GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Seventh Semester – Regular) Examinations, November – 2023

BPCCV7010 - Estimation Costing and Professional Practice

(Civil Engineering)

Time: 3 hrs   Maximum: 70 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.

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

Q.1. Answer *ALL* questions   [CO#]   [PO#]
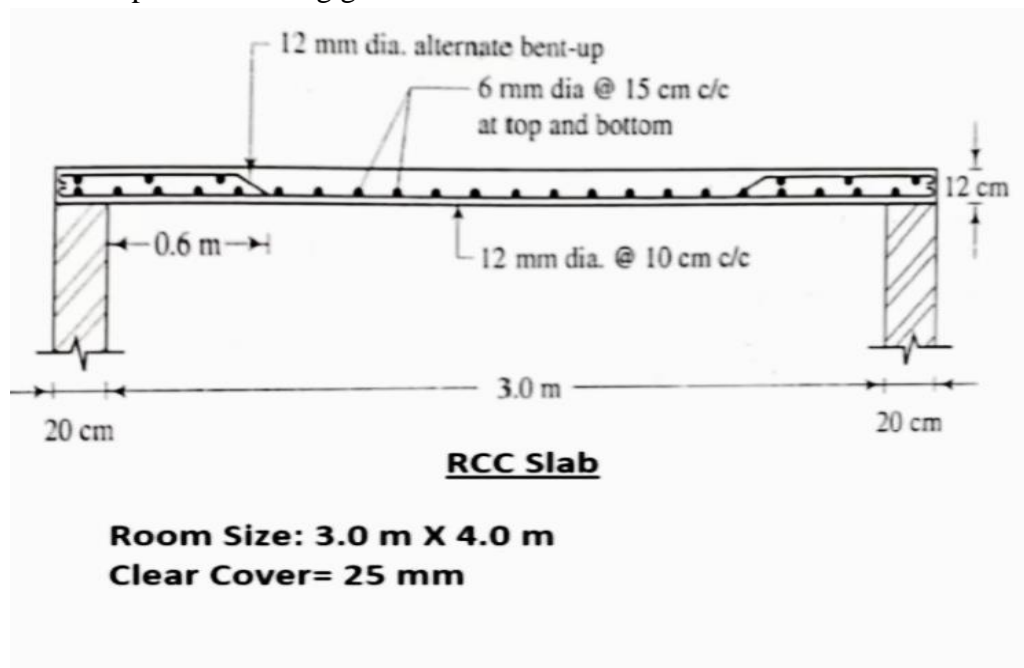
a. The most reliable estimate is   CO1   PO4
   (i) Detailed estimate   (ii) Preliminary estimate
   (iii) Plinth area estimate   (iv) Cube rate estimate

b. Pick up the item of work not included in the plinth area estimate   CO1   PO3
   (i) Wall thickness   (ii) Room area
   (iii) W.C. area   (iv) Courtyard area

c. The expected out turn of cement concrete 1 : 2 : 4 per mason per day is   CO2   PO2
   (i) 1.5 m^3 (ii) 2.5 m^3
   (iii) 3.5 m^3 (iv) 5.0 m^3

d. Formula for Stirrup-hook   CO2   PO2
   (i) 9ϕ (ii) 6ϕ
   (iii) 12ϕ (iv) 24ϕ

e. Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds   CO3   PO2
   (i)) 2.0%   (ii) 2.5%
   (iii) 4.0%   (iv) 5.0%

f. Who is the administrative head of the department   CO3   PO5
   (i) Assistant engineer   (ii) chief engineer
   (iii) Superintendent engineer   (iv) none

g. Unit weight of 12 mm ϕ bar is   CO4   PO4
   (i) 2.46 Kg/m   (ii)) 3.85 Kg/m
   (iii) 1.58 Kg/m   (iv) None of the above

h. The expected out turn for earth work in excavation in ordinary soil per workman per day is   CO4   PO2
   (i) 1.00 cum   (ii) 2.00 cum
   (iii) 3.00 cum   (iv)4.00 cum

i. Pick up the correct statement from the following: CO1   PO2
   (i) Bricks are paid per thousand   (ii) Cement is paid per 50 kg bag
   (iii) Lime is paid per quintal   (iv)All of the above

j. The measurement is not made in square metres in case of   CO2   PO3
   (i) D.P.C. (Damp proof course)   (ii) Form works
   (iii) Concrete Jaffries   (iv) R.C. Chhajja.

PART – B: (Short Answer Questions)   **(2 x 10 = 20 Marks)**

Q.2. Answer **ALL** questions   [CO#]   [PO#]

a.	State any four purposes of preparing approximate estimate.	CO1	PO3
b.	What is an Abstract Estimate?	CO1	PO3
c.	Distinguish Straight bar and Cranked bar.	CO2	PO4
d.	Why do rates change from place to place?	CO2	PO3
e.	Mention the two heads in the analysis of rates.	CO3	PO3
f.	Prepare the unit rate for Reinforced Brick work on Slabs 1:3 mortar- unit 1 cum. Take 10 Cum.	CO3	PO3
g.	List the important content in contract documents.	CO4	PO2
h.	Define (i) Administrative approval (ii) Technical sanction.	CO4	PO1
i.	Define Estimation. Why it is necessary for any construction work?	CO1	PO4
j.	Why do we revise the schedule of rates?	CO2	PO2

PART – C: (Long Answer Questions)   **(10 x 4 = 40 Marks)**

Answer **ALL** questions   Marks   [CO#]   [PO#]

3. a.	What are the various aspects involved in method of estimating? Explain the importance of each aspect.	5	CO1	PO5
b.	Explain principle units for various items of Work.	5	CO1	PO5
	(OR)			
c.	Explain the following methods (i) Long wall short wall method (ii) Centre line method	6	CO1	PO3
d.	What is the difference between preliminary estimate and detailed estimate?	4	CO1	PO3
4. a.	Workout the quantity of reinforcement by preparing bar requirement schedule of a Slab as per the drawing given below:	5	CO2	PO3

12 mm dia. alternate bent-up

6 mm dia @ 15 cm c/c
at top and bottom

12 cm

←0.6 m→

12 mm dia. @ 10 cm c/c

3.0 m

20 cm   20 cm

RCC Slab

Room Size: 3.0 m X 4.0 m
Clear Cover= 25 mm

b.	Prepare bar bending schedule and calculate the quantity of reinforcement in a 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	5	CO2	PO3

reinforcement 5 bars of 12 mm ϕ (out of which 2 bars are bent up near support) Top reinforcement 2 bars of 10 mm ϕ; 6 mm ϕ, 2 legged stirrups are provided @175mm c/c uniformly.
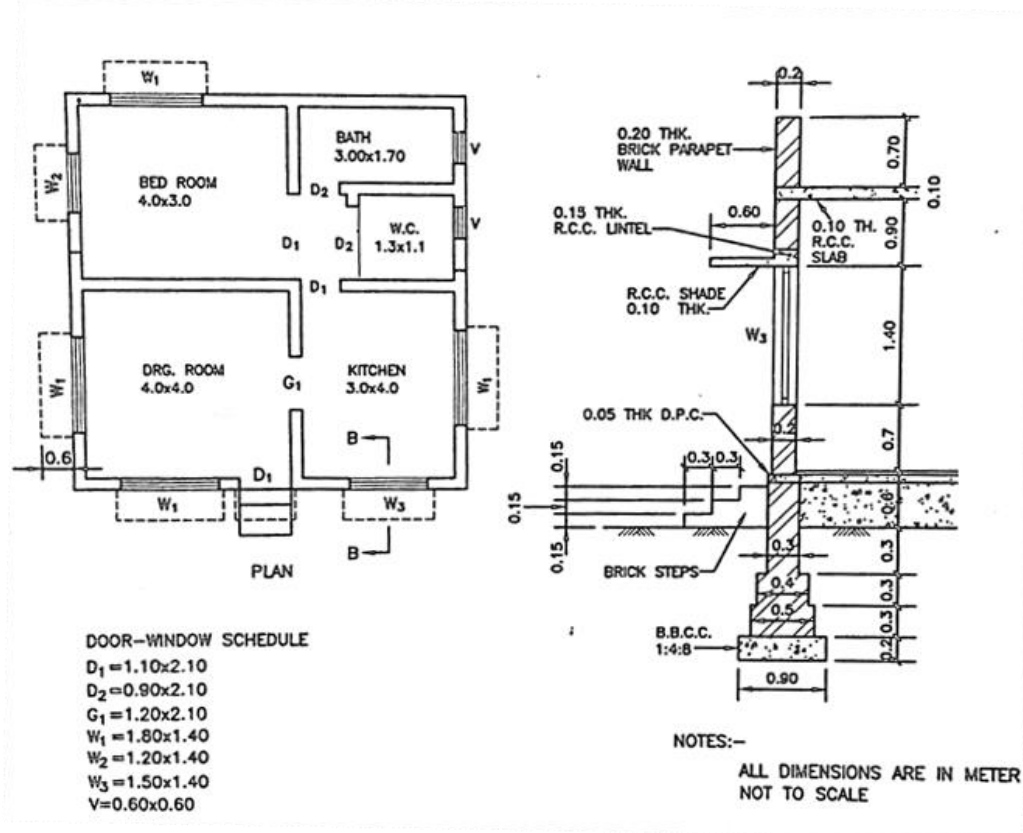
(OR)

c.	Estimate the Earth work excavation for the figure given below:	5	CO2	PO3

PLAN

DOOR-WINDOW SCHEDULE
D_1 =1.10x2.10
D_2 =0.90x2.10
G_1 =1.20x2.10
W_1 =1.80x1.40
W_2 =1.20x1.40
W_3 =1.50x1.40
V=0.60x0.60

NOTES:–
ALL DIMENSIONS ARE IN METER
NOT TO SCALE

d.	Estimate the concrete filling in foundation &Brickwork for the figure given above.	5	CO2	PO4
5. a.	Prepare the unit rate for Lime concrete in Foundation or floor with 40mm gauge stone ballast , White lime and Sand (proportion 1:2:4)unit 1cum,Take 10 cum.	5	CO3	PO3
b.	Prepare the unit rate for 1 class Brick work in Super structure with 1:3 Lime Surkhi Mortar- Unit 1 Cum. Take 10 Cum.	5	CO3	PO2

(OR)

c.	Prepare the unit rate for Brick floor 10cm thick cement pointed – unit 1 Sqm. Take 100 Sqm.	5	CO3	PO3
d.	Prepare the unit rate for R.C.C work in beams , Slabs 1:2:4 unit 1Cum. Take 10 Cum.	5	CO3	PO2
6. a.	Discuss different categories of contract in detail and differentiate them with respect to their important characteristics.	5	CO4	PO6
b.	State and Explain the various types contracts for execution of works in Government department.	5	CO4	PO4

(OR)

c.	Explain the tender notice and tender documents.	5	CO4	PO6
d.	Explain CPM in a Project Management.	5	CO4	PO4

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