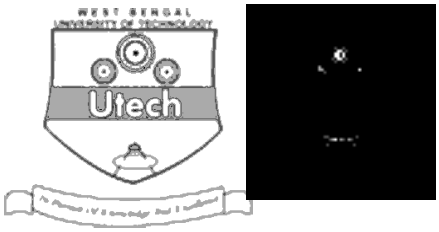
CS/B.TECH (CE-N)/SEM-4/CE-402/09



1. .....
Signature of Invigilator

2. .....
Signature of the Officer-in-Charge

Reg. No. | | | | | | | | | | | | | | |

Roll No. of the Candidate | | | | | | | | | | | | | | |

CS/B.TECH (CE-N)/SEM-4/CE-402/09

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

QUANTITY SURVEYING, SPECIFICATION & VALUATION (SEMESTER - 4)

Time : 3 Hours] [Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **marked** '**Answer Sheet**'.
   b) For **Groups – B** & **C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

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Marks Obtained

	Group – A										Group – B			Group – C				
Question Number																	***Total Marks***	***Examiner's Signature***
Marks Obtained																		

.....
Head-Examiner/Co-Ordinator/Scrutineer

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ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

QUANTITY SURVEYING, SPECIFICATION & VALUATION

SEMESTER – 4

Time : 3 Hours] [Full Marks : 70

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : $10 \times 1 = 10$

i) One bag cement =

a) 0·0214 cu.m b) 0·347 cu.m

c) 0·0347 cu.m d) 0·0437 cu.m.

ii) When not specified, the volume of steel in R.C.C. work is taken as

a) 1% to 1·6% of R.C.C. volume

b) 2% to 4% of R.C.C. volume

c) 4% to 6% of R.C.C. volume

d) 0·6% to 1·0% of R.C.C. volume.

iii) Corrugated galvanized steel sheets are measured per

a) number b) sq. m

c) kg d) quintal.

iv) For 1 cu.m first class brickwork (with modular brick) the requirement of number of bricks will be

a) 450 b) 400

c) 500 d) 550.

v) The approximate weight of one cu.m of mild steel is

a) 1000 kg b) 2400 kg

c) 1400 kg d) 7850 kg.

vi) Revised estimate is required due to

a) change of quantity of materials, rates

b) addition of new work, changes of design

c) all of these

d) none of these.

vii) A document containing detailed description of all the items of work (but their quantities are not mentioned) together with their current rates is called

a) tender b) schedule of rates

c) analysis of rate d) estimating.

viii) When O.P.C. is used, the removal of props under beams spanning more than 6 m can be done after

a) 10 days b) 14 days

c) 21 days d) 28 days.

ix) For cement concrete (except special cases) the size of coarse aggregate shall be

a) 25 mm graded down to 10 mm

b) 25 mm graded down to 5 mm

c) 25 mm graded down to 2 mm

d) none of these.

x) Value of the property as shown in the accounts book of a company

a) market value b) book value

c) assessed value d) reversionary value.

xi) Advancement of money against any form of security is called

a) lease b) loan

c) mortgage d) rent.

xii) Which of the methods for calculating depreciation cannot be used when scrap value is zero ?

a) Straight line method b) Constant percentage method

c) Sinking fund method d) Quantity survey method.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following questions. 3 × 5 = 15

2. Prepare a preliminary estimate of a multistoried office building having a carpet area of 2200 sq. m. 35% of the built-up area will be taken up by corridors, verandahs, lavatories, staircases etc and 1% of the built-up area will be occupied by walls. Assume the plinth area rate to be Rs. 2,500/- per sq. m and provide for water supply and sanitary fittings and electrical installation, contingencies and other services.

3. Write short notes on the following :

   a) Technical sanction

   b) Abstract of estimated cost.

4. Define sinking fund and derive the expression for sinking fund co-efficient.

5. A building whose plinth area is 700 sq. m was constructed 10 years ago having the cost of land as Rs. 3,00,000.

   a) Find the capitalized value of the building allowing for depreciation using sinking fund method.

   b) In case the building needs immediate repair of Rs. 2,50,000, find the net value of the property.

   Given :

   Present cost of construction per sq. m is Rs. 5,000

   Rate of interest is 6%

   Further life of building is 50 years.

6. The owner of a building gets an annual rent of Rs. 35,000. The future life of the building is estimated to be 12 years but if recommended repairs are carried out immediately at an estimated cost of Rs. 3,00,000, it is expected to last for at least 30 years. Assuming the rate of interest at 8%, determine whether it is economical to carry out the recommended repairs to the building or leave it as it is.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following questions. 3 × 15 = 45

7. Prepare analysis of rate for any *three* of the following : 3 × 5

   i) Earthwork in excavation in trenches for foundations

   ii) One layer brick flat soling joints filled with local sand or powdered earth

   iii) P.C.C 1 : 4 : 8 with graded stone chips 40 mm down in foundation

   iv) 12 mm thick cement plastering 1 : 6 on new bricks.

   (**Note** : Assume material and labour prices)

8. Estimate quantities of the following items of work for a single-room servant quarter (any data not given may suitably be assumed) : 15

   a) Earthwork in excavation in foundation

   b) Cement concrete (1 : 4 ; 8) in foundation

   c) Brickwork (1 : 6) in foundation and plinth

   d) 25 mm thick Damp-proof course

   Following data are given :

   i) Internal dimension of the room = 4·5 × 3·5

   ii) Foundation trench = 80 cm wide and 90 cm deep

   iii) Plinth height = 40 cm above G.L.

   iv) Walls 30 cm thick above plinth and 40 cm thick below plinth with one footing 50 cm wide and 20 cm thick over 80 cm wide and 15 cm deep cement concrete (1 : 4 : 8) layer.

   v) Door 1 m × 2 m - 1 no.

   vi) D.P.C. - 25 mm thick over plinth (including the portion for door opening).

9. a) What are the different types of lease ?

   b) Differentiate between free-hold and lease-hold properties.

c) Particulars of a lease-hold property are given below :

Ground rent = Rs. 12,000/- p.a.

Lease to run for 25 years

Net rack rent = Rs. 90,000/- p.a.

Assume ground rent secured at 5% p.a. and for reversionary value interest is @ 8·33 % p.a.

Estimate the following :

i) Lessor's interest

ii) Lessee's interest. 4 + 3 + 8

10. Write down the specification of the following : 9 + 6

a) First class brickwork

b) Cement plastering.

11. a) Explain the following terms :

i) Ground rent

ii) Standard rent

b) What are the different types of outgoings ?

A person has purchased a plot of land costing Rs. 8,00,000/- and has constructed a building thereon at a total cost of Rs. 12,00,000/- including water supply, sanitary and electrical installation etc. Allowing a net return @ 7% on the cost of construction and @ 5% on cost of land, work out the standard rend of the property based on the following data :

Sinking fund on 4% basis for future life of 75 years = 0·0022

Annual maintenance @ 0·5% of the cost of construction

Municipal taxes and other outgoings 28·5% of the gross rent. (2 + 3) + 10

12. a) Prepare a schedule of bars for the R.C.C. lintel. Assume bearing of the lintel be 15 cm on walls at each side. Weight of 10 mm dia bar = 0·62 kg/rm and 6 mm dia bar = 0·22 kg/rm. Assume any data, if necessary.

b) Prepare a preliminary estimate of a school building for 500 students with the following particulars :

Carpet area required per student = 1·20 sq. m with an area of corridor, verandah & lavatories etc. 20% and for walls 15% to that of plinth area of the building. Consider plinth area rate = Rs. 2,500/- sq.m. Provide for water supply, sanitary fittings and electrical installation, contingencies & other services. Assume any data, if necessary. 8 + 7

13. Estimate the quantities for the following items of building : 5 × 3

a) Earthwork in excavation in foundation

b) Lime concrete in foundation

c) 1st class brickwork in foundation and plinth

d) 2·5 thick D.P.C.

e) 1st class brickwork in cement mortar in superstructure.

END