Paper Code: ECE-801	Roll No.

B.Tech.
(SEM VIII) EVEN SEMESTER EXAMINATION, 2015-16
CONSTRUCTION TECHNOLOGY & MANAGEMENT

[Time: 3 hrs.]   **[Max. Marks: 100]**

Note:- (i) Attempt ALL questions. All question carry equal marks.
         (ii) Assume any data suitably, if required.

1. Attempt any two parts of the following:-   **[10x2=20]**

     (a) Mention a reliable and scientific method of quality control of a large project.

     (b) How the preparation and construction schedules are prepared? Discuss.

     (c) Explain the various resources required for construction works.

2. Attempt any two parts of the following:-   **[10x2=20]**

     (a) In a network shown in Fig.1 for a construction project, with the three time estimates of each activity as marked in the figure, determine:

     Expected time, standard deviation and variance of the project and show the Critical Path.

     Probability of Competition of the project in 35 days

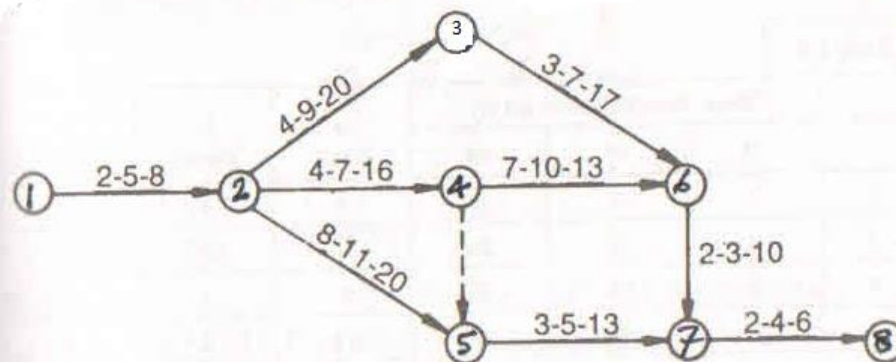   Time duration that will provide 90% probability of its competition in time

Fig. 1

     (b) What is a bar chart? Explain by drawing a bar chart of a small house construction project consisting of the following activities. Survey design and layout = 3days, construction of foundation= 5days, construction of superstructure = 11 days, Roofing = 5days, Fixing doors and Windows = 2 days, Plumbing and house drainage = 3 days, Electric fitting = 3 days, Plastering = 4 days, Flooring = 4 days, Carpentry work = 4days, Construction of boundary wall = 3 days, Land Shaping and Cleaning = 2 days, White washing of walls and painting of doors etc. = 3 days, Inauguration = 1 day.

     (c) What is meant by probability distribution curve? Differentiate clearly between normal probability distribution curve and beta distribution.

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3. Attempt any two parts of the following:- **[10x2=20]**

    (a)   What are the functions and limitations of breakeven charts? Discuss

    (b)   The initial cost of equipment is Rs 12000. Salvage Value = Rs 2000, life =5 years, i=8%. Find the depreciation for the third year and the book value at the end of the third year by the following methods.

        (i)   Decline balance method.
        (ii)   Sinking fund method.

    (c)   What are the principles of Engineering economics? Write notes on Interest and interest formulae.

4. Attempt any two parts of the following:- **[10x2=20]**

    (a)   What are the miscellaneous terms used in contracts? Discuss.

    (b)   Explain how the tender forms, documents, etc. are prepared and the comparative statements are prepared? How the contact of a project is awarded based on tender?

    (c)   Explain the conditions of contract.

5. Attempt any two parts of the following:- **[10x2=20]**

    (a)   How the selection of construction equipment is done? Discus.

    (b)   What do you understand by the economic life of construction equipment? Discuss.

    (c)   Discuss the different types of equipments types of equipments used for concreting operations.

Table 1: Standard Normal Distribution Function

Z (+)	Probability P_r %	Z (-)	Probability P_r %
+1.0	84.13	-1.0	15.87
+1.1	86.43	-1.1	13.57
+1.2	88.49	-1.2	11.51
+1.3	90.32	-1.3	9.68
+1.4	91.92	-1.4	8.08
+1.5	93.32	-1.5	6.68
+1.6	94.52	-1.6	5.48
+1.7	95.54	-1.7	4.46
+1.8	96.41	-1.8	3.59
+1.9	97.13	-1.9	2.87
+2.0	97.72	-2.0	2.28