

Scheme-G
Sample test Paper-I

Course Name : Diploma in Civil Engineering Group

Course Code : CE/CS/CR/CV

Semester : Fourth

Subject Title : Transportation Engineering

Marks : 25

17418

Time:1 HRS.

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q1.A. Attempt any THREE

09 Marks

- a. Enlist any two modes of transportation and give two advantages of railways.
- b. Define the term alignment and mention any two factors affecting it.
- c. Enlist any six, rail fixtures and fastenings.
- d. State Why coning of wheel is necessary.

Q2. Attempt any TWO

08 Marks

- a. Draw a neat labeled sketches of any two types of crossings.
- b. Define creep. Mention causes of creep.
- c. What is track maintenance? Why is it necessary?

Q3. Attempt any ONE

08 Marks

- a. List types of rail gauges and compare them on the following points:
i) Cost ii) Suitability iii) Gauge distance iv) Maintenance.
- b. Classify bridges on the basis of their functions, life, span and materials.

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Sample test Paper-II

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Course Code : CE/CS/CR/CV

Semester : Fourth

Subject Title : Transportation Engineering

Marks : 25

17418

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5. Preferably, write the answers in sequential order

Q1.A. Attempt any THREE

09 Marks

- a. Define the terms tunnel and 'tunnel engineering'.
- b. Define the terms 'bridge', 'culvert' and 'causeway'.
- c. Define shaft and write two purposes of shaft in tunnels.
- d. Make comparison between permanent bridges and temporary bridges based on cost and time required of construction.

Q2. Attempt any TWO

08 Marks

- a. Classify tunnels based on shape and based on purpose. Draw four types of shapes of tunnels used in highways.
- b. Name methods used for tunneling in soft rock. Explain any one with neat sketch.
- c. Enlist types of movable bridges. Draw sketch of double bascule bridge.

Q3. Attempt any ONE

08 Marks

- a. Write eight points to be considered for inspection of bridges.
- b. Draw plan and sectional elevation of a bridge across a river with three piers, one abutment pier, two abutments and splayed wing walls. name all other components provided

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Sample Question Paper

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Q1.A. Attempt any SIX

12 Marks

- a. Enlist four modes of transportation.
- b. Write two points in favour of provisions of roadways as compared to railways.
- c. State importance of cross drainage works in transportation.
- d. Define coning of wheels.
- e. Enlist four types of yards.
- f. Define the terms 'afflux' and 'scour'.
- g. Define the terms 'effective span' and 'clear span'.
- h. Write two advantages of tunnels.

Q1.B. Attempt any TWO

08 Marks

- a. Explain sub structure and super structure components of a bridge.
- b. Write the points to be considered while selecting the type of foundation of a bridge.
- c. Draw neat sketch of suspension bridge and name the component parts of it.

Q2. Attempt any FOUR

16 Marks

- a. Write eight factors affecting rail alignment.
- b. Define gauge. Show it in sketch. Mention types of rail gauge with their gauge length.
- c. What is marshalling yard? State its four function.

- d. Draw a sketch of junction with double main line and single branch line.
- e. Write eight data required to be collected for construction of a bridge over a perennial river.
- f. Define culvert. Mention its types. Draw sketch of any one.

Q3.Attempt any TWO

16 Marks

- a. Draw a cross section of broad gauge double line railway track and name eight component parts.
- b. Draw line sketches of points and crossing, scissor cross over and diamond crossing.
- c. Classify gradient in railways. Write four purposes of providing gradient in railway line.

Q4.Attempt any TWO

16 Marks

- a. Write eight factors affecting selection of site of a bridge with their importance.
- b. Draw plan and sectional elevation of a bridge across a river with two piers, one abutment pier, two abutments and return wing walls.name all other components provided.
- c. Suggest suitable bridge to be constructed across a river similar to Godavari to accommodate a floating population of 4 Lakh people during religions congregation. Write their types & draw its sketch with component parts.

Q5.Attempt any TWO

16 Marks

- a. Classify tunnels based on shape and based on purpose. Draw four types of shapes of tunnels used in highways.
- b. Name methods used for tunneling in hard rock. Explain any one with neat sketch.
- c. Define tunnel lining. Name any four materials used for lining with their advantage.

Q6.Attempt any FOUR

16 Marks

- a. Define causeway and write situations where causeway are provided. Mention its types.
- b. Write two advantages and two disadvantages of tunnel construction.
- c. Write four points regarding necessity of tunnels.
- d. What types of survey is required during tunnel construction including laying its center line. Explain.
- e. Draw a neat sketch of segmental type tunnel for a single line of railways. Show excavation lines, cement grouting, concrete lining and side drain in it.
- f. What is the necessity of ventilation of tunnels, write four points.name methods of ventilation?