(1) (14)

P

Scoring Indicators

Code

(1)

Version (15)5014

Qn:No	Scoring Indicators	Split score	Total score
	Quantity Surveying - II		
I	PART. A.		
1.	0.6 x eaves span.	2	
2.	A structure having a linear waterway upto 6m is called a culvert. Above 6m and upto 30m linear waterway is known as minor bridge and more than 30m is known as major bridge.	2	
3.	Length + hook length = $l + 18d$.	2	
4.	40D to 45D where D is the dia of bar.	2	
5.	The fund which is gradually accumulated by way of periodic or annual deposit for the replacement of the building or structure at the end of its useful life is termed as Sinking fund.	2	10.
	PART. B.		

II

Description	N	L	B	H	Qty	TQty
Earthfilling Hall	1	2.65	4.95	0.35	4.59	
Bed & Toilet & work area portion	3	2.25	3.65	0.35	7.21	
Kitchen	1	2.65	2.25	0.35	2.09	13.89 m^3

2+2+2=6

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2.	Eaves length = 9.9 + 0.4 + 1.2 = 11.5m ✓ eaves span = 6 + 0.4 + 1.2 = 7.6 m. ✓ No of common rafter = $\frac{\text{Eave length}}{\text{spacing}} + 1$ ✓ $= \frac{11.5}{0.5} + 1 = 24$ Nos. ∴ No: of common rafter = 2 × 24 = 48 Nos. ✓	1 1 1 1	
	Description: Wood work Comm rafter — N: 48, L: 4.56, B: 0.05, H: 0.125, Qty: 1.368, ↑Qty: 1.368 m^3	2	6
3.	Length of CC, 0.6 × eves span = 0.6 × 7.6 = 4.56m		
	Description: 1. ① RCC work 1:2:4, N: 1, L: 4.8, B: 2.1, H: 0.2, Qty: 2.016 m^3	3	
	② Cement concrete work for wearing coat, N: 1, L: 4.00, B: 2.3, H: 0.1, Qty: 0.92 m	3	
	2.		6
4.	The joints of brick work shall be raked out to a depth of 20mm and the surface of the wall washed and cleaned and kept wet for two days before pointing. The materials of mortar cement and sand a lime and surki or sand, or kankar lime as specified, shall of standard specification. The materials shall be first		

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	dry mixed by measuring with boxes to have the required proportions as 1:2 or 1:3 for cement sand mortar 1:1 for lime surkhi mortar or kankar lime mortar; and then mixed by adding water slowly and gradually and thoroughly mixed. Mortar shall then applied in the joints slightly in excess and pressed by a proper tool of the required shape. Extra mortar if any is removed and surface finished. Mortar shall not spread over the face of bricks, and the edges of brick shall be clearly defined to give a neat appearance. After pointing the surface shall be kept wet for seven days. Flush pointing, Ruled pointing, weather or Struck pointing Tucked pointing etc are the types of pointing.		6
5.	Clear span = 3.4m. Total = 3.4 + .2 + .2 = 3.8m 4 Nos 16mm ϕ bars. The length of straight bar both end hooked. = 3.8 − (2 × 0.025) + 18 × 0.016 = 4.038m ✓	1 2	
	Description: Quantity of steel 4 Nos 16mm ϕ — N: 4; L: 4.038; B: @; H: 1.58 kg/m; Qty: 25.520kg	3	6
6.	1. Buying or selling property 2. Taxation 3. Rent fixation 4. Security or loan or mortgage		

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	5. Compulsory aquisition 6. Valuation of a property is required for Insurance Betterment charges, speculation etc.	1x6	6.
7.	Cost of building = 625000. The rate of depreciation (rd) = 2% The value of building after 10 years. $D = P\left(\frac{100-rd}{100}\right)^n = 625000\left(\frac{100-2}{100}\right)^{10}$	3 1 3	
	$= \underline{510670.5}$ ✓		6.
	The amount of depreciation = 625000 − 510670.5 $= \underline{114329.5}$		
III	PART-C.		
a.	~~eaves span = 6 + 0.4 + 1.2 = 7.6m~~ ~~effective span = 6 + 1.2 = 6.2m~~ ~~length of hip rafter = 0.78 × eff. span = 0.78 × 6.2~~ ~~= 5.928m~~ ~~1st collar = ½ effective span = ½ × 6.2 = 2.067m~~		
a.			

Description		N	L	B	H	Qty	TQty.
Painting doors and windows.							
Door	D.	1x2	1		2.1	4.2	
	D_1	5x2	0.9		2.1	18.9	
	D_2	1x2	0.8		2.1	3.36	3
Windows	W	5x2	1.5	1.5		22.5	
	W1	1x2	1.5	1.3		3.9	
	W2	2x2	1.2	1.5		7.2	3
						60.66m ✓	2 1

0.7

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Scoring Indicators **Code**

(3)

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Qn:No	Scoring Indicators	Split score	Total score
b.	Description N L B H Qty Total		
	brickwork in CM 1:5 for walls.		
	wall abutted 1 29.4 0.2 3 17.64		
	Cross wall 1 7.9 0.2 3 4.74		
	" 1 6.2 02 3 3.72		
	" 1 2.5 0.2 3 1.50		
	½ brick wall. 1 2.5 0.1 3. 0.75		
	28.35 ✓	5	
	Deductions for doors & windows.		
	Door D 1 1 0.2 2.1 0.42		
	D_1 5 0.9 0.2 2.1 1.89		
	D_2 1 0.8 0.2 2.1 0.336		
	Windows W 5 1.5 0.2 1.5 2.25		
	W_1 1 1.5 0.2 1.3 0.39		
	W_2 2 1.2 0.2 1.5 0.72		
	6.01		
	Total less deduction 22.34 m^2	3	8
	OR.		
TU a.	N L B H Qty Total.		
	1. Precast RCC work for tank and soak pit		
	Roof cover of Tank. 1 2.4 1.3 0.075 0.234		
	Roof cover of soak pit 1 $\pi \times 1.4^2$ 0.075 0.115		
	Baffle wall 1 1 0.04 0.45 0.018		
	0.367 m^3	5	

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Qn:No	Scoring Indicators							Split score	Total score
V	2. Dry brickwork in soakpit.	1	$\pi \times 1.2$	0.20	2.5	1.88 m^3		2	15
	3. cement plastering 1:3								
	tank (longwall)	2	2		1.7	6.8			
	(shortwall)	2	0.9		1.7	3.06			
	floor	1	2.00	0.9	~~0.9~~	1.8			
						11.66 m^2		3+1	
	4. 50mm aggregate								
	cube side of soakpit	1	$\pi \times 1.55$	0.15	2.5	1.825			
	at bottom	1	$\frac{\pi \times 1^2}{4}$		.2	0.157			
						1.982 m^3			
	Sand - cutter cube								
	Side of soakpit	1	$\pi \times 1.85$	.15	2.5	2.18 m^3		4	
	Module II								
	Description	N	L	B	H	Qty	Tally		
	1. Earthwork excavation								
	Abutment	2	5.10	0.70	0.60	4.28			
	wing walls	4	1.2	0.7	0.6	2.02			
						6.3 m^3		2	
	Plain cement concrete								
	Abutment	2	5.1	0.70	0.30	2.14			
	wing walls	4	1.2	0.7	0.3	1.01			
						3.15 m^3		2	
	2. First class brick work in CM 1:4								
	Abutment	2	4.8	0.4	1.5	5.76			
	wing walls	4	1.2	04	1.5	2.88			
	Parapet up to kerb	2	4.7	0.4	0.3	1.13			

Scoring Indicators (4) **Code** **Version**

Qn:No	Scoring Indicators							Split score	Total score
	Parapet above kerb.	2	4.7	0.3	0.5	1.41			
	Parapet at coping	2	4.9	0.4	0.1	0.39			
						11.57			
	Deduct Bearing of Rcc slab in abutmt	2	4.8	0.3	0.2	0.57			
	total less deducted					11.00	m^3	4	
	3. Steel bars including bending in Rcc work.								
	20 mm dia bars. main straight bars 30 cm c/c. No: $\frac{4.8}{0.3}+1=17$	17	2.38			40.46			
	Main bent up ($No: \frac{4.8}{3}=16$)	16	2.54			40.64			
		Total 81.10 @ 2.47				200.317	kg	3	
	10mm dia distribulers 25cm c/c (at bottom) No: $\frac{2.1}{.85}+1=9$	9	4.9			44.1			
	at top	4	4.9			19.60			
		Total 67 @ 0.62 kg/m				39.49	kg.	3	
	Total Steel = 200.317 + 39.49								
	= 239.811 kg							1	15
VI	OR.								

Description	N	L	B	H	Qty	T Qty
Earthwork excavation in foundation						
Face walls	2	3.1	0.80	0.80	3.97	
Wing walls including portion	4	$\frac{2.3+1.8}{2}$	$\frac{0.8+0.7}{2}$	0.8	4.92	

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Scoring Indicators **Code**

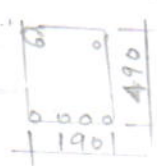
Version

Qn:No	Scoring Indicators						Split score	Total score
	Wing wall triangular corner	4	$\frac{1}{2}\times\frac{0.8}{0.8}$		0.8	0.77		
	Turn walls	4	$\frac{.95+.8}{2}$	.7	0.8	1.96		
	Under pipe	1	9.80	3.10	0.16	4.56		
						16.18 m^3	7	
	2. Cement concrete 1:4:8 in foundation							
	face walls	2	3.1	0.8	0.3	1.488		
	wing wall inclined portion	4	2.05	0.75	.3	1.85		
	wing walls triangular corner	4	0.24		.3	0.288		
	Turn walls	4	0.875	.7	.3	0.735		
	upper pipe and between pipe up to half height	1	9.8	3.1	.5	15.19		
						19.551		
	Deduct half of pipes	3	$9.8\times\frac{1}{2}\left(\frac{11}{4}\times.7^2\right)$			5.66		
			total less deduction			13.891 m^3	8	15
VII	Module III							
	Description	N	L	B	H	Qty		
	RCC work excluding steel and its bending but including curing and shuttering etc complete	1	6.1	0.25	0.55	0.839 m^3	2	

Scoring Indicators **Code**

(5) **Version**

Qn:No	Scoring Indicators	Split score	Total score
	2. Steel bars including bending Main bo straight bar 22mm ϕ @ 2.98 kg/m 2 6.416 @ 2.98. 38.25 kg	2	
	Bent up bar 2 6.936 @ 2.98 41.34 kg.	2	
	Anchor bar 16 mm ϕ 2 Nos @ 1.58 kg/m. 2 6.308 @ 1.58 19.93 kg	2	
	Stirrups 8 mm ϕ 15 cm c/c at ends 13 Nos each and at centre 21 cm c/c 11 Nos. - 37 Nos @ 0.62 kg/m. 37 1.66 @ 0.62 38.68 kg.		
	137.6 kg	2	
	= 1.376 quintal		

Description of bar	Shape of bar	length of each (m)	No	Total length	wt in kg.
1. Main Straight		6.416	2	12.832	38.25
2. Main bent up		6.936	2	13.872	41.34
3. Anchor bar		6.308	2	12.616	19.93
4. Stirrups.		1.660	37	61.42	38.68
					137.60 kg. 5

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Scoring Indicators **Code**

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Qn:No	Scoring Indicators	Split score	Total score
VIII	1. Brick masonry :- Quality and Size of bricks - properties and specifications of mortar - Soaking of bricks in water - Setting of bricks in mortar - Thickness of joints - bond - raking joints for plaster - Uniform raising - maximum height for a days work - scaffolding - throating - corbelling and cornices - rounding off corners - plinth offsets - bricks on edge coping - Curing - Unit of measurement and payment.	6+1	9
	2. Form work for RCC. Cement concrete 1:1½:3 Materials - Coarse aggregate, fine aggregate, cement, water - proportion - Hand mixing - machine mixing - form work - laying and consolidation. - Curing - Unit IV	8.	
IX	a. Straight line method :- In this method the property loses its value by the same amount every year. A fixed amount of the original cost is deducted every year.		

Scoring Indicators (6) **Code** **Version**

Qn:No	Scoring Indicators	Split score	Total score
	Annual depreciation = D = $\frac{\text{Original cost} - \text{Scrap value}}{\text{life in years.}}$ $= \frac{C-S}{n}$ where C original cost, S scrap value 3 n-life of property in years.		
	Constant percentage method :- In this method the property will close its value by a constant percentage of its value at the biginig of every year.		
	Annual Depreciation $D = 1-\left(\frac{S}{C}\right)^{1/n}$ where S, C, and D are scrap value, original cost and depreciation.		
	depreciated at the end of 1st year $= C - DC = C_1$		
	11nd year $= C_1 - DC_{12}$ and so-on.		
	Depreciated Cost of end of the m year $= C\left(\frac{C}{S}\right)m$ when the value of S=0		
	the ratio $\frac{S}{C}$ is very small, the depreciation of 1st year may be considerable.	3+1	7
b.	1. Rental method of valuation :- In this method the net income by way of rent is found out by deductions all outgoings from the gross rent. A suitable rate of interest as prevailing in the market is assumed and years purchase is calculated. This net income is multiplied by years purchase gives capitalized value or valuation of property.		

Scoring Indicators **Code**

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Qn:No	Scoring Indicators	Split score	Total score
	2 Direct comparison with the capital value :- This method may be adopted when rental value is not available from the property concerned, but there are evidences of sale price of properties as whole. In such case the capitalised value is compared with capitalized value of similar property in the locality. 3 Valuation based on profit :- This method of valuation is suitable for building like hotels, cinema theatres etc for which the capitalized value depends on profit. 4 Valuation based on cost :- In this method actual cost incurred in constructing the building or possessing the property is taken as basis to determine the value of property. 5 Development method of valuation :- In this method the valuation is used for the properties which are in the undeveloped stage or partly developed and partially undeveloped stage. The land is to be divided into plots after providing for roads, parks etc. 6 Depreciation method of valuation :- The building is divided into four parts. such as walls, Roofs, floor, doors & windows. The type of each parts is worked first with the present day rates		

Scoring Indicators (7) **Code** **Version**

Qn:No	Scoring Indicators	Split score	Total score
	by detailed measurements. The depreciated value of each parts is calculated $D = P\left(\frac{100-rd}{100}\right)^n$. when P = cost at present market rate, rd is the fixed percentage of depreciation. n is the number of the years the building had been constructed.	2x4	8.
	Unit-IV OR		
15 a.	1. Scrap value :- When the life of the building is over, after its utility period, the dismatled material such as bricle, timber, steil etc will fetch cetain amount which is called scrap value. The estimated value of scrap value is about 10% of construction cost.	2	
	2. Salvage value :- It is the estimated value of the propuly, at the the end of its life period without being dismatled. The salvage value can be increased by renovation.	2	
	book value :- This is the value shown in the account book in that particular year. In athes words book value is the orginal cost minus depreciation till that value. book value reduces year after year and reaches the scrap value at the end of its life period.	2+1	7

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Qn:No	Scoring Indicators	Split score	Total score
X.b.	Plinth area rate = 2500/m².		
	Cost of building at present market rate = 250 × 2500 = 625000	2	
	rate of depreciation = 2%		
	present value of building = $P\left(\frac{100-rd}{100}\right)^n$	1	
	$= 625000 \times \left(\frac{100-2}{100}\right)^{20} = 417255.$	2	
	Add cost of land = 450 × 1200 = 540000	2	
	present value of property = 417255 + 540000		
	= Rs. 957255/-	2	8