[Total No. of Questions: 09]   [Total No. of Pages: 03]
Uni. Roll No. ....

Program: **B.Tech. (Batch 2018 onward)**
Semester: **5th**
Name of Subject: **Engineering Economics, Estimation & Costing**
Subject Code: **PCCE – 110**
Paper ID: **16387**
Scientific calculator is Allowed

Time Allowed: 03 Hours   **Max. Marks: 60**
NOTE:
1) Parts A and B are compulsory
2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3) Any missing data may be assumed appropriately

Part – A   [Marks: 02 each]

Q1 (a) What do you mean by the concept of demand and supply?
  (b) Define break even analysis.
  (c) Differentiate between GDP and GNP.
  (d) Estimate the quantities of brickwork and plastering required in a wall 4m long, 3m high and 30cm thick.
  (e) What is meant by depreciation cost? How is it estimated?
  (f) Write a brief note on bid process management.

Part – B   [Marks: 04 each]

Q2 Find the rate of plain cement concrete (1:2:4) per cu. m by rate analysis. Assume suitable rates of material and labour.

Q3 Calculate the cost of carriage of 50,000 bricks by bullock carts, from a distance of 7km on kutcha road. The cart can make two trips per day and can carry 250 bricks per trip. The wages of bullock cart may be as Rs 1200/- per day including driver.

Q4 Write in brief the general specifications of a first class building.

Q5 Publish a tender for construction of hostel in your college campus.

Q6 Enlist and explain several ways in which a contract can be terminated.

Q7 Prepare bar bending schedule for a square column with an isolated footing from the following data :
Size of column = 500 mm x 500 mm   Depth below G.L = 1m
Plinth level = 40 cm below G.L.   Height of column = 4.0m
Column Reinforcement :
Longitudnal bars = 20 mm dia. Bars 8 nos
Lateral ties = 8 mm dia@ 300 mm/c/c (Double Ties)
Footing Details :
Size of footing = 3.5m x 3.5m
Thickness of footing at free end = 30 cm
Thickness of footing at free column face = 70 cm
Base reinforcement = 12 mm dia @ 200 mm c/c bothways

**Part – C**   [Marks: 12 each]

Q8 Estimate the cost of earthwork for a portion of road for 400m length from the following data:

Formation width of road is 10m. Side slopes are 2:1 in banking and 1.5:1 in cutting.

Station	Distance (m)	R.L. of ground (m)	R.L. of formation
25	1000	51.00	52.00
26	1040	50.90	
27	1080	50.50	
28	1120	50.80	
29	1160	50.60	Downward gradient
30	1200	50.70	of 1 in 200
31	1240	51.20	
32	1280	51.40	
33	1320	51.30	
34	1360	51.00	
35	1400	50.60	⇓

OR

Prepare a detailed estimate of a RCC roof slab of 3m x 6m clear spans from the drawings given below. Also prepare a schedule of bars.

R.C.C. ROOF SLAB

CROSS SECTION

PART PLAN SHOWING ARRANGEMENT OF REINFOREMENT BARS
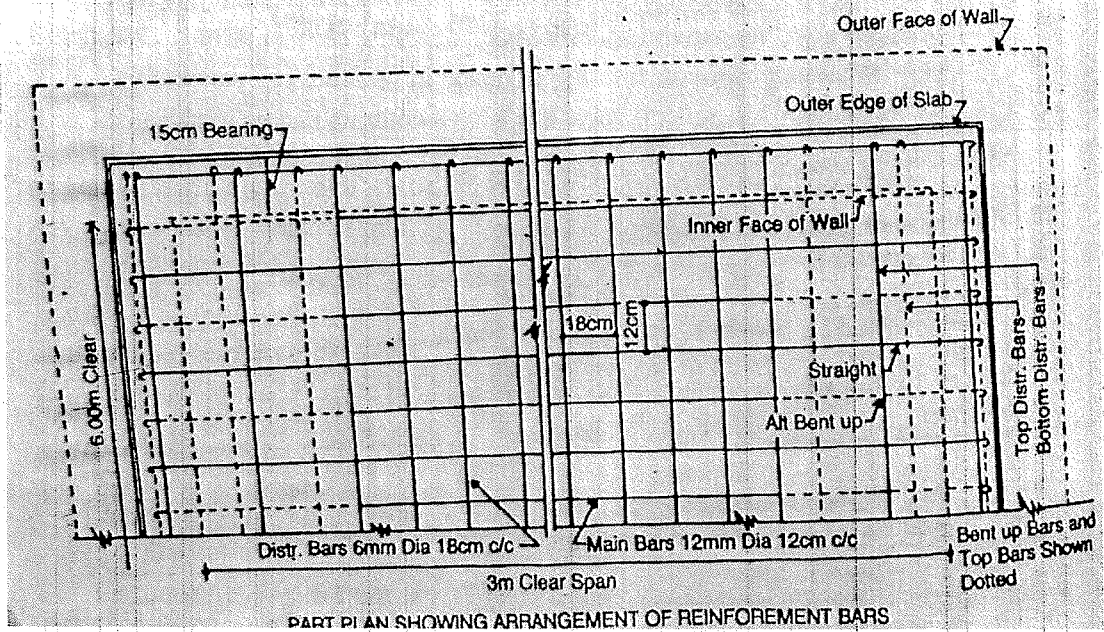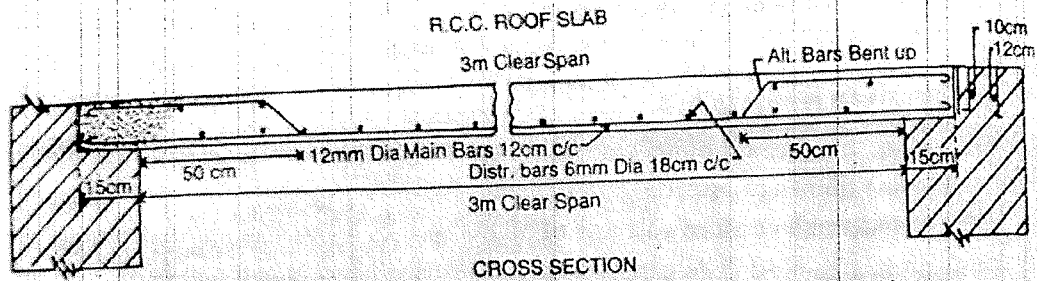
Q9 Discuss different kinds of arbitration according to Arbitration Act. What are the advantages of arbitrations over a court decision?

OR

Write in detail about the acts pertaining to minimum wages and workman's compensation and easement rights.

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