

Hall Ticket Number:

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Code No. : 17151 N/O

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD***Accredited by NAAC with A++ Grade***B.E. (Civil Engg.) VII-Semester Main & Backlog Examinations, Dec.-23/Jan.-24****Estimation and Specifications**

Time: 3 hours

Max. Marks: 60

*Note: Answer all questions from Part-A and any FIVE from Part-B***Part-A (10 × 2 = 20 Marks)**

Q. No.	Stem of the question	M	L	CO	PO
1.	Describe the purpose of estimation in construction	2	1	1	1
2.	Which method is more accurate for calculation of earthwork and why?	2	2	1	1
3.	Write the unit weight values for G.I wire and Mild steel	2	2	2	1
4.	How much length should be added for each hook of steel reinforcement?	2	2	2	1
5.	Define standard schedule of rates	2	1	3	1,2
6.	What is cost of materials at the source?	2	2	3	1,2
7.	What is work order and measurement book?	2	1	4	1,2
8.	Explain about muster roll system	2	1	4	1,2
9.	What is sinking fund?	2	1	5	1,2
10.	Write about concept of public private partnership.	2	1	5	1,2
<b>Part-B (5 × 8 = 40 Marks)</b>					
11. a)	For the shown building in <b>Fig.1 (page number 4)</b> by using Center Line Method Estimate the following Quintiles		4	1	1,3,6
	a). Earth Work Excavation for foundation.	2			
	b). R.R.Masonry in C.M (1:5) for footings & Basement.	2			
	c) Brick Masonry with C.M (1:5) for Super Structure.	2			
b)	Illustrate the methods to determine the area of excavation in roads.	2	1	1	1
12. a)	Compute the quantity of steel reinforcement in an R.C.C. roof slab of 4 m clear span, 6 m long and 200 mm thick, having 10 mm diameter main bars at 150 mm centre to centre and 8 mm diameter distribution bars at 200 mm centre to centre with alternate bent up bars. Also prepare schedule of bars of R.C.C. slab.	4	3	2	1,2
b)	How do you calculate the steel quantities for beams, explain with example.	4	2	2	1,2

Contd... 2

13. a)	Work out unit rates of the following:	5 2 3 1,11																						
	a) 1st class brickwork in superstructure in CM(1:6) for 10cu.m. b) 1:2:4 cement concrete required for slab and beam for 10cu.m RCC work. c) Plain Cement Concrete (1:2:4)																							
	Adopt the following rates of materials and labour at the site.																							
	<table border="1"> <tr> <td>(i) Cement</td> <td>Rs. 4750/- per tonne</td> </tr> <tr> <td>(ii) Sand</td> <td>Rs. 570/- per cu.m.</td> </tr> <tr> <td>(iii) Aggregate</td> <td>Rs. 890/- per cu.m.</td> </tr> <tr> <td>(iv) Mixing mortar</td> <td>Rs. 30/- per cu.m.</td> </tr> <tr> <td>(v) Standard Bricks</td> <td>Rs. 5000/- per 1000 Nos.</td> </tr> <tr> <td>(vi) Steel</td> <td>Rs. 47000/- per tone</td> </tr> <tr> <td>(vii) Brick layer</td> <td>Rs. 500/- per day</td> </tr> <tr> <td>(viii) Man Mazdoor</td> <td>Rs. 425/- per day</td> </tr> <tr> <td>(ix) Woman Mazdoor</td> <td>Rs. 425/- per day</td> </tr> <tr> <td>(x) Bar Bending</td> <td>Rs. 565/- per day</td> </tr> <tr> <td>(xi) Centering &amp; Shuttering</td> <td>Rs. 800/- per day</td> </tr> </table>	(i) Cement	Rs. 4750/- per tonne	(ii) Sand	Rs. 570/- per cu.m.	(iii) Aggregate	Rs. 890/- per cu.m.	(iv) Mixing mortar	Rs. 30/- per cu.m.	(v) Standard Bricks	Rs. 5000/- per 1000 Nos.	(vi) Steel	Rs. 47000/- per tone	(vii) Brick layer	Rs. 500/- per day	(viii) Man Mazdoor	Rs. 425/- per day	(ix) Woman Mazdoor	Rs. 425/- per day	(x) Bar Bending	Rs. 565/- per day	(xi) Centering & Shuttering	Rs. 800/- per day	
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	b) Explain the factors affecting the Rate Analysis	3 2 3 1,11																						
14. a)	What is the necessity of specification? Write down specifications for a first class building	4 2 4 1,12																						
	b) Write about the following in brief	4 2 4 11,12																						
	a) Valuation and its purpose. b) Sinking fund c) Depreciation																							
15. a)	Explain the Concept of Public Private Partnership (PPP) and Build Operate Transfer (BOT)	4 3 5 10,11,12																						
	b) What are the recent developments in project delivery methods? Explain briefly	4 3 5 10,11,12																						
16. a)	Work out quantities of earth work for a section of road as given in table.	4 3 1 1,3,6																						
	<table border="1"> <tr> <td>Chainage (meters)</td> <td>0</td> <td>30</td> <td>60</td> <td>90</td> <td>120</td> <td>150</td> </tr> <tr> <td>Ground Level</td> <td>110.00</td> <td>109.00</td> <td>109.70</td> <td>108.70</td> <td>109.80</td> <td>109.80</td> </tr> </table>	Chainage (meters)	0	30	60	90	120	150	Ground Level	110.00	109.00	109.70	108.70	109.80	109.80									
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	i) Formation level at 0.00 m Chainage = 110.00 M ii) Gradient of formation line = 1 in 300, upwards iii) Top width of formation = 10.00 M																							
	Side slope = 2:1																							

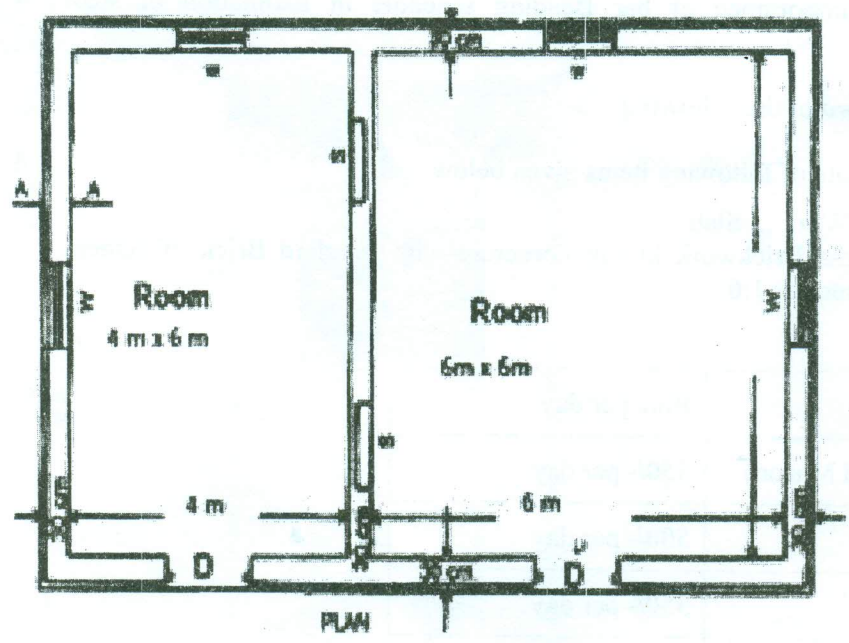
17.	b) Explain the importance of bar Bending schedule in Estimation of steel quantities.	4	3	2	1														
	Answer any <i>two</i> of the following:																		
	a) Estimate the rate of following items given below. I. RCC Work in Slab II. 1 <sup>st</sup> class Brickwork in superstructure with standard Brick of cement sand mortar 1:6	4	2	3	11														
	<table border="1" data-bbox="251 577 868 1041"> <thead> <tr> <th>Particulars</th> <th>Rate per day</th> </tr> </thead> <tbody> <tr> <td>Mistri (Head Mason)</td> <td>550/- per day</td> </tr> <tr> <td>Mason</td> <td>500/- per day</td> </tr> <tr> <td>Mazdoor</td> <td>350/- per day</td> </tr> <tr> <td>Coolie</td> <td>330/- per day</td> </tr> <tr> <td>Bhishti</td> <td>300/- per day</td> </tr> <tr> <td>Carpenter</td> <td>400/- per day</td> </tr> </tbody> </table>	Particulars	Rate per day	Mistri (Head Mason)	550/- per day	Mason	500/- per day	Mazdoor	350/- per day	Coolie	330/- per day	Bhishti	300/- per day	Carpenter	400/- per day				
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	b) Explain detailed specifications of Plastering cement mortar.	4	2	4	1,10														
	c) Write about Detailed Project Report.	4	3	5	10,11														

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20
ii)	Blooms Taxonomy Level – 2	30
iii)	Blooms Taxonomy Level – 3 & 4	50

85

D-204



- Doors : D - 1.2 m x 2.1 m
- Windows : W - 1.0 m x 1.5 m
- Shelves : S - 1.0 m x 1.5 m

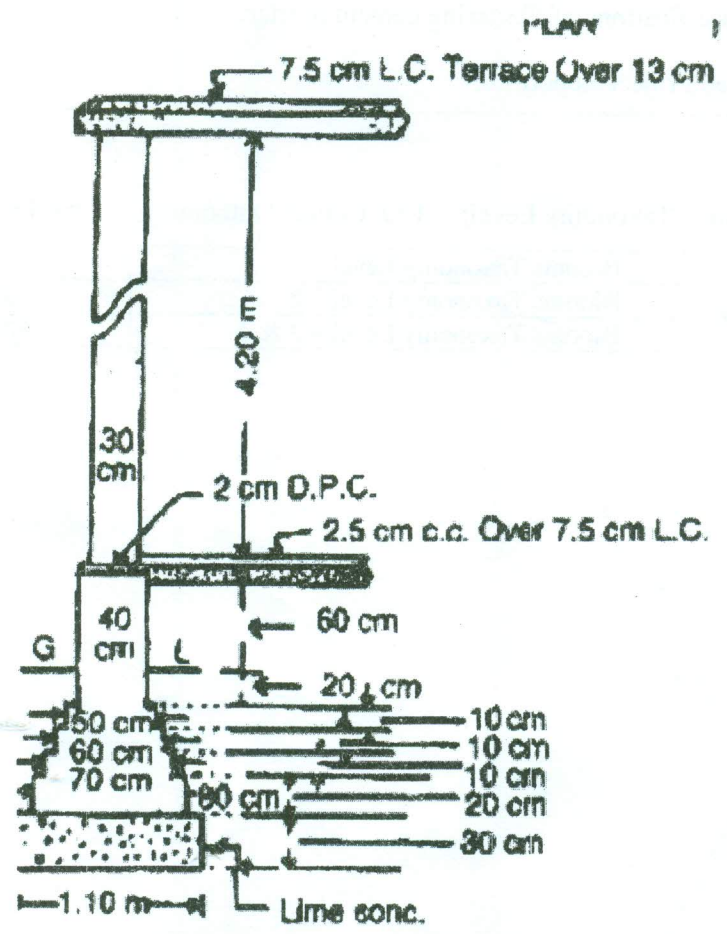


Fig.1

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