

Total No. of Questions – [5]

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G.R. No.	
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Paper Code: U117-103 (RE-FF&F)

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DECEMBER 2017 / ~~ENDSEM~~ EXAMINATION
F. Y. B. TECH. (COMMON) (SEMESTER - I)

COURSE NAME: Basic Civil Engineering. COURSE CODE: U117-103
(2017 PATTERN)

Time: [2 Hours]

[Max. Marks: 50]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4 and Q.5
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data wherever required and state them clearly
- 5) Neat sketches/ diagrams must be drawn wherever necessary.

- Q.1 (a)** With reference to water transportation state the meaning (Definition) of
(i)harbour, and (ii)dock. Briefly explain 4 factors that govern selection of
site for a harbour. [6 marks]
- (b)** State 3 differences each between: (i)Flexible Pavement – Rigid Pavement,
and (ii)Beam (Girder) Bridge – Suspension Bridge. [6 marks]
- (c)** Briefly discuss significance of infrastructure engineering. [4 marks]

OR

- Q.2 (a)** State 3 advantages and 3 disadvantages of each of the following:
(i)Air transportation, & (ii)Intelligent Transportation System. [6 marks]
- (b)** Briefly explain 6 factors considered for selecting suitable site for a bridge. [6 marks]
- (c)** Write 8 points of comparison between roadways and railways. [4 marks]
- Q.3 (a)** Draw neat schematic diagram of a typical water supply system and briefly
explain its four components (i.e. Works or Units in it). [6 marks]
- (b)** What is meant by noise pollution? State 3 ill-effects of noise pollution on
humans and 3 ways of reducing or controlling noise pollution. [4 marks]
- (c)** Write a note on 'Solid Waste Management'. [4 marks]

OR

Q4 (a) What is meant by 'water pollution'? State 4 sources of water pollution.

Suggest 3 control measures to reduce water pollution. [6 marks]

(b) State 2 advantages and 2 disadvantages (Drawbacks) of the following:

(i) Earthen dam, and **(ii)** Roof top rain Water Harvesting. [4 marks]

(c) What is meant by 'e-wastes'? Write various e-wastes with their sources and ways of managing them. [4 marks]

Q.5 Attempt following multiple choice questions. **Rewrite the sentences 'a' to 't' and the most appropriate option as your Answer.**

- a) Which of the following is not a relevant major area of Civil Engineering for construction of a bungalow? [1]
(i) Surveying & Planning (ii) Geotechnical & Foundation Engg.
(iii) Construction Management (iv) Transportation Engineering
- b) is not an application of Transportation Engineering. [1]
(i) Design of curves (ii) Ports & Harbours
(iii) Location of stations (iv) Flyovers
- c) Knowledge of Environmental Engineering is required for [1]
(i) Foundation design (ii) Tunnel construction
(iii) Bridge design (iv) Construction of a dam
- d) Identify proper sequence of steps needed for proposed construction of a multistoreyed building. [1]
(i) Surveying & Planning, Estimation, construction, Design
(ii) Estimation, foundation design, maintenance, construction
(iii) Structural design, Surveying & Planning, valuation
(iv) Surveying & Planning, Structural design, Estimation
- e) Structural Engineering is LEAST relevant for [1]
(i) Foundation design (ii) Beam design
(iii) Failure analysis (iv) Design of a dam
- f) A structure in which the loads are transferred mainly through walls, is called [1]
(i) Completely walled structure (ii) Load Bearing structure
(iii) Composite structure (iv) Framed structure
- g) are used for construction of masonry. [1]
(i) Stones (ii) Bricks
(iii) Neither A nor B (iv) Both A and B
- h) Mortar is a mixture of, and adequate amount of water. [1]
(i) Cement, lime (ii) Cement, sand
(iii) Cement, coarse aggregate (iv) Cement, fly ash
- i) Which of the following material is **not** used for flooring? [1]
(i) Concrete (ii) Stone (iii) Brick (iv) None of these
- j) Mild steel bar with yield strength of 250 N/mm² is designated as [1]
(i) MS 250 (ii) Fe 250 (iii) ST 250 (iv) MSB 250

- k) is unavoidable for measuring length of a survey line if [1]
there is an obstacle like hillock between the end stations.
(i)Reciprocal Leveling (ii)Reciprocal Ranging
(iii)Planimetry (iv)Hand Signaling
- l) Identify INCORRECT statement with respect to 'swing offsets'. [1]
(i)They are oblique offsets
(ii)They are perpendicular offsets
(iii)They are taken using least distance method
(iv)They are measured using metal wired tape
- m) An Engineer's scale of 1 mm = 50 m means R.F. of [1]
(i)1:500 (ii)1:5000 (iii) 1:50000 (iv)None of these
- n) Horizontal Equivalent on a contour map means..... [1]
(i)Distance between staff stations
(ii)Estimated interval between staff stations
(iii)Distance between successive contours
(iv)RL difference between successive contours
- o) Staff readings on stations A and B in a leveling work are [1]
measured as 2.095 m and 3.360 m. Hence there is a
(i)A rise from A to B (ii)A fall from A to B
(iii)A valley from A to B (iv)A valley from B to A
- p) Building planning principle circulation deals with [1]
(i)Movement of fresh air (ii)Movement of persons
(iii)Positions of windows (iv)Positions of fans
- q) Total built-up area on a plot of size 12 mx15 m is 90 m². [1]
Hence FSI consumed (utilized) is
(i)2.5 (ii)2.0 (iii)1.8 (iv)0.5
- r) Roominess as a planning principle is said to be best if [1]
(i)Length to breadth ration for room is 1 to 1.2
(ii)Length to breadth ration for room is 1.2 to 1.5
(iii)Length to breadth ration for room is 1.8 to 2.5
(iv)Length to breadth ration for room is 1
- s) Which of the following is not a green building (Construction) [1]
principle?
(i)Prospect (ii)Design (iii)Durability (iv)Water conservation
- t) Which of the following is NOT a component of smart city? [1]
(i)Circulation (ii)Adequate power supply
(iii)Sustainable environment (iv)Robust IT connectivity
