

G.R. No.

Paper Code :- U117-103 (BE-FF&amp;F)

MARCH / APRIL 2018 – Backlog Exam

F. Y. B. TECH. (COMMON) (SEMESTER - I)

COURSE NAME: Basic Civil Engineering; COURSE CODE: CV11173

(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) Neat sketches/ diagrams must be drawn wherever necessary.

**Q.1 (a)** Explain roadways with reference to: (i) Accident rate, (ii) Initial and maintenance cost, (iii) cost of transport, (iv) Employment potential, (v) load carrying capacity, and (vi) customer convenience. [6 marks]

- (b)** Clearly explain: (i) Dock and state its types, [6 marks]  
(ii) Six factors considered for selection of site for a proposed Airport. [6 marks]  
**(c)** Briefly explain advantages of Metrorail and Bullet Train. [4 marks]

**OR****Q.2 (a)** Explain the following:

- (i) Types of bridges, and (ii) Intelligent Transportation System. [6 marks]  
**(b)** Briefly explain 6 factors for selecting alignment for road. [6 marks]  
**(c)** Explain 4 points considered for selecting a site for Bridge. [4 marks]

**Q.3 (a)** State and briefly explain its two components (Works or Units) of a typical water supply system. [6 marks]

- (b)** State 4 ill-effects of water pollution on human beings. Also state 4 ways of controlling water pollution. [4 marks]  
**(c)** Enlist 4 advantages and 4 drawbacks of gravity dams [4 marks]

**OR**

**Q.4 (a)** Briefly explain two components (Works or Units) of a typical sewage treatment plant. [6 marks]

- (b)** Explain **with sketch** need of water conservation. [4 marks]  
**(c)** Write a note on 'Noise Pollution'. [4 marks]

**Q.5** Attempt following multiple choice questions.

- a) Which are most relevant major areas for a proposed flyover? [2]  
(i) Surveying & Planning, Transportation Engineering  
(ii) Environmental Engineering, Construction Management  
(iii) Water Resources Engineering, Geotechnical Engineering  
(iv) Fluid Mechanics, Transportation Engineering
- b) Design of members and factor of safety are studied in ..... [2]  
(i) Structural Engineering, Earthquake Engineering  
(ii) Construction Management, Environmental Engineering  
(iii) Irrigation Engineering, Transportation Engineering  
(iv) Environmental Engineering, Transportation Engineering
- c) Study of rainfall, its analysis, design of dam and canal are [2]  
considered in .....  
(i) Environmental Engineering  
(ii) Transportation Engineering  
(iii) Earthquake Engineering  
(iv) Hydraulics and Hydrology
- d) Smart materials are those which ..... [2]  
(i) are very costly and imported  
(ii) exhibit significant change of its property due to variation in temperature, pressure, etc.  
(iii) Neither i nor ii  
(iv) Both i and ii
- e) Meaning of **CM 1:4** is ..... [2]  
(i) 1 part cement: 4 parts of water  
(ii) 1 part cement: 4 parts of coarse aggregate  
(iii) Neither i nor ii (iv) Both i nor ii
- f) Which is **NOT** a type of pre-stressed concrete? [2]  
(i) Post-tensioned (ii) Pre-tensioned  
(iii) Ferrocement (iv) Neither of these three
- g) ..... is not a correct (valid) type of offset in Surveying. [2]  
(i) Short offset (ii) Swing offset  
(iii) Reduced offset (iv) Perpendicular offset
- h) Contour is defined as ..... [2]  
(i) Accurate bench marks used for leveling  
(ii) Line joining stations of equal R.L.s  
(iii) Line joining all bench marks  
(iv) Very accurate R.L.s
- i) Building planning principle Circulation deals with ..... [2]  
(i) Positions of rooms with respect to specific directions  
(ii) Movement of persons from one room to the other  
(iii) Providing undisturbed working conditions for a room  
(iv) Provision of sufficient fans, light and ventilation
- j) F.S.I. for a building is the ratio of ..... [2]  
(i) Wall area and plot area (ii) Total built-up area and plot area  
(iii) Both i and ii (iv) Neither i nor ii

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