Roll No. _____

END SEMESTER EXAMINATION
SEMESTER- (backlog)

COURSE CODE : CE 505 | **DURATION : 3 (THREE)HRS**
COURSE TITLE : ESTIMATION II | **MAXIMUM MARKS : 75**
SESSION : JULY-DEC.' 2021-22___ | **PASS MARKS : 35 %**

NOTE: *1. Attempt any 5 (five) questions .*
2. Mark for each question is shown against it.
3. Assume suitable logical data wherever necessary.

1. **(a)** Attempt all the given questions using Prismoidal method. **(10)**

Chainage (m)	R. L. of ground (m)	R. L. of formation width (m)
1010	100.000	101.000
1020	99.000	102.000
1030	98.000	103.000

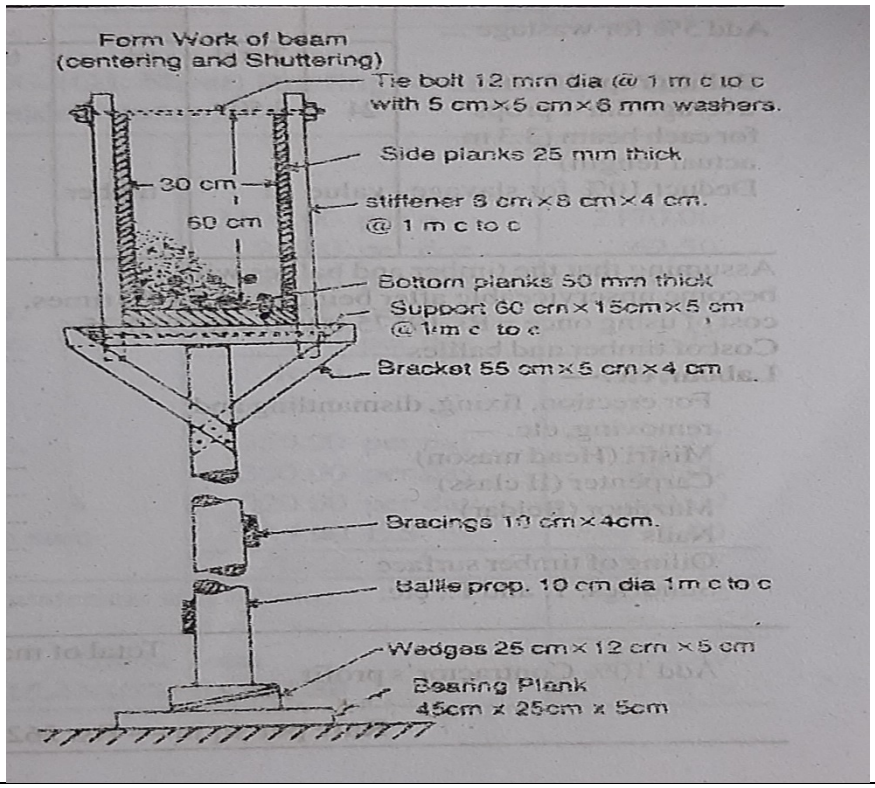
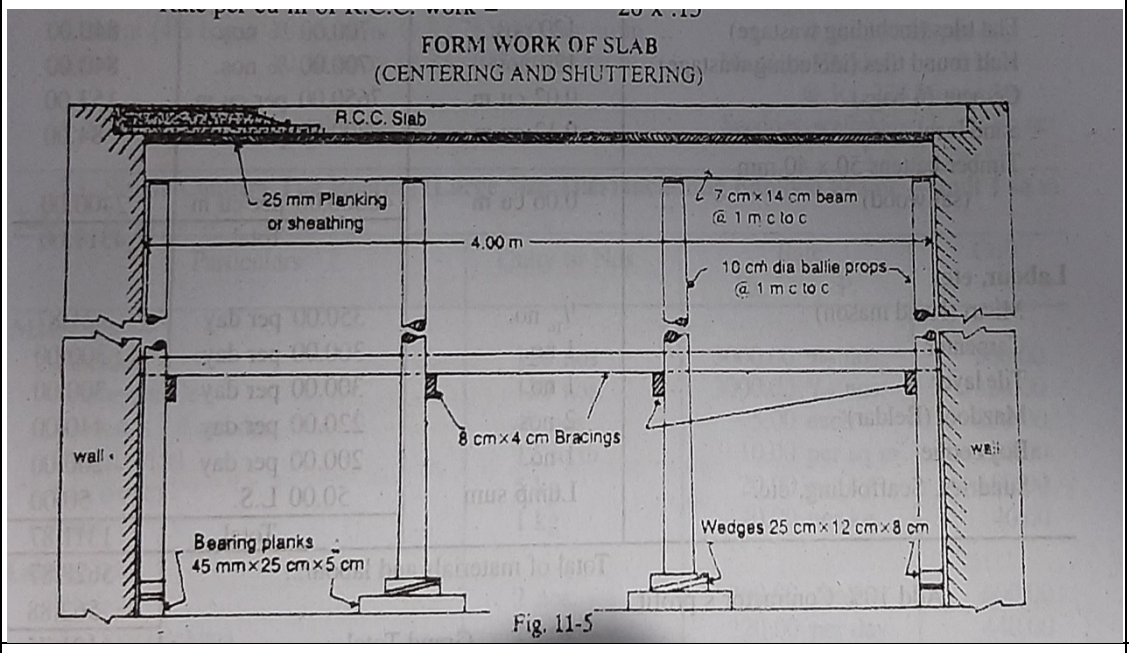
Take the width of the formation as 10 m and the side slope as 2:1.
(i) What is the nature of quantity?
(ii) What is the total sectional area?
(iii)What is the total cost if the rate is Rs. 275.00 per cu.m?
(iv)What is the total length?
What kind of a gradient of formation is present in the question?

(b) Estimate the rate analysis: **(5)**
Plain cement concrete of 1:5:10 of volume 10 m^3.
Rate of cement is 5000 per cu.m
Rate of sand is 500 per cu.m
Rate of aggregate is 100 per cu.m

2. **(a)** The following are the data of Roadwork, estimate the following using the Mid-Sectional method. **(15)**

Station	Distance (m)	R. L. of ground (m)	R. L. of formation (m)
25	1000	51.000	51.000
26	1040	50.900	Downward gradient of 1 in 300
27	1080	50.500	
28	1120	50.800	
29	1160	50.600	
30	1200	50.700	
31	1240	51.200	
32	1280	51.400	
33	1320	51.300	
34	1360	51.000	
35	1400	51.000	

Formation width of the road is 10 m and the side slopes are 2:1 in filling and 1.5:1 in cutting.
1. Calculate the total quantity of earthwork in cutting and filling.
2. Calculate the estimated cost for earthwork, if the rate is Rs. 300.00 % cu.m.

3.	**(a)**	Estimate the rate per unit of centering and shuttering of RCC beam of the following data: a) Clear span of beam is 800 cm and bearing is 25 cm.. b) Depth of beam is 60 cm. c) Breadth of beam is 30 cm. d) Height of room is 4.5 m.  	**(15)**
4.	**(a)**	Estimate the rate per unit of centering and shuttering of RCC slab of the following data: a) Room dimension is 4 m x 5 m. b) Height of room as 3.6 m.  	**(15)**

5.	**(a)**	Estimate the rate analysis: Plastering of 15 mm thick for 100 sq.m of 1:6. Rate of cement is 5000 per cu.m Rate of sand is 500 per cu.m Rate of aggregate is 100 per cu.m	**(7)**
	(b)	Estimate the rate analysis: Damp proof course of 2.5 cm thick with cement mortar of 1:4 for 100 sq.m. Rate of cement is 5000 per cu.m Rate of sand is 500 per cu.m Rate of aggregate is 100 per cu.m Rate of cement seal is 50 per kg	**(8)**
6.	**(a)**	Calculate the number of bricks per cu.m of a wall having 30 cm nominal thick, 20 m length and 5 m height.	**(8)**
	(b)	Estimate the rate analysis: Cement concrete floor of 2.5 cm thick with 1:2:4 for 100 sq.m. Rate of cement is 5000 per cu.m Rate of sand is 500 per cu.m Rate of aggregate is 200 per cu.m Rate of cement seal is 50 per kg	**(7)**
7.	**(a)**	Estimate the rate analysis: RCC work in columnof 1:1.5:3 for 10 cu.m. Rate of cement is 5000 per cu.m Rate of sand is 500 per cu.m Rate of aggregate is 200 per cu.m Rate of cement seal is 50 per kg Rate of mild steel bars @ 2 % @ 78.5 q/cu.m is 5500 per q.	**(8)**
	(b)	Give detail specification of Excavation.	**(7)**
8.		Give detail specification of the following: a) First class brickwork. b) Cement concrete floor. c) Plastering. d) cement mortar.	**(4+4+4+3)**

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