

L-1/T-2/ARCH

Date: 15/10/2022

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-1/T-2 B. Arch. Examinations 2020-2021

Sub: ARCH 155 (Climate and Design)

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 **Q. No. 1** and any **TWO** from the rest.

1. Write short notes on the any **THREE (3)** of the following: **(8×3=24)**
 - (a) Psychometric Chart
 - (b) Acclimatization
 - (c) Comfort zone
 - (d) Warm-humid Climate
2. Describe heat exchange process of human body and explain how human body loses heat in various thermal environment. **(8+15=23)**
3. Critically describe the relationship between the earth and the sun and explain how it influences the amount of radiation that the earth receives. **(8+15=23)**
4. How do local factors influences the climate factors of a zone? Describe using diagrams. **(23)**

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

5. Write short notes on any **THREE (3)** of the following: **(8×3=24)**
 - (a) Periodic Heat flow
 - (b) Thermal Mass
 - (c) Stack Effect
 - (d) Shadow angles
 6. Evaluate the process to maintain thermal balance of a building. **(23)**
 7. What are the functions of ventilation? How do opening, direction, position and control affect air flow inside buildings? **(5+18=23)**
 8. Explain the fundamentals of passive cooling using examples from our local climate. **(23)**
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SECTION – A

There are **FOUR** questions in this section. Answer **Q. No. 4** and any **TWO** from the rest.

1. Explain the term "Pictorial Narration" with the examples of "Warka Vase" and "Standard of Ur". Use simple annotated drawings. (23)
2. Describe the four Pompeian Style of "Roman Wall Painting". Use sketches where necessary. (23)
3. Explain the tools, techniques, purpose and reasons of "Cave Painting". (23)
4. Write short notes on any TWO of the following topics: (12×2=24)
 - (a) Hieroglyphs
 - (b) Greek Pottery
 - (c) Fresco and Stained Glass Painting

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 8** and any **TWO** from the rest.

5. Explain the two types of cubism Art Style with necessary examples. (23)
 6. What is "Chiaroscuro" and "Sfumato" technique in Art? Explain "Impressionism" Art Style with examples. (23)
 7. Write elaborately the art style of Artist Shilpacharya Zainul Abedin and Artist Quamrul Hassan. (23)
 8. Write short notes on any TWO of the following topics: (12×2=24)
 - (a) Futurism
 - (b) Pop Art and Op Art
 - (c) De Stijl and Abstract Expressionism.
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SECTION – A

There are **FOUR** questions in this section. Answer **Q. No. 1** and any **TWO** from the rest.

1. (a) Define the 'ergonomics' and 'ergonomist'. State the social significance of ergonomics. (10)
(b) Discuss the general principles of ergonomics in the field of biomechanical, physiology and anthropometrics. (20)
2. (a) State the advantages of a sitting position. Define the necessary steps to be taken to perform the reading task. (8)
(b) Elaborate the necessary measures while the activity needs to be carried out in a standing position. (12)
3. (a) What is movement in relation to a specific activity. Explain in detail the steps to be carried out to create an optimum circumstance for the lifting position (with necessary sketches). (8)
(b) What are the key considerations while carrying, pulling and pushing postures occur. (12)
4. Write short notes on: (2×10=20)
(a) hand-arm posture
(b) Selection of basic posture.

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

5. (a) Describe in detail (with necessary data and figures) the measures to be taken to reduce the noise at source, through work place design and work organization. (20)
(b) State the guidelines to protect people exposed to adverse heat and cold condition to ensure a better working environment. (8)

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6. (a) Explain the guidelines of vibration in reference to whole body and hand-arm vibration. How this impact can be prevented at source and individual level. (15)
- (b) State the environmental factors which affect the people's safety, health and comfort while performing specific task. (6)
7. (a) State the man-machine model. How we can determine the user-population to establish a mental model. (7)
- (b) What is visual information? Explain the guidelines for eligibility of 'characters' to enhance the performance of the visual information. (14)
8. Write short notes on: (3×7=21)
- (a) Lighting Techniques
 - (b) Hearing Preservation
 - (c) Thermal Comfort.
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SECTION – AThere are **FOUR** questions in this section. Answer any **THREE**.

1. (a) "Sociological imagination is the vivid awareness of the relationship between personal experience and the wider society." – Explain the statement with a suitable example. (13 1/3)
(b) Justify the stages of the scientific method in studying a society. (10)
2. (a) Briefly discuss the social impact of globalization. Cite examples from Bangladesh. (13 1/3)
(b) What is socialization? Describe the agents of socialization for personality development. (10)
3. (a) What are the four general systems of stratification? Elucidate the social stratification based on caste and social class. (13 1/3)
(b) Critically analyze the ideal type of bureaucracy of Max Weber. (10)
4. Write short notes on any **THREE** of the following (23 1/3)
 - (a) Ethnocentrism
 - (b) Cultural lag
 - (c) Intergenerational social mobility
 - (d) "Role set"

SECTION – BThere are **FOUR** questions in this section. Answer any **THREE**.

5. (a) 'Everything is connected to everything else.' – Explain the statement in terms of human ecology. Briefly discuss the urban ecological process. (10)
(b) Define hazard and disaster. What are the negative impact of global warming? (13 1/3)

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6. (a) Define industrialization and deindustrialization. Write down the important characteristics of capitalism. (15)
- (b) Discuss the social consequences of industrial revolution. (8 1/3)
7. (a) Briefly discuss the concept of social change. Mention the main causes of social change. (10)
- (b) Write down the different sources of social change. (13 1/3)
8. Write short notes on any **three** of the following: (23 1/3)
- (a) Refuse, reduce, reuse and recycle (4Rs)
 - (b) Growth of cities
 - (c) Demographic transition theory
 - (d) Impact of climate change on SAARC countries
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SECTION – A

There are **FOUR** questions in this section.

Answer any **THREE** questions including **Q. No 1** as compulsory.

1. Read the following passage carefully and answer all the questions that follow: (30)

The journey from irresponsibility to responsibility is full of hazards. Every individual first encounters his problems of security and personal significance while he is still a helpless infant. His first efforts to get what he wants are made long before he enjoys either independence or competence. They are, therefore, directed at getting other people to give him what he wants. Thus, at the most vulnerable time of his life, he faces a double danger: of consolidating habits of "successful" dependence upon others, so that he never finds a sufficient motive for growing into mature responsibility; or of experiencing so much frustration that his natural drive towards independence is replaced either by a submissive acceptance of whatever happens or by an aggressive resistance.

We know that many irresponsible adult behaviours stem from causes other than their apparent causes. The person who is never on time, for example, even though he consciously tries for punctuality, may be expressing an unconscious resentment carried over from childhood: resentment, perhaps, against stringent rules of 'niceness' and orderliness that set him apart from his playmates and won him the label of sissy. The bumbling person who seems pitifully to fail, and fail again, in spite of honest effort, may unconsciously want to fail – because failure allows him to remain in some measure dependent.

Man, in brief, does not grow automatically from dependence to independence, helplessness to competence, irresponsibility to responsibility. But the linkage with life brought about by such growth is indispensable to maturity.

Questions:

- (a) What is the double danger?
- (b) What is the outcome of stringent rules and restriction upon childhood practices?
- (c) Why does someone like to fail?
- (d) How does an individual's journey to maturity take place?
- (e) What message does the writer try to convey through the passage?
- (f) Write down the meanings of the following words as used in the passage:

Vulnerable, consolidate, resentment, stringent, indispensable.

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2. (a) Goods were assured to be delivered within two weeks of placing the order. But you have not yet received the goods. Now write a letter of complaint to your supplier, pointing out the delay and specifying a day by which you wish to get the goods. (Provide necessary details from your own) (10)
- (b) Write phonetic transcription of the following words: (Any Five) (10)
- Basic, judge, paper, donate, son, thank.
3. (a) Write a dialogue between two students of your department about the recent renovation and beautification of BUET campus. (10)
- (b) Write an essay on any ONE of the following: (10)
- (i) Architectural Heritage of Bangladesh
- (ii) Environmental Disaster
- (iii) Modern Man and Alienation
4. (a) Transform the following sentences as directed (Any Five) (10)
- (i) The war is over and silence prevails. (Simple)
- (ii) He will not go unless he is compelled. (Simple)
- (iii) A lost moment is lost forever. (Complex)
- (iv) Be diligent, and you will succeed. (Complex)
- (v) A relationship needs to be tended like a plant. (Compound)
- (vi) The evil that men do live after them. (Compound)
- (b) Write short notes on any TWO of the following: (10)
- (i) Diphthongs
- (ii) Components of a formal report
- (iii) Principles of writing business letter

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 5** and any **TWO** from the rest.

5. (a) Explain with reference to the context any ONE of the following: (8)
- (i) "Isn't life," she stammered, "isn't life—" But what life was she couldn't explain.
- (ii) "It's not true! I bet you two millions you wouldn't stay in solitary confinement for five years."
- (b) Answer any ONE of the following: (10)
- (i) Mrs. Matilda Loisel's disposition and greed invite her doom — Discuss in the context of the story "The Diamond Necklace".
- (ii) Make a thorough analysis of Laura's character in the light of the events involving her in the story "The Garden Party".

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Contd... for Q. No. 5

- (c) Answer any THREE of the following: (12)
- (i) What does the diamond necklace symbolize?
 - (ii) Why did the banker argue that death penalty was more moral and more humane than life imprisonment in "The Bet"?
 - (iii) How did the banker plan to kill the lawyer in the story "The Bet"?
 - (iv) Why did Laura want to stop the garden party?
 - (v) Comment on the character of Mr. Loisel.
6. Recast and correct any TEN of the following sentences: (20)
- (i) I had spoken to them about my holiday.
 - (ii) The ship drowned in the ocean.
 - (iii) I visit them once in a week.
 - (iv) The man was trembling from cold.
 - (v) She's used to get up early.
 - (vi) I suggest him to apply for the post.
 - (vii) She requested for my help.
 - (viii) They discussed about the matter.
 - (ix) At the end, they reached there safely.
 - (x) Rahul went to school despite of having a fever.
 - (xi) The boy studied when his father came home from work.
 - (xii) We made a walk along the river.
7. Give the meaning of and make sentences with any TEN of the following words: (20)
- Aversion, congenial, dispatch, ponder, restrain, congestion, wrath, luminous, predict, static, relic, vendor
8. Write a précis of the following passage with a suitable title: (20)
- We call anything beautiful that gives us pleasure, and that depends as much upon ourselves as upon what is outside us. Perhaps the majority of people find the sea beautiful when it is blue. If someone has lived in Italy as a child and has to live beside the grey northern seas when he is grown up, he will think that the grey seas are ugly: and that nothing can be so beautiful as the blue Mediterranean. But suppose a Scotsman who loves Scotland has to go and live in Italy, he might find the blue sea after a little while very uninteresting. Only when he went home and saw the grey sea again would find the sea beautiful. We are made in different ways, and grey may be just as beautiful as blue, just as the cry of a baby may be found sweeter in someone's ears than the finest note of the finest singer that ever lived. Nothing is beautiful or ugly in itself, but thinking makes it so.
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SECTION – A

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

1. (a) Which branch of psychology has the closest relationship with architecture? (6)
(b) How can you apply the knowledge of psychology as an architect? (17 ⅓)
2. (a) Differentiate between absolute and difference thresholds. (6)
(b) How are "Gestalt Laws of Perceptual Organization" applied in architecture? (17 ⅓)
3. (a) Draw Maslow's pyramid of needs as a theory of motivation. (6)
(b) Critically compare the theories of emotion. (17 ⅓)
4. (a) Define personal space, territoriality, crowding and density. (6)
(b) Briefly discuss the role of environmental psychology on architectural design. (17 ⅓)

SECTION – B

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

5. (a) What is classical conditioning? (6)
(b) Describe Pavlov's experiment on classical conditioning. (17 ⅓)
 6. (a) Draw the three-stage structure of human memory. (6)
(b) What are the main concepts of forgetting? (17 ⅓)
 7. (a) Differentiate between practical and emotional intelligence. (6)
(b) Critically discuss Gardners' theory of multiple intelligence. (17 ⅓)
 8. (a) What do you mean by personality? (6)
(b) Briefly discuss prominent theories of personality. (17 ⅓)
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SECTION – A

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

1. (a) Define Anthropology as a discipline. (10)
(b) Briefly discuss the scope and importance of Anthropology. (13 $\frac{1}{3}$)
2. (a) What do you understand by culture? (8)
(b) Discuss in brief the significant elements of culture. (15 $\frac{1}{3}$)
3. (a) What do you understand by evolution? (8)
(b) Discuss the different stages of human evolution. (15 $\frac{1}{3}$)
4. (a) Briefly discuss the major perspective of anthropology. (8)
(b) Discuss the methods and techniques followed by an anthropologist to the study of human society. (15 $\frac{1}{3}$)

SECTION – B

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

5. (a) What do you understand by the economic system? (8)
(b) Comparatively analyze the economic life of the horticulturists and agriculturists. (15 $\frac{1}{3}$)
6. (a) What is social inequality? (8)
(b) Explain the types of social inequality. (15 $\frac{1}{3}$)
7. (a) What is meant by the pre-industrial political system? (8)
(b) Discuss various types of un-centralized and centralized political system. (15 $\frac{1}{3}$)
8. (a) Briefly discuss the characteristics of a state. (8)
(b) Discuss different types of theories of the origin of the state. (15 $\frac{1}{3}$)
