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Total number of printed pages – 4

B. Tech  
PECI 5405

**Seventh Semester Examination – 2013**  
**ESTIMATION, COSTING AND PROFESSIONAL PRACTICE**

**BRANCH : CIVIL**

**QUESTION CODE : 190**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory and any **five** from the rest.  
The figures in the right-hand margin indicate marks.*

1. Answer the following questions : 2×10
- (a) What are the purposes of approximate estimate ?
  - (b) What is the unit for R B work and Cornice ?
  - (c) Differentiate between plinth area and carpet area.
  - (d) How will you fix up rate per unit of an item ?
  - (e) Differentiate between general overhead and job overhead.
  - (f) What do you mean by specification ?
  - (g) What are the disadvantages of open specification ?
  - (h) Write the work breakdown structure of execution of foundation of a building.
  - (i) What is the objective of project management ?
  - (j) What is PERT ?
2. Estimate the quantities of following items of work for T Beam Bridge as shown in Fig. 1 :
- (a) First class brick masonry in cement mortar 1 : 5. 5
  - (b) R.C.C. work 1 : 2 : 4 in beams, slabs, etc, excluding steel and centering and shuttering. 5

**P.T.O.**

3. Estimate the quantities of the following items of work for a building as shown in Fig. 2 :
- (a) Earth work in excavation in foundations. 5
- (b) First class brick work (1:4) in cement mortar in foundations and plinth. 5
4. A small project consists of 7 activities. The time estimate (in weeks) of different activities are given below :

Activity	1-2	1-3	1-4	2-5	3-5	4-6	5-6
$t_o$	1	11	2	1	2	2	3
$t_m$	1	12	2	3	5	5	6
$t_p$	7	13	8	5	14	8	15

- (a) Find the critical path.
- (b) What is the expected project length ?
- (c) What is the probability of not completing the project within 20 weeks ?
- (d) What is the probability of completing the project 2 weeks earlier than expected time ?

For Standard Normal Distribution Function refer Table 1.

5. (a) Give the rate analysis per cum of cement concrete in foundation 1 : 6 : 18. 5
- (b) Find out the quantity of cement and sand required for one square meter of cement plaster (1 : 6), 1.25 cm thick. 5
6. (a) Outline the detailed specification for first class brick work in cement mortar. 5
- (b) Write the general specification of a first class building. 5
7. (a) Write network rules. Explain Fulkerson's rule of node numbering. 5
- (b) What do you understand by total float ? How is it determined ? What is its importance in network planning ? Differentiate clearly between total float, free float and independent float. 5
8. Write short notes on any **two** of the following : 5×2
- (a) Centerline method of building estimate
- (b) Detailed specification for random rubble masonry
- (c) Project planning
- (d) Dummy.



