B.E. CONSTRUCTION ENGINEERING SECOND YEAR SECOND SEMESTER - 2017

Subject : ESTIMATING AND PRICING   Time : 3hr

_Full Marks : 100

Instructions:

1. Answer Question No. **one** and any **one** from the rest.
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order

PART -I

Q1. 1.Prepare the detailed estimate for the following items of work for a building shown.

(a) Earthwork in Excavation   (b) Cement Concrete in Foundation (1:16:18)
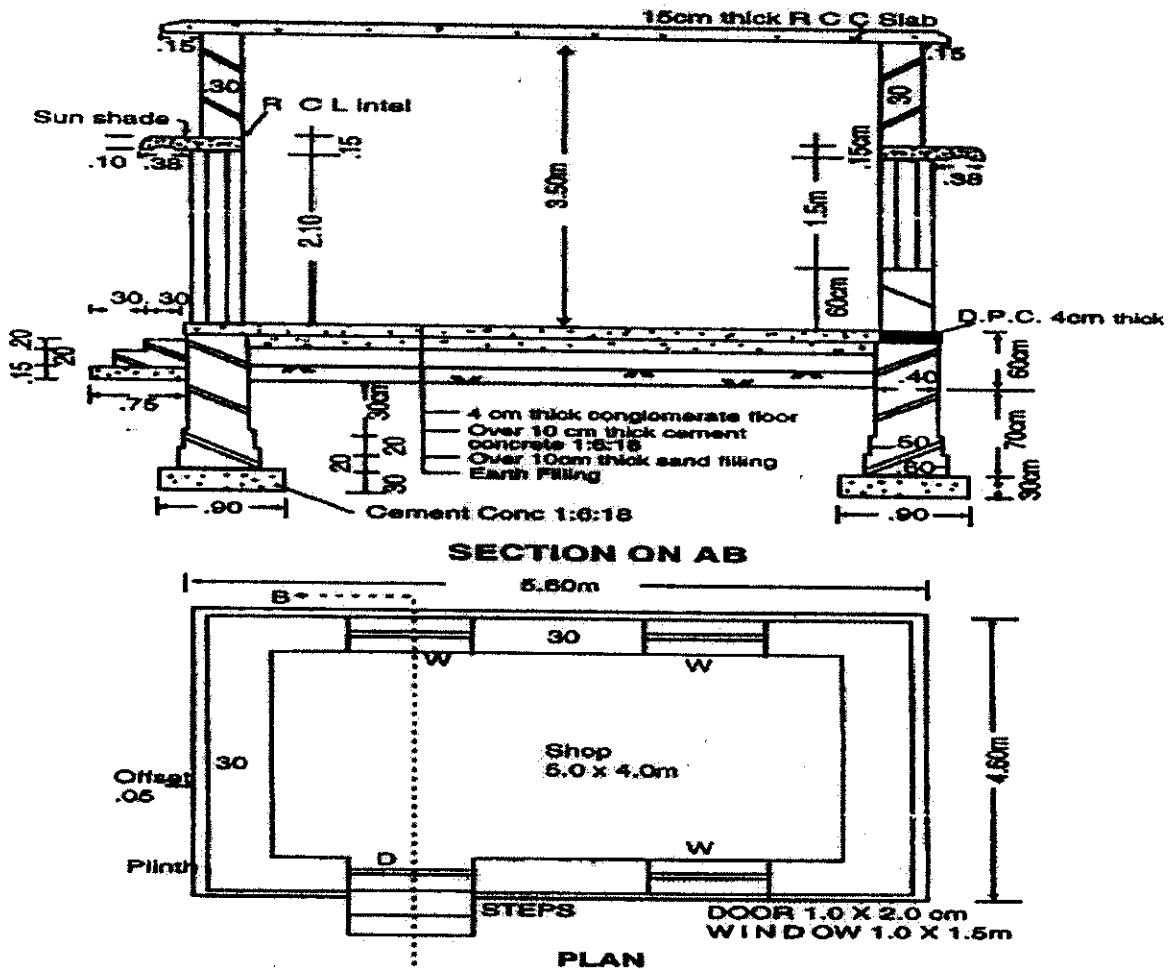(c) Reinforced cement concrete (1:2:4) (d) Damp proof course.   (15)

Figure .1

Q1 2.(a) What is rate analysis? Outline the factors to be considered for rate analysis for various items of work. (b) What is meant by specifications?   (10)

Q2. 1. Prepare Rate Analysis for

(a) Find the unit rate for brick work in cement mortar (1:6) using standard

Size of bricks.

(b) Find the unit rate of plastering 12 mm. and 20 mm. thick with a Proportion of (1:5) cement mortar.

(c) Prepare a unit rate of R.C.C. (1:2:4) for 1.0 cu m. in slabs, beams and columns..   (10)

Q2. 2. Prepare a detailed estimate for earthwork for a portion of a road from the following Data Formation width of road is 8m, side slopes are 2:1 in banking and 1.5:1 in cutting. Draw L-section and cross sections.   (15)

Distance in m	RL of ground	RL of Formation
0	114.50	115.0
100	114.75	Upward Gradient 1 in 200 up to 600 m
200	115.25	
300	115.20	
400	116.10	
500	116.85	Downward gradient 1 in 400
600	118.0	
700	118.25	
800	118.10	
900	117.80	
1000	117.75	
1100	117.90	
1200	117.50	

Q3. 1. Prepare specifications for the following. (Any two)
(a) Earthwork in excavation, (b) Cement concrete in foundation,

(c) R.R. masonry, (d) Brick work in cement mortar. (5)

Q3 2.. (1) Consider a beam of clear length of 4m, 300mm wide by 450mm depth. It consists of 2-12 diameter bars at top, and 2-16 diameter and 1 – 12 diameter bars at the bottom. Diameter of stirrup is 8mm spaced at 180mm center to center. Clear cover to reinforcement provided is 40mm. prepare a bar bending schedule for the figure below. (8)
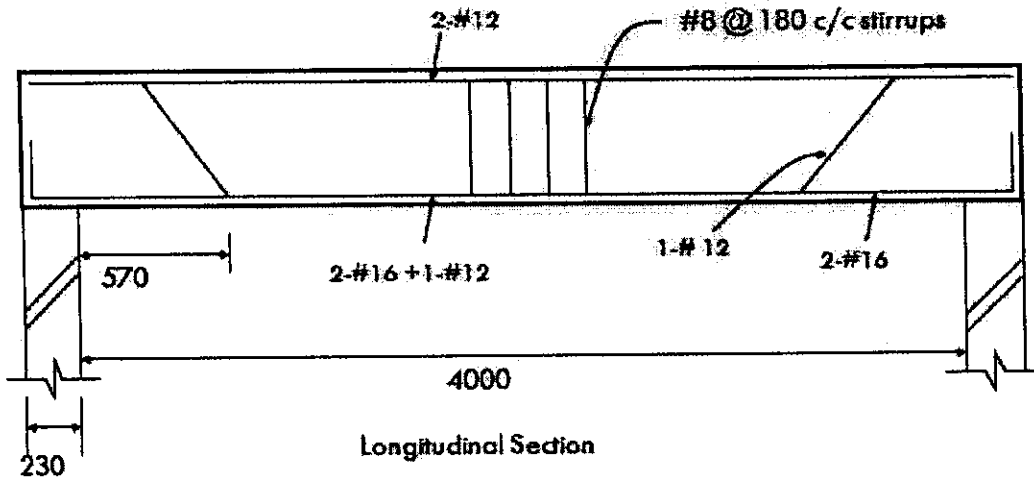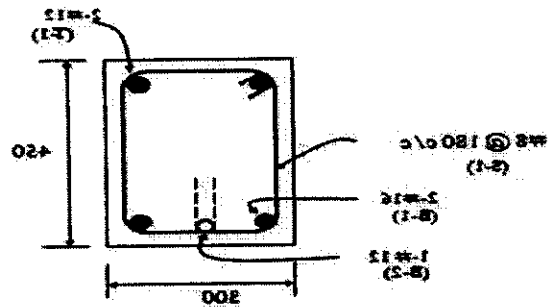
Fig: RCC Beam Reinforcement Details

Fig: RCC Beam Cross-Section

Q3. 3. Workout quantity of 6 mm, 10mm, and 16mm diameter reinforcement for a rectangular Beam of size 230mmx500mm. The beam is reinforced with 2 Nos-10mm dia. at top, 2Nos – 16mm dia. at bottom.2 Nos.-16mm dia. bent up. 6mm dia. two legged stirrups are provided at 150 mm c/c throughout the length. Length of beam is 4.5 Assume suitable cover. (12)

B. Construction Engineering 2nd year 2nd semester Exam 2017.

Sub: Estimate & Pricing

PART-II

Full marks -50

Answer separate sheet for each part

1. Write a short notes on the following Questions, Answer any ten (10X5=50)

a) Tender & General format of NIT

b) Floor area & Carpet area

c) Plinth area & super built up area

d) FAR. & NIT

e) Depreciation & contract

f) Security money & Earnest money

g) Scrap value & Salvage value

h) Arbitration & its requirements

i) Preliminary estimate & detail estimate

j) Market value and cost of construction.

k) Method for Valuation of a building

l) Requirement for sanction of a Building plan

m) Arbitration and its requirements