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GIET MAIN CAMPUS AUTONOMOUS GUNUPUR – 765022
B. Tech Degree Examinations, December – 2020
(Seventh Semester)
BCEPE 7041 – ESTIMATION COSTING AND PROFESSIONAL PRACTICE
(Civil Engineering)

Time: 2 hrs   Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)   **(1 x 10 = 10 Marks)**

Q.1. Answer *ALL* questions
  a. The brick work is measured in sq.metre, in case of
      (i) Honey comb brick work   (ii) Brick flat soling
      (iii) Half brick walls or the partition   (iv) All the above
  b. The concrete work for the following part of the building of specified thickness is measured in square meters
      (i) Root slabs   (ii) Floors
      (iii) Wall panels   (iv) All the above
  c. The 'centre line method' is specially adopted for estimating
      (i) Circular buildings   (ii) Hexagonal buildings
      (iii) Octagonal buildings   (iv) All the above
  d. Pick up the incorrect statement from the following:
      (i) The built up covered area at the floor level of any storey of a building is called plinth area   (ii) The usable covered area of the rooms of any storey of a building is called carpet area

      (iii) The carpet area of a building along with area of its kitchen, pantry, store, lavatory, bath room and glazed veranda, is called floor area   (iv) None of these
  e. Carpet area does not include the area of
      (i) The walls along with doors and other openings   (ii) Bath room and lavatory
      (iii) Kitchen and pantry   (iv) All the above
  f. Pick up the correct statement from the following:
      (i) The incidental expenses of a miscellaneous character which could not be predicted during preparation of the estimate, is called contingencies   (ii) Additional supervising staff engaged at work site, is called work charged establishment

      (iii) Detailed specifications specify qualities, quantities and the proportions of materials to be used for a particular item   (iv) All the above
  g. According to ISI method of measurement, the order of the sequence is
      (i) Length, breadth, height   (ii) Breadth, length, height
      (iii) Height, length, breadth   (iv) None of these
  h. The most reliable estimate is
      (i) Detailed estimate   (ii) Preliminary estimate
      (iii) Plinth area estimate   (iv) Cube rate estimate
  i. The difference between the maximum time available and the actual time needed to

perform an activity is known as

(i) Free float   (ii) Independent float

(iii) Total float   (iv) Half float

j. According to the time estimates made by the PERT planners, the maximum time that would be needed to complete an activity is called as

(i) The most likely time estimate   (ii) Optimistic time estimate

(iii) Pessimistic time estimate   (iv) Expected time estimate

PART – B: (Short Answer Questions)   (2 x 5 = 10 Marks)

Q.2. Answer *ALL* questions

a. Name the types of Estimate.

b. State E-tender.

c. Define the term arbitration

d. What is rental method of valuation?

e. Mention the advantages of PERT in project management.

PART – C: (Long Answer Questions)   (6 x 5 = 30 Marks)

Answer *ANY FIVE* questions   Marks

3. Calculate the Quantity of Material for   (6)

   (i) RCC (1:2:4) for 20 m^3 of work

   (ii) RCC (1:3:6) for 15 m^3 of work

4. Prepare bar bending schedule and calculate the quantity of reinforcement in a   (6)
   R.C.C(1:2:4) lintel as per data given below:
   Total Length of the lintel including bearing=1.50 m;
   Thickness of wall = 400 mm;
   Thickness of lintel = 150 mm;
   Main reinforcement 5 bars of 12 mm ø (out of which 2 bars are bent up near support). Top reinforcement 2 bars of 10 mm ø;6 mm ø, 2 legged stirrups are provided @175mm c/c uniformly

5. Write about purpose of specifications.   (6)

6. Write detailed specifications for Reinforced cement concrete (1:1 ½: 3) for slab.   (6)

7. How do you calculate earth work with vertical fall of the ground surface for fully in   (6)
   banking, fully in cutting and partly in banking cutting?

8. Calculate the rate for cement concrete (1:2:4) with graded stone chips from 20mm down to 6   (6)
   mm for RCC works excluding shuttering and reinforcement.

9. Following are the durations of activities of a project. Draw the network and find the critical path   (6)
   and minimum project duration.

Activity	A	B	C	D	E	F	G
Predecessors	-	-	A	B	B	C,D	E
Duration (weeks)	11	7	9	13	8	8	9

10. Crash the given network using the details given in table and find the optimum cost and least   (6)
    project duration.

Activity	Predecessor	Duration (Days)		Cost (Rs)	
		Normal	Crash	Normal	Crash
A	-	6	4	5000	6800
B	A	10	7	4000	7750
C	A	12	8	5000	8000
D	B	8	4	7000	8400
E	C	6	3	5000	6950
F	D,E	4	2	7000	7500

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