2025

Open Elective - I

7CE6-60.1 Environmental Impact Analysis

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 may 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. NIL2. NIL**PART – A****[10×2=20]****(Answer should be given up to 25 words only)****All questions are compulsory**

- Q.1 What is the need for conducting EIA?
Q.2 Write the causes of land degradation.
Q.3 Differentiate between EIA and EIS.
Q.4 What is meant by point and non-point sources of water pollution?
Q.5 Define air quality index.
Q.6 What are the human health effects of carbon monoxide as an air pollutant?
Q.7 List out the causes of deforestation.
Q.8 What is meant by screening and scoping related to EIA?
Q.9 Write the impacts of development on fauna and flora.
Q.10 Write the stages in EIA.

PART – B

[5×4=20]

(Analytical/Problem solving questions)

Attempt any five questions

- Q.1 How air pollutants can affect human beings directly? Give suitable examples also.
- Q.2 What are the key elements in the EIA process? Explain in brief.
- Q.3 What is EMP? Discuss about the requirements of an EMP.
- Q.4 Discuss the importance, procedure, advantages and disadvantages of public hearing in EIA.
- Q.5 Write and discuss the criteria for the selection of EIA methodology.
- Q.6 How do you predict the impacts of the developmental activity on biological environment?
- Q.7 Briefly explain the various types of socio-economic impacts.

PART – C

[3×10=30]

(Descriptive/Analytical/Problem Solving/Design Questions)

Attempt any three questions

- Q.1 Discuss the strength, weakness and applicability of various methodologies of EIA. What are the basic criteria to select an appropriate methodology for a specific project?
- Q.2 How the cement industry causes impact on air quality and explain the mitigation measures to reduce the impact.
- Q.3 Explain the preparation of environmental management plan for a hydro-electric power plant.
- Q.4 What are the types of checklists? Explain the descriptive checklist method.
- Q.5 Explain the structure and elements of an EIA report in detail.



17042

7E1810

Roll No. _____

Total No. of Pages: 2

7E1810**B. Tech. VII - Sem. (Main / Back) Exam., Nov-Dec 2025****Open Elective - I****7AG6-60.1 Human Engineering and Safety****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 may 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. NIL2. NIL**PART – A****[10×2=20]****(Answer should be given up to 25 words only)****All questions are compulsory**

- Q.1 Define concept of systems.
Q.2 What is rehabilitation?
Q.3 Write the use of chaff cutting.
Q.4 What is the objective of Human Engineering and Safety?
Q.5 What do you mean by sensors?
Q.6 What is information processor?
Q.7 What is auditory display?
Q.8 What factors to be considered in operator workplace design?
Q.9 What do you mean by operational safety?
Q.10 What is factual display?

PART – B

[5×4=20]

(Analytical/Problem solving questions)

Attempt any five questions

- Q.1 What are the compensations for accident victim in Dangerous Machines Act?
- Q.2 What are the regulations for dangerous machine? Give the suitable example.
- Q.3 Define visual display. What are its major types?
- Q.4 What is anthropometry? Discuss it.
- Q.5 What is Dry bulb temperature, Relative humidity and Wet bulb temperature?
- Q.6 What is convection, conduction, evaporation and radiation? Discuss it.
- Q.7 Discuss effect of heat on performance and assessment of heat stress.

PART – C

[3×10=30]

(Descriptive/Analytical/Problem Solving/Design Questions)

Attempt any three questions

- Q.1 Write the factors affecting heat stress and strain.
- Q.2 What are the methods of measurement of energy? Discuss it.
- Q.3 What is noise and vibration? How it can be measured and controlled?
- Q.4 What is ergonomics? What are its components? Discuss it.
- Q.5 Write short notes on the following -
- (i) Safety gadgets for spraying
 - (ii) Tractor and trailer operation
-