



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/B.TECH(CE-OLD)/SEM-4/CE-402/2012**

**2012**

**QUANTITY SURVEYING, SPECIFICATION AND  
VALUATION**

*Time Allotted : 3 Hours*

*Full Marks : 70*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

Assume reasonable value of additional data if required.

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for any *ten* of the following :

$$10 \times 1 = 10$$

- i) The factor for working out depreciation by sinking fund method is

- a)  $I_c \cdot S_m$                                       b)  $I_c / S_m$   
c)  $S_m / I_c$                                       d)  $I_c \cdot (S_m + 1)$ ,

where  $I_c$  = A.S.F. coefficient and  $S_m$  = Sum of Rupee 1.00 at the end of  $m$  years at same compound interest,  $i$ .

- ii) For getting an amount of Rupee 1 at the end of ten years at compound interest  $i$  the amount to be deposited at the end of each year is

- a)  $[(1 + i)^{n-1} - 1] / i$                                       b)  $i / [(1 + i)^{n-1} - 1]$   
c)  $i / [(1 + i)^n - 1]$                                       d)  $[(1 + i)^{n+1} - 1] / i$ .

4106 (O)

[ Turn over

- 4106 (O)

- GROUP – B**

Answer any *three* of the following.  $3 \times 5 = 15$

- [ Turn over



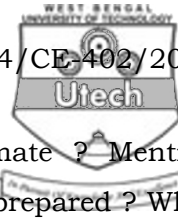
4. A person will purchase a plot of land at an anticipated cost of Rs. 5.0 lakhs 5 years after. What sum will the person invest now to receive the required amount at compound interest of 8.5% ?
5. Write down the detailed specification of distempering.
6. Explain the following terms : (i) carpet area (ii) contingencies (iii) circulation area.
7. What is supplementary estimate ? What is the difference between supplementary estimate and revised estimate ?

### GROUP – C

#### ( Long Answer Type Questions )

Answer any *three* of the following.  $3 \times 15 = 45$

8. a) What is annual sinking fund ? Deduce an expression for the same. 7
- b) A rented house is required to be repaired at a cost of Rs. 50,000. It is agreed that the landlord will spend the amount now, but the tenant will deposit an amount X at the end of each year so that the amount will be returned to the landlord at an 8% interest after 5 years. What will be X ? What will be X if the payment is to be made for an increased amount @ 8% for 5 years ? 4 + 4



9. a) What are the different types of estimate ? Mention under what circumstances each one is prepared ? What statements and drawings are to be attached with each one of them ? 7

- b) Prepare a preliminary estimate for boys' hostel for 100 students. Following data are given :

Carpet area per student = 3.5 sq.m ; walls 10%, circulation area 20% and amenities 10% of the plinth area of the building. Assume plinth area rate Rs. 6,000 per sq.m and provide for water supply and sanitary fittings and electrical installations and contingencies. 8

10. A building standing on a freehold plot of land of 500 sq.m fetches a rent of Rs. 2,000 per month. the present value of land is Rs. 2,000 per sq.m. The estimated future life of the building is 10 years, but the life may be extended by another 15 years, if it is duly repaired immediately at a cost of Rs. 25,000. The total amount of outgoings is 25% of the gross rent. The owner requires 10% return on land and 15% return on building with 6% redemption on capital. As a valuer would you advise the owner to repair the building or not ?

11. a) Make analysis of rate for 1st class brickwork in cement mortar (1 : 6) in superstructure.



- b) Estimate the quantity and cost of earthwork for a road between two stations A to B with the following data :

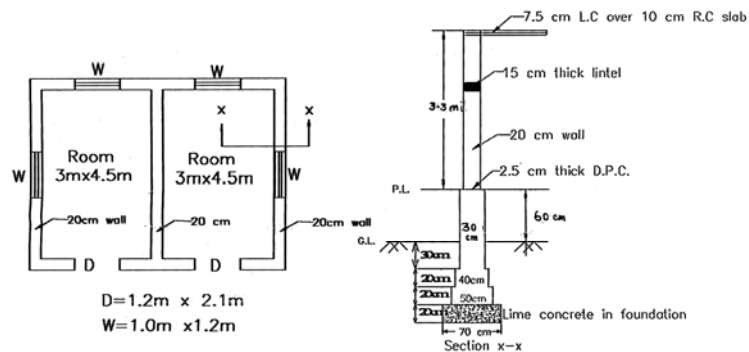
Width of road is 10 m at formations surface and side slope 2 : 1. The data of field book for the portion of road are as below.

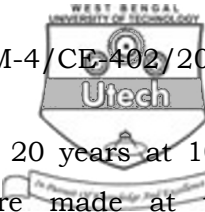
Chainage	0	1	2	3	4	5	6
Reduced level	123.90	125.00	124.60	122.90	121.60	121.00	120.40
Formation level	123.20	123.60	124.00	123.60	123.20	122.80	122.40

One chain = 30m

5 + 10

12. A person has invested Rs. 8.0 lakhs in land and building expecting 8% return. The plot of land costs Rs. 2.0 lakhs. Assuming cost of annual repairs to be Rs. 5,000, management charges at Rs. 8,000 per annum and other outgoings, i.e. municipal tax etc. at 20% of gross rent, annual sinking fund coefficient of 0.01. Calculate the reasonable monthly rent.
13. Given figure shows the plan and cross-section of a wall of a building. Estimate the quantities for the following items :
- Earthwork in excavation in foundation
  - Lime concrete in foundation
  - 1st class brickwork in foundation & plinth
  - 2.5 cm thick D.P.C
  - 1st class brickwork in superstructure.





14. a) Calculate the amount of Re 1.00 for 20 years at 10% compound interest if payments are made at the beginning of each year and if payments are made at the end of every six months.
- b) The cost of a new building is Rs. 10 lakhs. What will be its depreciated cost after 20 years if the life of the building is 70 years ? Interest on sinking fund is 6% and salvage value is 10%.
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