Paper Code – U117 - 103 (T1)

Total No. of Questions – [4] Total No. of Printed Pages 02

G.R. No.	

SEPTEMBER 2017 / IN - SEM EXAMINATION (T1)

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

COURSE NAME: BASIC CIVIL ENGINEERING

(2017 PATTERN)

[Time: 1 Hour] [Max. Marks: 30]

Instructions to candidates:

1) **Answer Q.1 OR Q.2, Q.3 OR Q.4.**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed.**
4) **Assume suitable data wherever necessary and state them clearly.**

Q.1) **(a)** State two relevant basic (Major) areas of Civil Engineering for each of the following applications.

(i) Dividing a land in to plots and construction of compound wall,
(ii) Major repair of a concrete dam and its spillway,
(iii) Selection of type of foundation and concrete mix design for it,
(iv) Structural repair of a tower that has differential settlement,
(v) Treatment of water and measuring its flow through the channel,
(vi) Repair of an overhead water tank. [6]

(b) State the meaning of infrastructure development. Summarize the need of developing proper transportation sector for the 21st century with appropriate examples. [6]

(c) Briefly explain the role of Civil Engineer for 'Electronics and Telecommunication Engineering' branch. [4]

OR

Q.2) **(a)** Explain the need of development of the following with respect to infrastructure development:

(i) Power sector,
(ii) Water management,
(iii) Environmental management. [6]

(b) Identify ***four*** relevant basic areas of Civil Engineering for the construction of a ***proposed (New) dam***. Out of these four areas, explain any two areas in detail. [6]

(c) Explain briefly the ***significance of*** 'Transportation Engineering' as one of the major basic areas of Civil Engineering. [4]

(Continued on Page 2...)

Q.(3) **(a)** Give a list of ***six types*** of Concrete. Briefly explain Prestressed Cement Concrete with sketch. [6]

(b) Define Foundation. State ***any four*** functions of foundation. [4]

(c) List four advantages and four disadvantages (Drawbacks) of load bearing structure. [4]

OR

Q.(4) **(a)** List four construction materials. State two uses of each of them. [6]

(b) Briefly discuss any four characteristics of Smart materials. [4]

(c) Explain in brief four types of loads considered for buildings. [4]

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