

L-2/T-1/URP

Date : 31/12/2012

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-2/T-1 BURP Examinations 2011-2012

Sub : **HUM 179** (Sociology)

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 do you understand by urban, urbanization and urbanism? (10)
(b) Define mega city. Write down the list of mega cities. (10)
(c) Briefly describe the bright side and dark side of urban life. (15)
2. (a) What do you mean by environment and pollution? Briefly discuss the major pollution issues in Bangladesh. (10)
(b) Explain with a brief criticism the optimum population theory. (10)
(c) Define and classify the various types of industries in Bangladesh. (15)
3. (a) Define human migration. What are the social causes of human migration? (10)
(b) Define capitalistic society. Briefly discuss the social consequences of capitalism. (15)
(c) What functions does the family perform for society? (10)
4. Write short notes on any THREE of the following: (35)
 - (a) Global warming
 - (b) Mumford's theory
 - (c) Features of capitalism
 - (d) The growth of cities

SECTION – B

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

5. (a) Why do sociologists maintain a value neutral position for studying social relationships? Explain with examples. (10)
(b) 'Ethnocentrism is a habit ^{to} of judge other ways of life by the standards of our own group' – Explain. (10)
(c) How do conflict viewers differ from functionalists for explaining the roles of culture? (15)

Contd P/2

HUM 179

6. (a) If you conduct a study on 'Facebook and social interactions' how will you design your research? Explain highlighting different steps of doing research in social sciences. (20)
- (b) Discuss the functionalist theoretical perspective of sociology. (15)
7. (a) What do you understand by poverty? Critically explain the 'poverty reduction model' in the context of Bangladesh. (15)
- (b) Define globalization. Illustrate the contribution of mass media and technology in the process of globalization. (20)
8. Write short notes on any three of the following: (35)
- (a) Social mobility
 - (b) Theory of socialization
 - (c) System of social stratification
 - (d) Dominant ideology
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Sub. All
7.13

L-2/T-1/URP

Date : 07/01/2013

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-2/T-1 BURP Examinations 2011-2012

Sub : **CE 209** (Construction Materials and Civil Engineering Structures)

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) Give a brief classification of 'roadway' according to different criteria. Give three examples (if exists) of each of them. (8)
- (b) Draw qualitative figure of the following roadway intersections. (6)
 - (i) Channelized 'Y'.
 - (ii) Channelized roundabout.
- (c) State eight differences between flexible pavement and rigid pavement. (4)
- (d) State the significance of asphalt as engineering construction and maintenance material mentioning its characteristics and advantages. (2 1/3)
- (e) What are the desirable properties of aggregate for use in asphalt construction? (3)
2. (a) Draw qualitative flow chart of the distillation process for producing emulsified and cutback asphalt from petroleum. (6)
- (b) What is slag? Mention some uses of slag. (3)
- (c) Mention some important physical properties and uses of cast iron. (4)
- (d) Draw typical stress-strain diagram for mild steel and identify different regions on the graph. (4 1/3)
- (e) Write short notes on 'Copper' and 'Aluminum' as non-ferrous metals of great engineering and industrial importance. (6)
3. (a) Which properties of 'plastics' contribute to its widespread uses in engineering constructions? (2 1/3)
- (b) Differentiate between 'Thermoplastics' and 'Thermosetting plastic' and also mention their different fields of uses. (5)
- (c) Classify soil according to their grain size. (4)
- (d) Mention some physical properties of clay. Define 'void ratio' and 'plastic limit'. (2+4)
- (e) A 2.5 ft³ oven dried soil mass weighs 330 lb. Specific gravity of the soil mass is 2.70 if 30 lb water is thoroughly mixed with the soil mass, what will be the – (6)
 - (i) Wet unit weight
 - (ii) Void ratio.

Contd P/2

CE 209

- 4. (a) Define Hydrology. State six practical applications of hydrology. (2+2)
- (b) Define 'percolation' and 'evapotranspiration' of water. (3)
- (c) What are the main purposes of water measurement structures? (3)
- (d) Compare between 'weir' and 'barrage' with schematic diagram. (5 1/3)
- (e) What do you mean by gravity 'weir' and 'non-gravity weir'? (4)
- (f) Define canal regulation works. Give examples of four canal regulation works. (2+2)

SECTION – B

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

- 5. (a) What is 'Frog Mark'? Why frog mark is used in brick? (3)
- (b) Write down the characteristics of good bricks. List the common laboratory tests that are carried out to determine the quality of good bricks. (5 1/3)
- (c) Name the different steps in the manufacturing process of bricks. (3)
- (d) Identify the following terms relating to the growth and structural characteristics of timber with a neat sketch. (i) Pith, (ii) Bark, (iii) Medullary Ray and (iv) Annual Ring. (2)
- (e) What is plywood? List the different types of natural and artificial defects in timber. (5)
- (f) State the objectives of seasoning of timber. List the principal methods of seasoning of timber. (5)
- 6. (a) Write down the functions of four principle compounds (C_3A , C_3S , C_2S , C_4AF) in cement. (8)
- (b) List the laboratory tests that are generally carried out to determine the quality of cement. (3)
- (c) How do the following cements differ from ordinary Portland cement in functions and ingredients? (5)
 - (i) Rapid Hardening Cement
 - (ii) Quick Setting Cement
- (d) What is workability of concrete? Name the factors affecting workability of a concrete. (3 1/3)
- (e) Write explanatory notes on the following: (4)
 - (i) Segregation
 - (ii) Bleeding
- 7. (a) What is bulking of sand? Explain the bulking of fine, medium and coarse sand with a qualitative graph. (5)
- (b) The following table shows the results of sieve analysis of two aggregates. If the aggregate 1 is mixed with aggregate 2 in 1.5 : 2.5 ratio, what will be the Fineness Modulus (FM) of the combined aggregate? (13 1/3)

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Sieve size	Material Retained (gm)	
	Aggregate 1	Aggregate 2
3/4 in	0.0	0.0
3/8 in	0.0	14.0
# 4	6.0	27.0
# 8	18.5	45.0
# 16	78.6	88.0
# 30	142.0	115.0
# 40	103.5	81.0
# 50	85.0	65.0
# 100	50.0	45.0
# 200	13.4	18.0
Pan	3.0	2.0

(c) What is reinforced concrete? Explain the role of steel in reinforced concrete. (3)

(d) Draw qualitative stress-strain diagram for timber and steel. (2)

8. (a) List the important parameters (factors) on which properties (strength, durability, impermeability and workability) of concrete depends. (5 1/3)

(b) Calculate the volume of different materials in 100 cuft of the following concrete. (8)

(i) Plain cement concrete (1 : 2 : 4) and

(ii) Reinforced cement concrete (1 : 2 : 3) with 1% reinforcement.

(c) Show that effects of water cement ratio and size of the coarse aggregate on the strength of the concrete by drawing qualitative graph. In designing a concrete mix, the water/cement ratio was taken to be 0.5. Determine the amount of water required in gallons per bag of cement. (2+3=5)

(d) Estimate the nos. of bricks required to construct a cylindrical shape silo with the following information: (5)

Height of silo = 30 ft; thickness of the brick wall = 10 inch

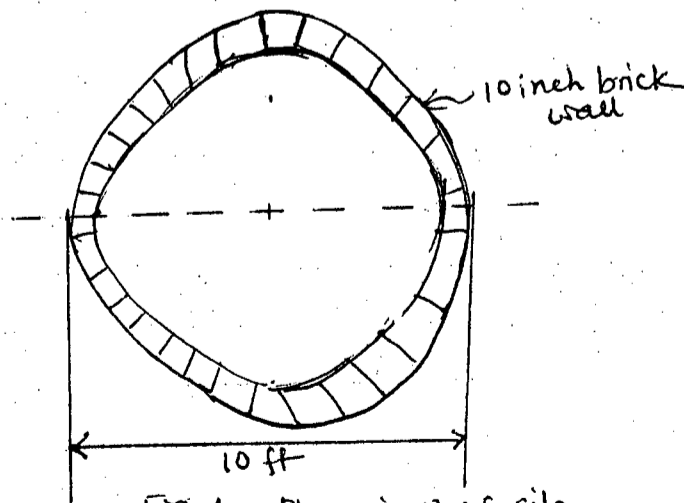


Fig. 1. Plan view of silo

L-2/T-1/URP

Date : 19/11/2012

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-2/T-1 BURP Examinations 2011-2012

Sub : **PLAN 217** (Site And Area Planning)

Full Marks: 210

Time : 3 Hours

USE SEPARATE SCRIPTS FOR EACH SECTION

The figures in the margin indicate full marks.

SECTION – A

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

1. (a) Why it is necessary to consider adjacent land use during any kind of site planning? (7)
(b) How can you treat a "Y" and a "T" cut-de-sac? Explain with necessary diagrams. (7)
(c) Write about the design requirements of a community water supply system. Also draw a comparative scenario between individual well and community water supply system. (15+6=21)
2. (a) How does the impermeable surface area influence both the groundwater depletion and urban flooding problems? Discuss the scenario with necessary diagrams. What can be the possible solutions for such problems? (12+3=15)
(b) Draw a comparative scenario among four major types of layout patterns of sub-division planning. (16)
(c) Name the four elements of a water supply system. (4)
3. (a) What is a runoff co-efficient? Draw a table to show different runoff co-efficients for different surface area. (2+6=8)
(b) "Complete segregation" or "complete aggregation" of different socio-economic groups in a neighborhood unit is not a good design standard — do you agree with the statement? Discuss your answer with necessary example. (8)
(c) What is a recharge structure for rainwater harvesting? Explain its importance along with diagram. (2+12=14)
(d) Which factors are needed to ensure a good environment in sub-division planning? (5)
4. Write short notes on: (5×7=35)
 - (i) Major design requirements of cut-de-sac pattern,
 - (ii) Components of rainwater harvesting system,
 - (iii) Modified gridiron pattern,
 - (iv) Management practices of water supply system,
 - (v) Advantages of public sewerage system.

PLAN 217

SECTION - B

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

5. (a) Define "Site and area planning". List the factors necessary for consideration in selecting and analyzing a site. **(15)**
(b) "Every natural and man-made site (unique to some extent) is a connected web of things and activities." — Illustrate the quoted sentence in your own words. **(20)**

 6. (a) In the perspective of site and area planning, what are the different ways to control sound? Explain each of them. **(15)**
(b) Illustrate, using diagrams how micro-climate affects a site. **(20)**

 7. (a) Why does shadow of a site depend on sun angle? Explain how to derive the shadow of a site. **(20)**
(b) Explain the different shapes of a space in site planning. **(5)**
(c) Using diagram, explain how the drainage system of a site should be designed. **(10)**

 8. (a) What do you mean by "industrial district"? Explain the criteria for selecting a site for industrial district. **(20)**
(b) What are the objectives of designing a shopping centre? Describe the common configurations of designing a shopping centre. **(15)**
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HUM 179

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