BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-3/T-1   BURP. Engineering Examinations 2010-2011

Sub : **CE 327** (Elements of Solid Mechanics)

Full Marks: 210   Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this Section. Answer any **THREE**.

1.   (a) A sphere weighing 500 N is tied to a roof slab and is resting on a plane at 40° to the horizontal as shown in Fig. 1. Calculate the reaction at the inclined plane and the tension in the cable. Also calculate pin reactions at A   **(13)**

(b) A glass rod AB weighing 2 N is placed on a glass beaker of 100 mm diameter in a position of equilibrium as shown in Fig. 2. Find the length of the glass rod and the reactions at contact points A and E. Assume all the surfaces to be smooth.   **(13)**

(c) In a system of frictionless pulleys shown in Fig. 3, what force F will hold a weight of 800 lb in equilibrium?   **(9)**

2.   (a) For the non-concurrent and non-parallel coplanar force system shown in Fig. 4, find the co-ordinates of the foot of the perpendicular drawn from the origin to the line of action of the resultant force. All the co-ordinates are in foot.   **(11)**

(b) A bar of weight 4000 N is hinged to a wall at A and supported by a cable as shown in Fig. 5. Determine the components of pin reactions at A and tension in the cable.   **(12)**

(c) Using direct integration, determine the coordinates of the centroid of the area bounded by the parabola $y^2 = 16x$ and the straight line $y = 2x$ as shown in Fig. 6.   **(12)**

3.   (a) The frame shown in Fig. 7 consists of two horizontal members AE and BF, a vertical member EF and an inclined member CD. All the members have been assumed to be weightless. Calculate the components of pin reactions at A and force in the member EF.   **(13)**

(b) A pipe has been supported by a hanger as shown in Fig. 8. The hanger is pivoted at pin A. The pipe section weighs 1000 lb. Calculate the components of pin reactions at A and reactions at contact points B, C and D. Neglect the weight of the hanger.   **(11)**

(c) A cylindrical hole is made within a frustum of a cone as shown in Fig. 9. Determine the centre of gravity of the frustum of cone with the hole.   **(11)**

4.   (a) For the two-dimensional truss shown in Fig. 10, find the force in the members bd, cd, cf, eg and hi.   **(13)**

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Contd ... Q. No. 4

(b) An area is enclosed by the parabola $x^2 = 4y$, the straight line x = 8 inch and the x-axis as shown in Fig. 11. Calculate the moment of inertia of the shaded area about the line x = 8 inch.   **(12)**

(c) In Fig. 12, CD is a rigid weightless body. The pegs are smooth and the cable is weightless and flexible. Determine the weights A and B, if the bodies are in equilibrium and CD remains horizontal.   **(10)**

SECTION – B
There are **SEVEN** questions in this Section. Answer any **FIVE**.

5. A compound bar of length 500 mm (see figure 8) consists of a strip of aluminum 50 mm wide × 20 thick, a strip of steel 50 mm wide × 15 mm thick and a strip of brass 50 mm wide × 18 mm thick rigidly joined at ends. If the bar is subjected to a load of 100 kN, find the stresses developed in each material and the extension of the bar. Given, E (aluminium) = 70 GPa, E (steel) = 200 GPa and E (brass) = 105 GPa.   **(21)**
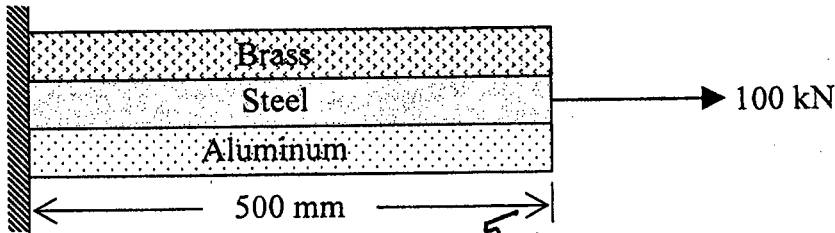

Figure 8 for Question (8)

6. Determine the weight of the heaviest cylinder which can be placed in the position as shown in Figure 9 without exceeding a stress of 8000 psi in the cable BC. Neglect the weight of the bar AB. The cross-sectional area of the cable BC is 0.10 inch². Also, determine the support reactions at pin 'A'.   **(21)**
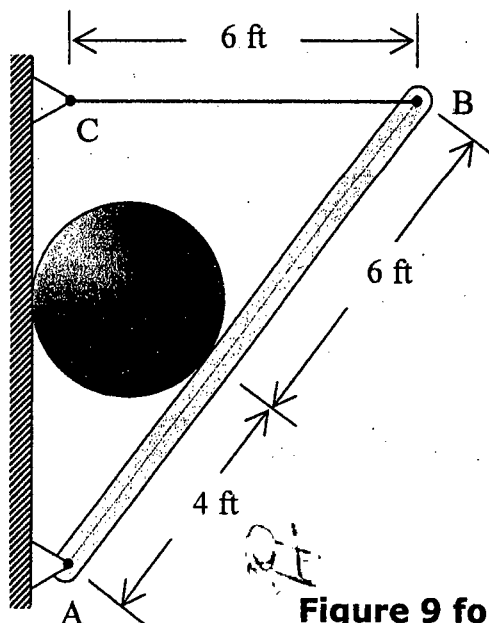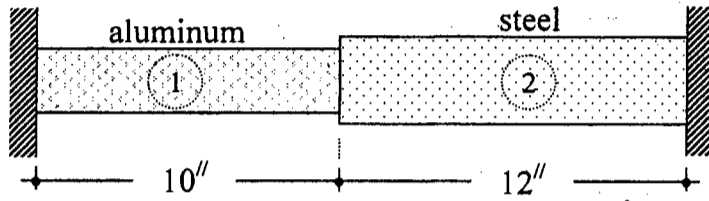

Figure 9 for Question (9)

7. Two bars are unstressed and have lengths of 10 inch and 12 inch at 30°F as shown in figure 10. Bar '1' is of aluminium alloy; bar '2' is of steel. Assuming that the top and bottom supports are rigid, compute the stress in each member when the temperature is 120°F. Given, α (aluminium) = 1.3×10^{-5}/°F; α (steel) = 6.5×10^{-5}/°F; E (aluminium) = 10000 ksi and e (steel) = 30000 ksi.   **(21)**

aluminum   steel
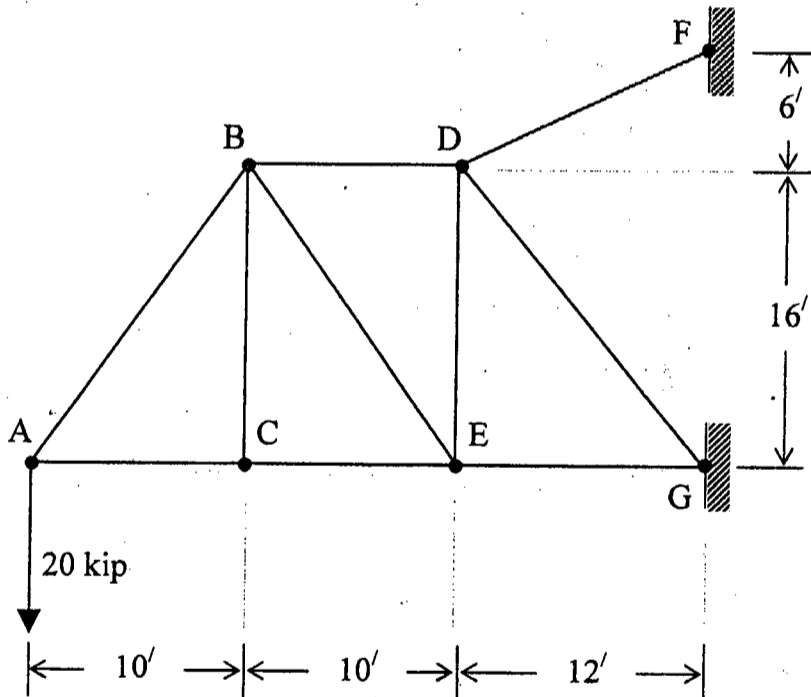   ①   ②

+———— 10″ ————+———— 12″ ————+

Figure 10 for Question (10)

8. A planar truss loaded at point 'A' has the dimensions shown in the figure 11. Determine the cross-sectional area of the members 'AB', 'BD' and 'BE' if allowable stress is 20 ksi in tension and 15 ksi in compression.   **(21)**
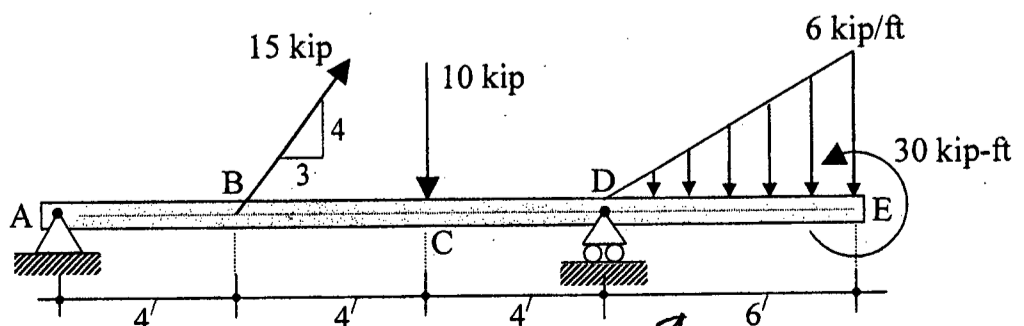

F

6′

B   D

16′

A   C   E

G

20 kip

|←— 10′ —→|←— 10′ —→|←— 12′ —→|

Figure 11 for Question (11)

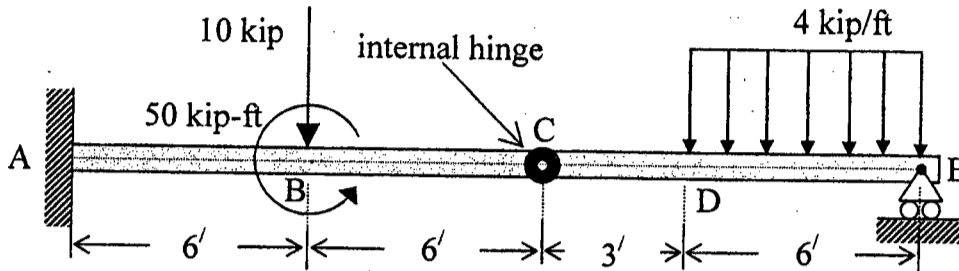9. Draw axial force, shear force and bending moment diagram for the one-end overhanging beam 'ABCDE' loaded as shown in Figure 12.   **(21)**

15 kip   10 kip   6 kip/ft

4
3
B   D   30 kip-ft

A   C   E

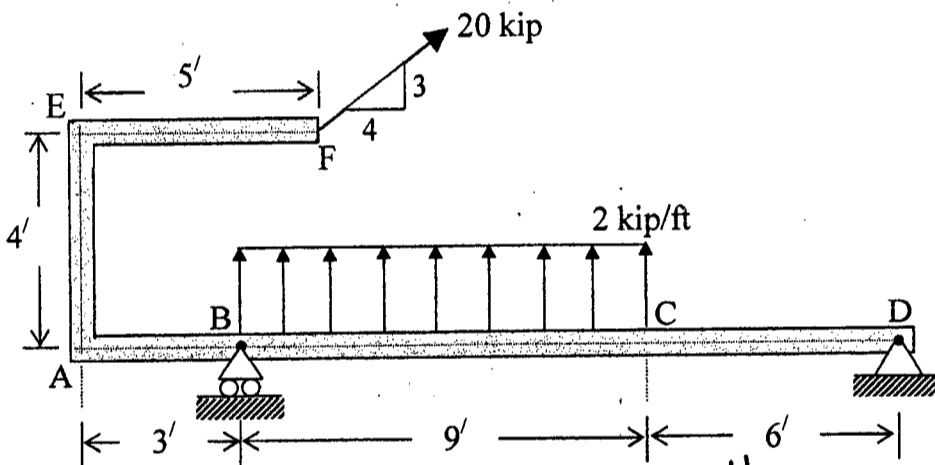|— 4′ —|— 4′ —|— 4′ —|— 6′ —|

Figure 12 for Question (12)

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10. Draw shear force and bending moment diagram for the restrained beam 'ABCDE' (having an internal hinge at 'C') loaded as shown in Figure 13. **(21)**

Figure 13 for Question (13)

11. Draw axial force, shear force and bending moment diagram for the beam 'ABCD' loaded as shown in Figure 14. **(21)**
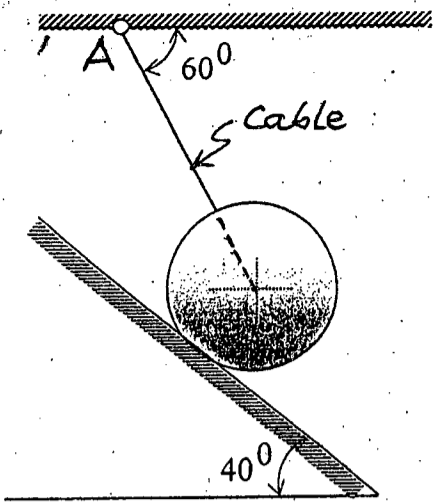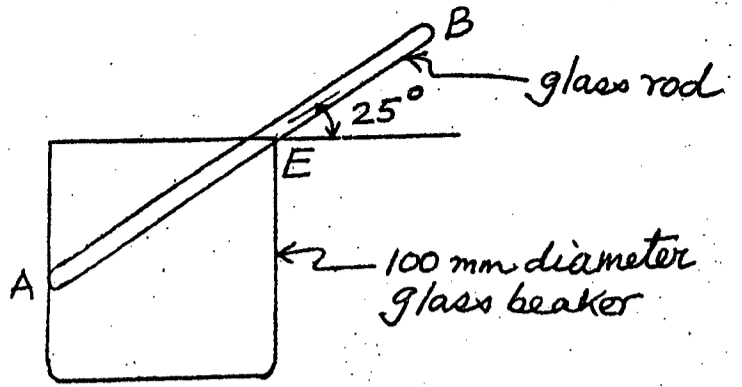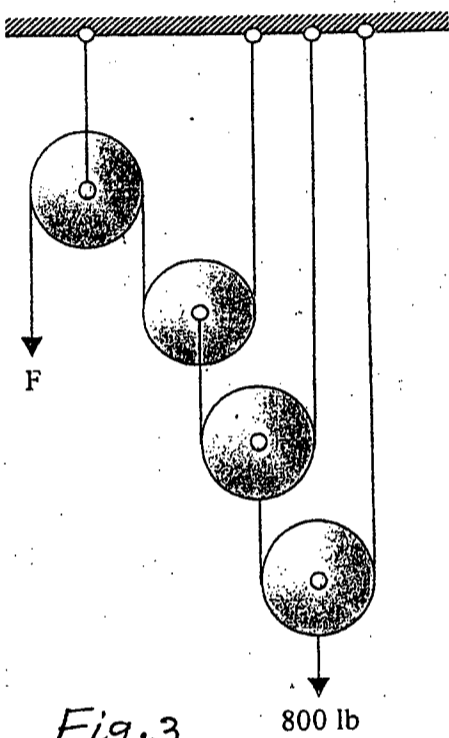
Figure 14 for Question (14)

A

60°

Cable

40°

Fig.1

B

glass rod

25°

E

100 mm diameter
glass beaker

A

Fig.2

F

Fig.3

800 lb

(-5,6)

200# 30°

100#

30°

(3,4)

(0,0)

origin

x

(2,-3)

500#

400#

(-4,-7)

Fig.4

C

50°

wall

Cable

A

60°

bar

B

Fig.5

y

$y^2 = 16x$

$y = 2x$

x

Fig.6

5'

A   C   E

50#

6'

B   F

D

100#

5'   10'

Fig.7

P6

Fig. 8

12"

10"

A

16"

B

hanger

D

C

Fig. 8

Fig. 9

50 mm

600 mm

250 mm

90 mm

150 mm

Fig. 9

Fig. 10

4 KN

g

2 m

4 KN

j

4 KN

5 KN

e

f

h

i

2 m

5 KN

c

d

2 m

a

b

3 m

3 m

3 m

Fig. 10

Fig. 11

y

$x^2 = 4y$

$x = 8\ inch$

x

Fig. 11

Fig. 12

Smooth peg

Smooth peg

8"

2"

60°

Cable

Cable

C

D

B

A

150 lb

Fig. 12

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-3/T-1 BURP Examinations 2010-2011
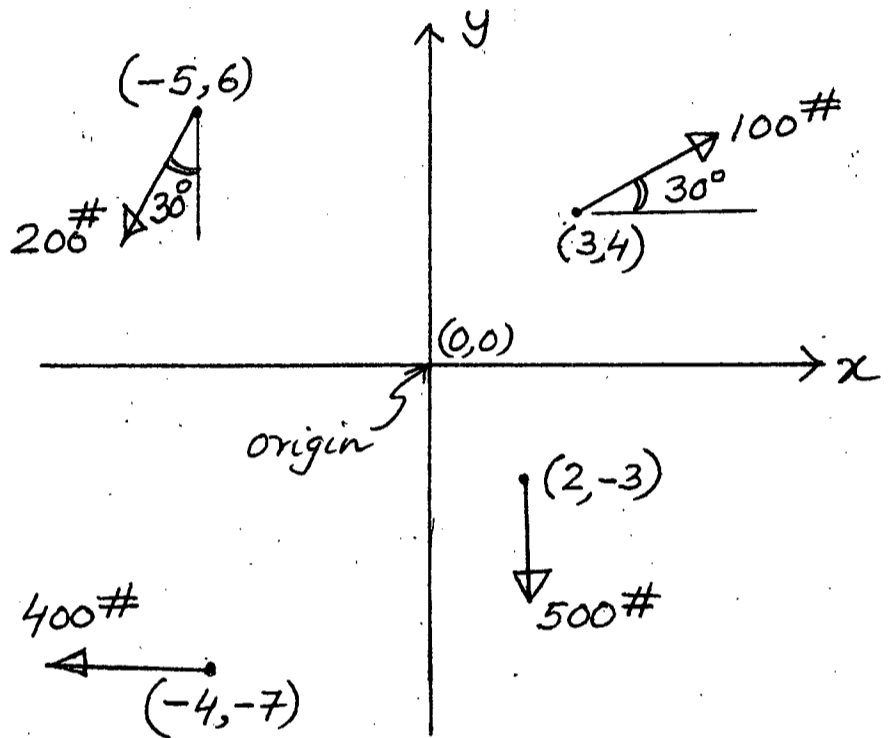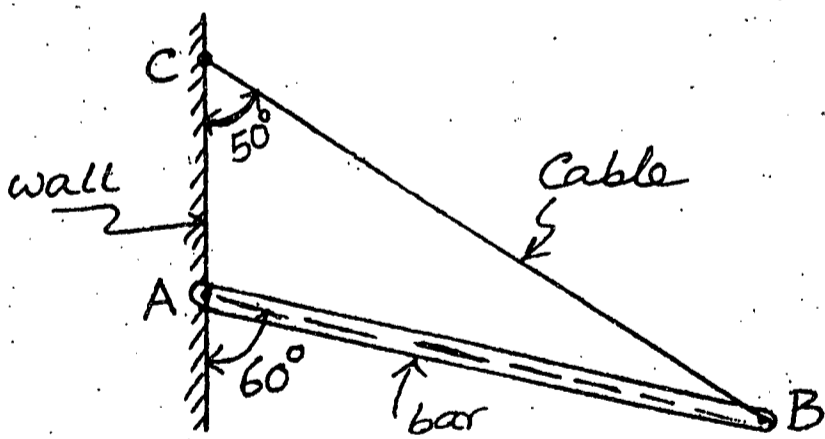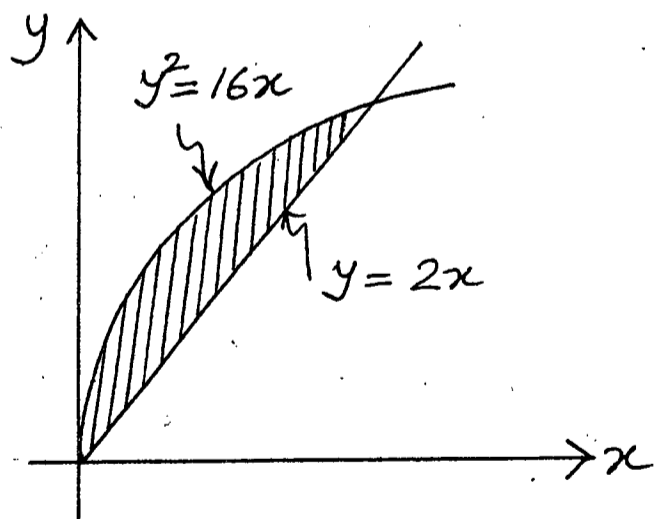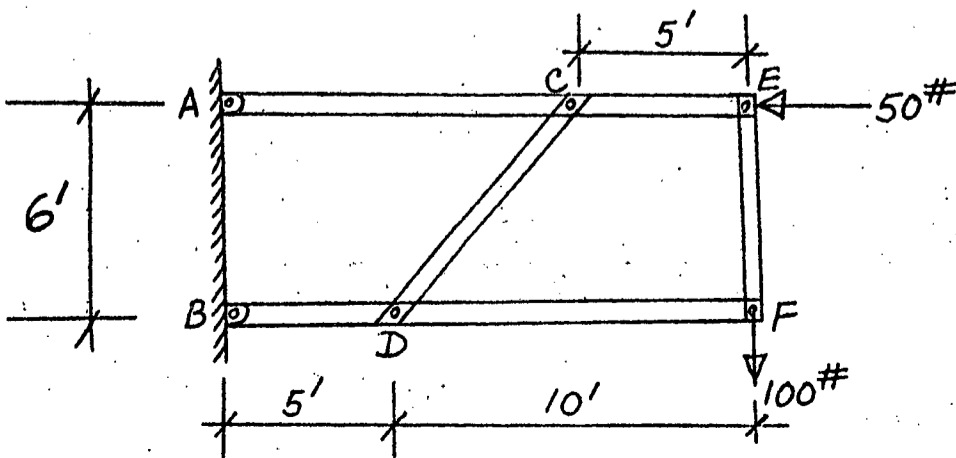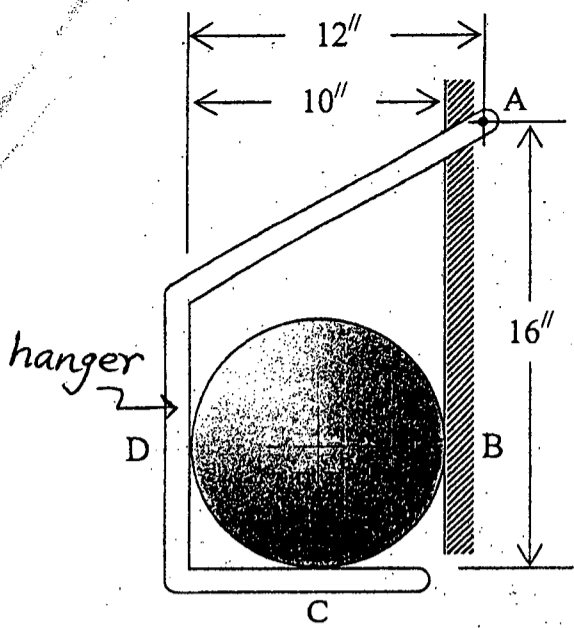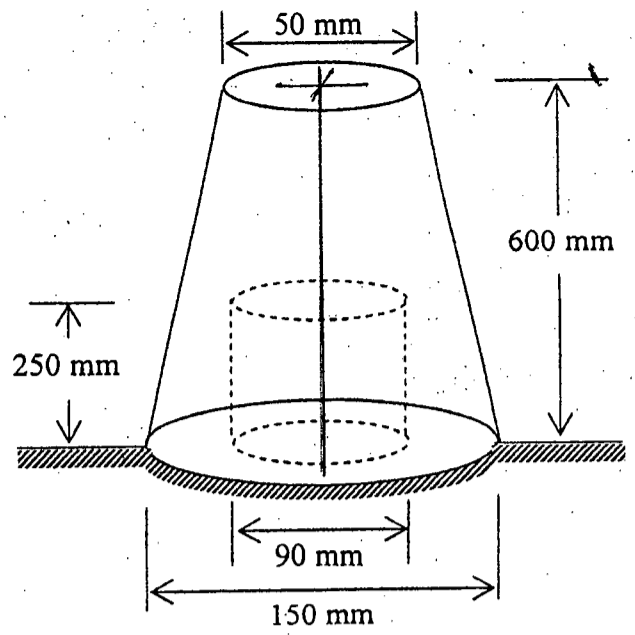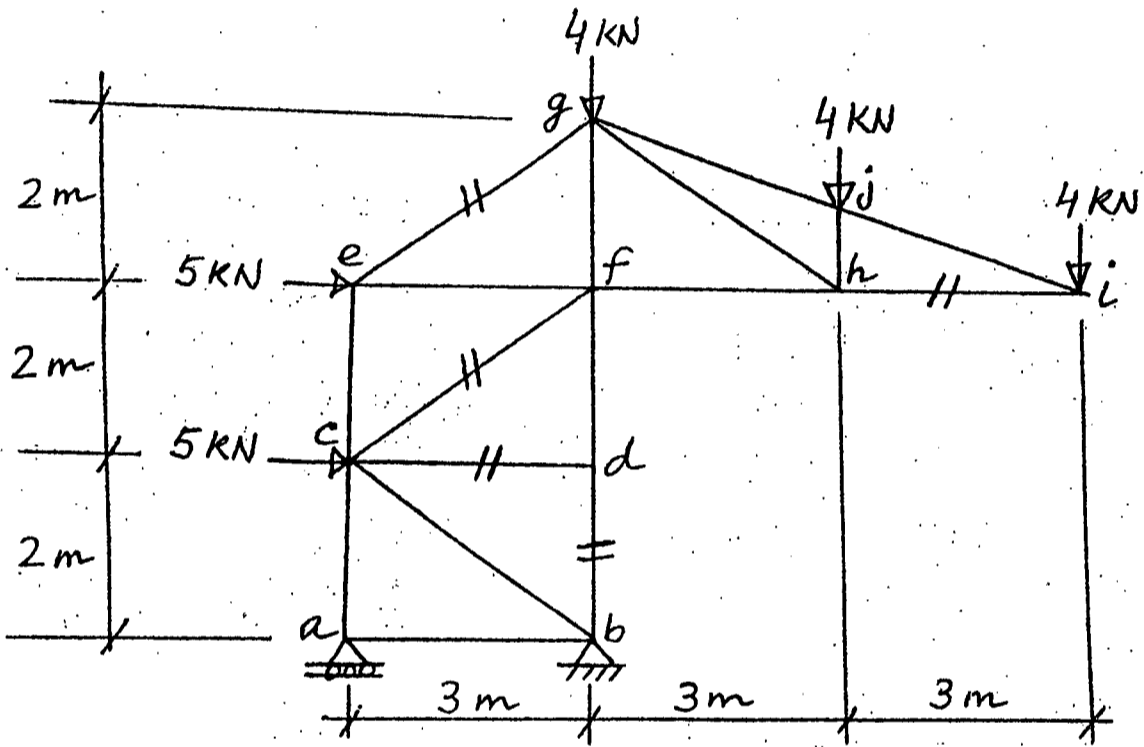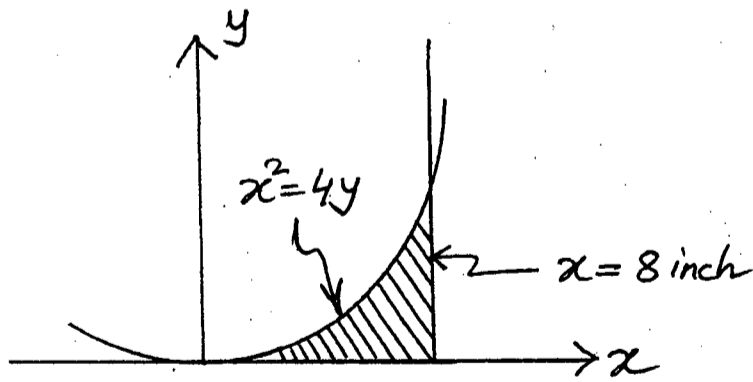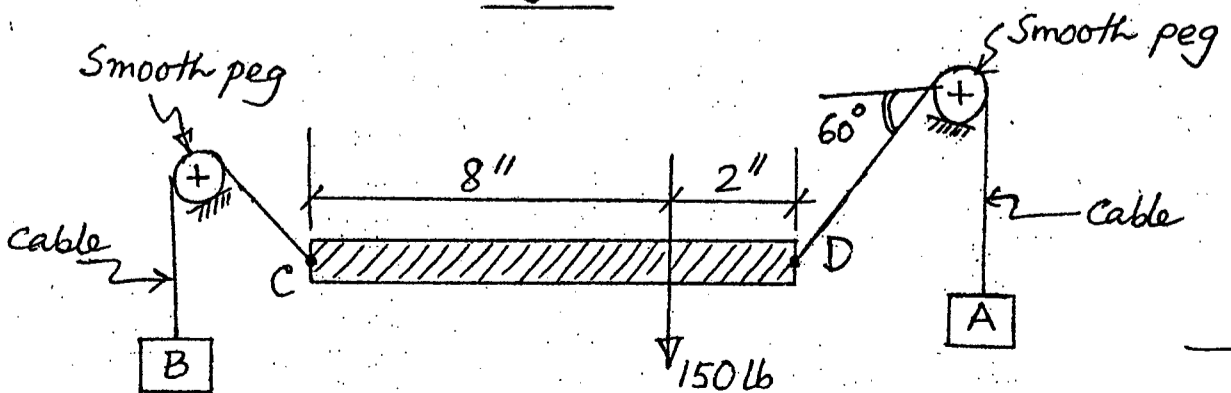
Sub : **WRE 309** (Introduction to Water Resources Planning)

Full Marks: 210   Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this Section. Answer any **THREE**.

1. (a) What is Water Resources Planning? Discuss the necessity of water resources planning. **(2+6)**

    (b) Explain framework planning with an appropriate example. Describe the main phases while planning water resources project. **(6+6)**

    (c) What is IWRM? Discuss the various components of the water resources system considered in IWRM. **(2+4)**

    (d) Briefly explain the process of SIA. Discuss the rationale for water pricing in context of IWRM. **(3+6)**

2. (a) Classify rivers based on planform. Draw a typical cross-section of a braided river. **(6+4)**

    (b) Explain the process of meander development in an alluvial river. What are the factors that govern meandering process. **(8+2)**

    (c) Why waterways communication is important in Bangladesh? **(5)**

    (d) Describe the open channel method of navigation. What are the options for achieving open channel navigation? **(6+4)**

3. (a) Classify river training works. Enlist the objectives of river training works. **(6+6)**

    (b) Write short notes on– **(4+4)**
          (i) Permeable groyne (ii) Marginal embankment

    (c) What is dredging? Discuss various aspects while planning a dredging project. **(2+10)**

    (d) What is artificial cutoff? **(3)**

4. (a) Draw a typical layout of an irrigation project. What are the factors that should be considered while planning an irrigation project? **(4+7)**

    (b) Classify irrigation project based on area coverage. Describe the process of investigation for irrigation distribution system. **(3+11)**

    (c) What are the sources of irrigation water? Discuss the factors that govern the percentage of sharing of these sources. **(2+3)**

    (d) Enlist the general methods of irrigation. Write down the advantages and disadvantages of furrow irrigation. **(2+3)**

SECTION – B

There are **FOUR** questions in this Section. Answer any **THREE**.

Symbols have their usual meanings.

5. (a) What do you man by (i) Cyclonic precipitation (ii) Orographic precipitation (iii) Normal rainfall (iv) Hyetograph (v) Mass curve of rainfall. **(10)**

(b) Write the essential conditions for formation of precipitation. Show in a schematic diagram the cycle of formation of raindrops in the atmosphere. **(9)**

(c) Describe with a neat diagram the hydrologic cycle. **(6)**

(d) A lake had a water surface elevation of 102.3 m above datum at the beginning of a certain month (31 days). In that month the storage received an average inflow of 6.0 m^3/s from surface runoff sources. In the same period the outflow from the lake had an average value of 6.3 m^3/s. Further, in that month, the lake received a rainfall of 50 mm and the evaporation from the lake surface was estimated as 5.8 cm. Write the water budget equation for the lake and calculate the water surface elevation for the lake at the end of the month. The average lake surface area can be taken as 4500 ha. Assume that there is no contribution to or from the ground water storage. **(10)**

6. (a) Briefly describe the water budget and energy budget method of estimating evaporation from a lake. **(4+5)**

(b) Briefly describe the factors affecting evaporation. Why pan coefficient is needed in calculation of lake evaporation? **(7+4)**

(c) Calculate the potential evapotranspiration from an area (26°N latitude) for the month of October by Penman method. The data and equation are given below: **(15)**

Mean temperature 22.5°C, Mean relative humidity = 68%, mean observed sunshine hours = 9 h, wind speed at 2 m height = 80 km/day. Slope of the saturation vapor pressure-temperature curve at 22.5°C = 1.24 mm of Hg per °C, extraterrestrial radiation 9.3 mm of water per day, maximum possible sunshine hours =10.6 h, Saturation vapor pressure = 2.044 cm of Hg, reflection coefficient = 0.23.

$$H_b = 2.01 * 10^{-9} (T_{avg})^4 (0.56 - 0.092\sqrt{e_a})(0.10 + 0.90 \, n/N)$$

7. (a) What do you mean by (i) Rating curve (ii) Auxiliary gauge (iii) Unit hydrograph (iv) Φ-index. **(8)**

(b) Write the advantages and limiting factors of Ultrasonic method of stream flow measurement. Why shifting control occurs? **(5+3)**

WRE 309

Contd ... Q. No. 7

(c) What is baseflow? Briefly describe the methods of base flow separation with diagram. **(2+8)**

(d) A storm of 6-h duration and having rainfall excess values of 3 cm occurs in a catchment. After an interval of 6-h another storm of 6-h duration and having rainfall excess values of 2 cm occurs in the same catchment. Given below are the ordinates of a 6-h unit hydrograph for catchment. If the base flow is 20 m³/s, find the ordinates of the flood hydrograph. **(9)**

T(h)	0	6	12	18	24	30	36	42	48	54	60	66	72
Q(m³/s)	0	55	120	175	180	160	140	60	40	15	10	5	5

8. (a) What are the inlet and outlet woks in a drainage system? **(5)**

(b) Differentiate between (i) Aquitard andAquiclude (ii) Leaky aquifer and Unconfined aquifer. **(3+3)**

(c) What are assumptions necessary for the derivation of steady flow in a well in confined aquifer? Derive an equation for steady flow to a well in a confined aquifer. **(4+7)**

(d) A 30-cm well fully penetrates an unconfined aquifer of saturated depth 25 m. After a long period of pumping at a steady rate of 1800 l/min, observation wells at redial distances of 35 and 85 m indicated drawdown of 6 and 4 m respectively. Determine the transmissivity of the aquifer. What is the drawdown at the pumping well? **(13)**

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-3/T-1   BURP Examinations 2010-2011

Sub : **HUM 225** (Accounting)

Full Marks : 140   Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this section. Answer any **THREE**.

1. (a) Define Accounting? Why is accounting an information system? $(3\frac{1}{3})$

    (b) Show the effects of the following transactions on assets, liabilities and owner's equity in a good form –   **(20)**

    (i) On November 1, 2011 Rezwan Khan, the owner of Khan Company, invested Tk. 30,000 cash in the business.

    (ii) The company borrowed Tk. 6,000 from Khan's father on November 5. Khan signed the note for the company.

    (iii) Khan bought (by paying cash) a delivery van Tk. 3,000.

    (iv) Khan purchased Tk. 1000 of office furniture on account on November 12, agreeing to pay within 10 days after receiving the bill.

    (v) Eight days after receiving the bill, Khan paid Tk. 1000 for the office furniture purchased on account.

    (vi) Khan performed delivery services for a customer on November 21 who agreed to pay Tk. 900 at a later day.

    (vii) He paid employees Tk. 2,600 in salaries on November 25.

    (viii) Khan performed cleaning services for a large motel chain and received Tk. 4800 cash on 28th November.

    (ix) Khan received a Tk. 600 bill for gas and oil consumed during the month on November 30.

    (x) Paid cash Tk. 700 for utility expanse.

2. Mr. Mamun started his own consulting firm on May 1, 2011. The following transactions occurred during the month of May. $(23\frac{1}{3})$

May-1	Mamun invested Tk. 200,000 cash to start business
May-2	Purchased supplies for Tk. 12,000; paid Tk. 6000 in cash and the balance on account.
May-8	Paid cash Tk. 1000 to the Daily Prothom Alo for advertising expense.
May-12	Service provided to customers Tk. 5000 on account.
May-20	Withdraw Tk. 2000 cash from the business for personal use.
May-30	Received cash Tk. 5,000 from customers billed May 12.

HUM 225

Contd ... Q. No. 2

Required:

(i) Journalize each transactions

(ii) Post the journal entries to the appropriate ledger accounts

(iii) Prepare Trial Balance on May 31, 2011

3. (a) Following pieces of information have been taken from the records of a company in 2010.   **(13 ⅓)**

Balance Sheet
As on December 31, 2010

Assets	Tk
Cash	20,000
Accounts Receivable	65,000
Inventories	20,000
Plant and Machinery	100,000
Vehicles	5,000
Total assets	210000

Liabilities and Owner's Equity

Account payable	10,000
Salaries payable	3,000
Other current liabilities	2,000
Long Term Loan	50,000
Capital	100,000
Retained Earnings	45,000
Total liabilities and owner's equity	210,000

Other informations:

Sales were Tk. 150,000 and Net Income for the year 2010 was Tk. 30,000.

Required:

(i) Current ratio, (ii) Quick ratio,

(iii) Debt to Equity Ratio, (iv) Return on Owner's equity,

(v) Accounts Receivable turnover (based on sales)

(b) Following ar the pieces of information of Rahul Advertising services –   **(10)**

Rahul Advertising Services
Trial Balance
For the year ended November 30, 2010

Accounts Titles	Before Adjustments Dr.	Cr.	After Adjustments Dr.	Cr.
Cash	12500		12500	
Account Receivable	23600		23600	
Prepaid Insurance	3100		1600	
Depreciation expense building			2500	
Depreciation expense equipment			3900	

HUM 225

Contd ... Q. No. 3(b)

Accounts Titles	Before Adjustments		After Adjustments	
	Dr.	Cr.	Dr.	Cr.
Insurance expense			1500	
Interest expense			10,000	
Land	56,000		56,000	
Building	106000		106000	
Equipment	48000		48000	
Accounts payable		10400		10400
Unearned Revenue		4000		1800
Mortgage Payable		100000		100000
Capital		120000		120000
Drawing	20000		20000	
Service Revenue		75600		75600
Rent Revenue		24000		26200
Salaries expense	32000		32000	
Advertising expense	17000		17000	
Utility expense	15800		15800	
Accumulated Dep.-Building				2500
Accumulated Dep.-Equipment				3900
Interest payable				10000
	334000	334000	350400	350400

Required: Journalize the adjusting entries that were made.

4. Adjusted Trial Balance of Raffle Motel Services is given below: (23⅓)

Raffle Motel Services
Adjusted Trial Balance
June 30, 2010

Accounts Titles	Debit (Tk.)	Credit (Tk.)
Cash	22,000	
Accounts Receivable	37,000	
Supplies	13,000	
Prepaid Insurance	12,000	
Land	80,000	
Equipment	56,000	
Accumulated Depreciation-Equipment		28,000
Building	38,000	
Accumulated Depreciation-Building		23,000
Notes payable		45,000
Accounts payable		17,000
Salaries payable		12,000

HUM 225
Contd ... Q. No. 4

Accounts Titles	Debit (Tk.)	Credit (Tk.)
Interest payable		10,000
Capital		58,000
Drawings	12,000	
Service Revenue		187000
Advertising expense	18000	
Supplies expense	14000	
Depreciation expense	29000	
Insurance expense	10,000	
Salaries expense	28000	
Interest expense	11000	
Total	380000	380000

Required:

(i) Prepare an income statement for the year ended on June 30, 2010.

(ii) Prepare an Owner's Equity Statement for the period assuming Raffle has invested Tk. 8000 during the year.

(iii) Prepare a classified balance sheet. Assume that Tk. 15000 of the notes payable become due for payment within June 30, 2010.

SECTION – B

There are **FOUR** questions in this section. Answer any **THREE**.

5. (a) Define cost accounting. How does cost accounting play a vital role in a modern business organization? $(3\frac{1}{3})$

(b) "The variable cost per unit varies with output, whereas the fixed cost per unit is constant". Do you agree? Explain. **(5)**

(c) The following information has been taken from the records of ABC Ltd. that relates to the accounting period ended December, 2011. **(15)**

Beginning finished goods inventory	$ 260,000
Ending finished goods inventory	210,000
Beginning Work In Process	180,000
Ending Work In Process	100,000
Raw materials, Beginning Inventory	90,000
Raw materials, Ending Inventory	60,000
Raw material purchased	750,000
Direct labor	150,000
Freight In	20,000
Sales	25,00,000

HUM 225

Contd ... Q. No. 5(c)

Factory related expenses	2,00,000
Depreciation-Machinery	30,000
Depreciation-Office	20,000
Factory rent	3,00,000
Selling expenses	1,40,000
Office expenses	1,00,000
Purchase return and allowances	10,000
Sales return and allowances	15,000

Required: Prepare a Cost Goods Sold Statement.

6. (a) What do you understand by Cost Volume Profit Analysis? What are the assumptions required for this? **(5⅓)**

(b) X company has provided the following information to conduct some necessary analysis: **(18)**

Details	Total ($)	Per Unit ($)
Sales (20,000 units)	$ 12,00,000	$ 60
Less : Variable expenses	9,00,000	45
Contribution margin	3,00,000	15
Less : Fixed expenses	2,40,000	
Net operating income	60,000	

Management is concerned to increase the company's profit and has asked for an analysis of a number of items.

Required:

(i) Compute the company's Contribution Margin ratio and Variable expense ratio.

(ii) Compute the company's break-even point in both units and dollars.

(iii) Refer to the original data, assume that next year the management wants the company to earn a profit of at least $ 90,000. How many units will have to be sold to meet this target profit?

(iv) Compute the company's degree of operating leverage at the present level of sales.

(v) Refer to the original data, the sales manager is thinking that a 10% reduction in the selling price, combined with an increase of $ 50,000 in the period, will cause unit sales to double. If these changes are adopted, what will be the new break-even point? and new net operating income?

HUM 225

7. (a) What do you mean by cost allocation? What are the different approaches of cost allocation? **(5⅓)**

(b) ABH Consulting provides outsourcing services and achieve to both government and corporate clients. For costing purposes, ABH classifies its departments into two support departments (A and B) and two operating departments (OP-1 and OP-2). For the first quarter of 2011, ABH incurs the following costs in its four departments: **(18)**

Departments: A $ 6,00,000

                     B   12,00,000

                     OP-1   20,00,000

                     OP-2   60,000

The actual level of support relationship among the four departments are as follows –

Supplied By	Used By			
	A	B	OP-1	OP-2
A	---	25%	40%	35%
B	10%	---	30%	60%

Required:

You are asked to allocate the two support department (A and B) costs to the two operating departments using the following methods:

(a) Step-down method

(b) Reciprocal method

8. (a) Define tax. What are the characteristics of tax? **(6⅓)**

(b) In Bangladesh why most of the people do not like to pay tax? How it can be tackled? **(5)**

(c) Determine the residential status of the assesses in the following situations: **(12)**

(i) Mr. Iqbal left Bangladesh for the first time on 2nd August 2010 and returned back to Bangladesh on 2nd February 2011. Identify his residential status for the income year 2010-2011.

(ii) Yunis Khan, a cricketer, stayed in Bangladesh over a period of last six years. Identify his residential status for the income year 2010-2011.

Year	2005-06	06-07	07-08	08-09	09-10	10-11
Days	50	40	85	90	100	94

What will be his tax rate for the assessment year 2011-2012?

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA
L-3/T-1   BURP Examinations 2009-2010
Sub : **PLAN 321** (Housing and Real Estate Development)
Full Marks : 210   Time : 3 Hours
The figures in the margin indicate full marks.
USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this Section. Answer any **THEEE**.
Acronyms have their standard meanings.

1. (a) Name the design categories for measuring the sustainability of a home according to Code Sustainable Homes (2006), Department for Communities and Local Government : London.   **(5)**

(b) Consider a city with 100 acres of undeveloped land and no zoning plan has developed for the city. Equilibrium price of land in the city is $ 10,000 per acre. At this price market and apartments. At this circumstance, the city condition is equilibrium and land is divided equally between SFHS, a zoning ordinance passes that limits apartment building to a total of 30 acres of land. Show the effects of large lot zoning on land owners and housing consumers with graph. Calculate available area (in acre) for single-family homes and price of land/acre for both SFH and apartment after zoning regulation.   **(14)**

(c) According to Real Estate Development and Management Act (2010) define the following terminology: **(2×5=10)**

(i) Plot, (ii) Building services, (iii) Real estate, (iv) Floor space, and (v) Common space.

(d) State the reasons behind the large scale investment in Real Estate sector.   **(6)**

2. (a) Discuss Real Estate market characteristics and Investment Strategies. Draw a framework of the supply/demand balance for each property type at one point in time.   **(6×5=11)**

(b) What is Personal Property and Special Warranty Deed? Classify Estates. Also define Mortgage and Promissory note.   **(4×3=12)**

(c) From the Hedonic study of a market, base price of an average house is assumed to be $ 70,000. The average house has 3 bedrooms, is 5 miles from the city centre and has a 6 years old roof.   **(12)**

Base price : $ 70,000   drops
Access price : price inverses by $ 1,000
Bedroom price : price increases by $ 10,000
Roof price : price decreases by $ 100
Air quality price : price decreases by $ 500
School price : price inverses by $ 600   increases

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Contd ... Q. No. 3

Calculate the market price of a 5 bedroom house (located 6 miles from the city centre that has a 2 year old roof, pollution level is 4 units below the average and the average test score based on school quality is four points above the average) using the Hedonic study of market price of housing.

3. (a) Discuss the sources of Housing finance in Bangladesh. Which major issues have been focused in National Housing Policy? (5+4=9)

(b) Assume a city initially has no building permit. Equilibrium quantity of houses/year: 120 Equilibrium price : $ 60,00/house (14)

Developers make zero economic profit. Suppose that the city limits the number of building permits to 80/year. The permit policy increases the equilibrium price of housing by $ 20,000. If only 80 houses are built, the production cost drops to $ 45,000/house. How the city allocates the 80 building permits among its developers? Also calculate the monetary value or market price of each permit. Show these market effects of building permit. Show these market effects of building permits with the help of graphical representation (housing demand and supply curve).

(c) Show in Market demand and supply curve, what sort of changes in market variables would cause the curves to shift from market equilibrium situation? (12)

4. (a) Compare effluent fee policy with zoning policy. (13)

(b) Conceptualize Urban Economics. What is your understanding about market forces in the development of cities? (7+3=10)

(c) Show the difference between General equilibrium effect and partial equilibrium effect of an urban service boundary as a way to limit the land area of a city. (12)

SECTION – B

There are **FOUR** questions in this Section. Answer any **THREE**.

5. (a) What are the problem faced by the residential committee in the big cities of Bangladesh? Discuss with examples. (17½)

(b) What should be the goal for attaining livable communities and quality of urban life? State reasons. (17½)

6. (a) What are main factors of a housing policy? What are the sub-sets of there factors? (15)

(b) Make a comparative discussion of the housing policies of Bangladesh with that of India. (20)

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7. (a) Define housing need and demand. **(5)**

   (b) What are the constraints in fulfilling the effective demand for housing in Bangladesh?

   (10)

   (c) How did the public sector became the main provider of housing in Singapore? What role did the private real state sector play in this regard? **(20)**

8. (a) "The failure of the market force to respond to greater supplies of housing is traceable in part to imperfections in the housing markets." Explain this statement. **(11)**

   (b) Write short notes on the following: **(3×8=24)**

   (i) Institutional constraints reducing flow of resources into the housing sector.

   (ii) Economic imperfections leading to decreased flow of reasons to the housing sector. *resources*

   (iii) Subsidies and market interdependence.