

Sub : **EEE 373** (Basic electrical Engineering for Architect)

Full Marks : 140

Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

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

1. (a) Define any 6 (six) of the following with necessary diagrams (12)
(i) Alternating Current (AC), (ii) Period, (iii) Cycle, (iv) Frequency, (v) Angular Frequency, (vi) Phase, (vii) Angular Velocity, and (viii) Phase difference.
(b) Prove that the maximum amount of energy stored by a pure inductor L is $((L \pm m^2)/2)$, where I_m is the maximum current passing through the inductor L . (11 $\frac{1}{3}$)
2. (a) What are the different types of "Lighting Scheme"? Briefly describe the following terms that need to be considered during "Designing of Lighting Scheme". (12)
(i) Space Height Ratio, (ii) Utilization Factor, (iii) Depreciation Factor and (iv) Maintenance Factor.
(b) What are the purpose of 'Earthing'? Briefly describe the factors on which "Earthing Resistance" depends. Write on the system of "Plant Earthing". (11 $\frac{1}{3}$)
3. (a) Describe the salient points that are to be considered before going to complete an "Electrical Fittings and Fixture Layout Drawing". (12)
(b) What are the different types of "Wiring-System", practicing in Bangladesh? With simple diagram(s), describe any 5 (Five) of them. (11 $\frac{1}{3}$)
4. The same plans of a simple house are shown in Fig. 4(a) and Fig. 4(b).
(a) Show the "Fittings and Fixture Layout Design" in Fig. 4(b) and attached this sheet with your "Answer Script". (13 $\frac{1}{3}$)
(b) Show the Switch-Board Connection Diagram of the above design in your 'Answer Script'. (6 $\frac{1}{2}$)
(c) Show the Legends, used in the above design, with short description. (3 $\frac{1}{2}$)

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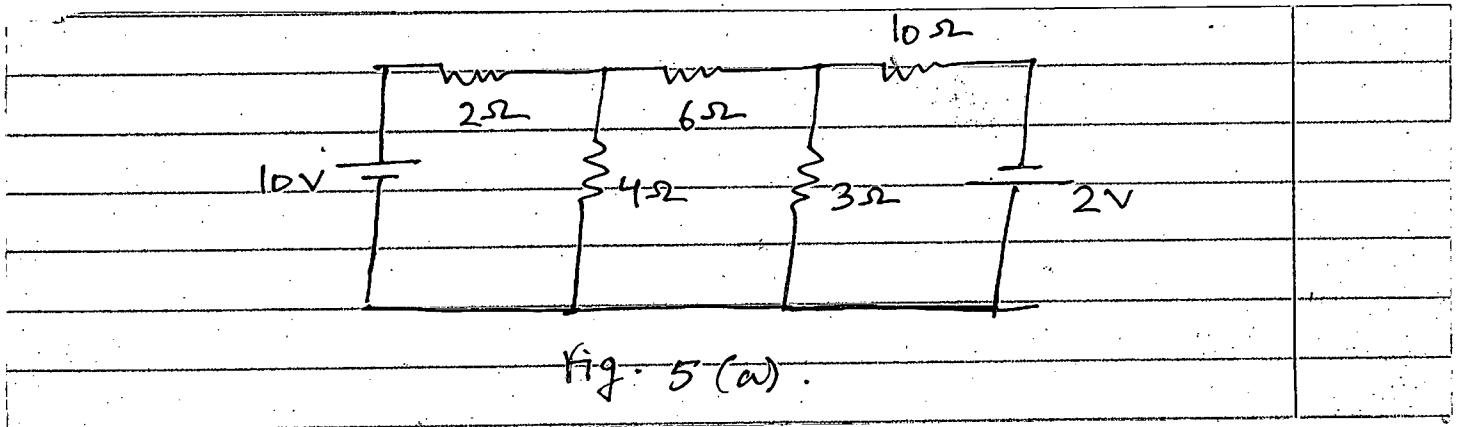
EEE 373 (ARCH)

SECTION - B

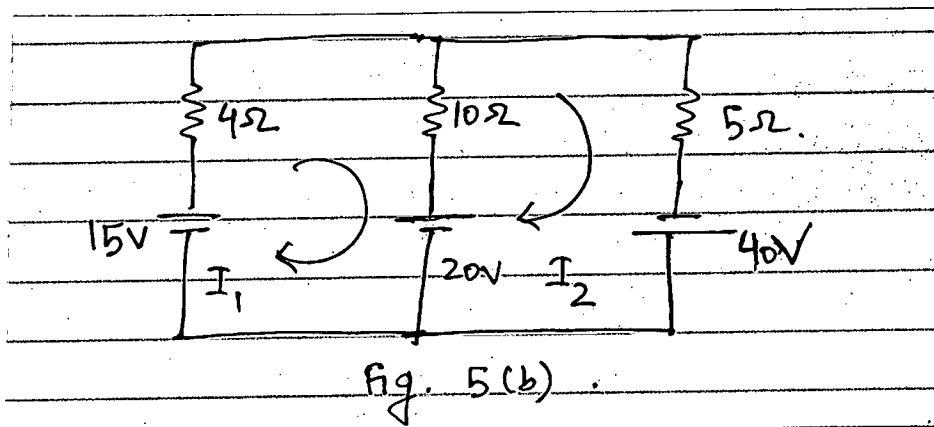
There are **FOUR** questions in this section. Answer any **THREE**.

All the symbols have their usual meaning.

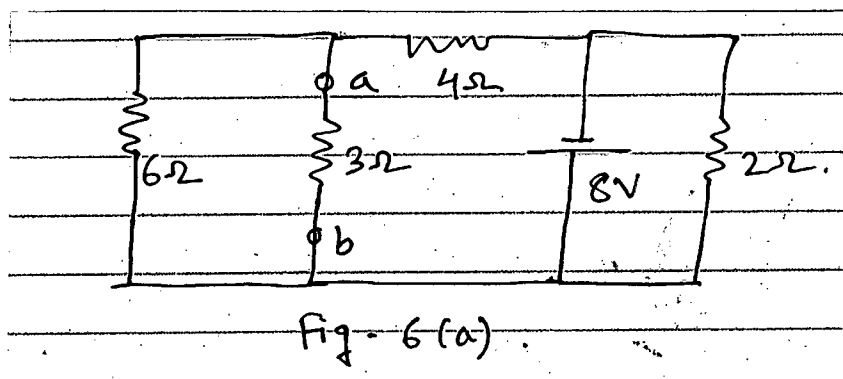
5. (a) Find the voltage across $3\text{-}\Omega$ resistor of the following circuit of Fig. 5(a) by nodal analysis. (12 $\frac{1}{3}$)



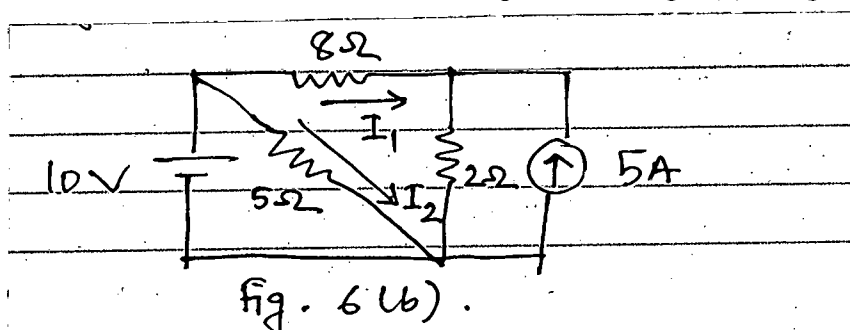
- (b) Find current I_1 and I_2 using loop analysis for the following circuit of Fig. 5(b). (11)



6. (a) Find the Thevenin equivalent circuit between the terminal a-b for the following circuit of Fig. 6(a). (12 $\frac{1}{3}$)



- (b) Find the current I_1 and I_2 in the following circuit of Fig. 6(b) using mesh analysis. (11)



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7. (a) Find the current i_1 in the following circuit of Fig. 7(a) using superposition theorem.

(11)

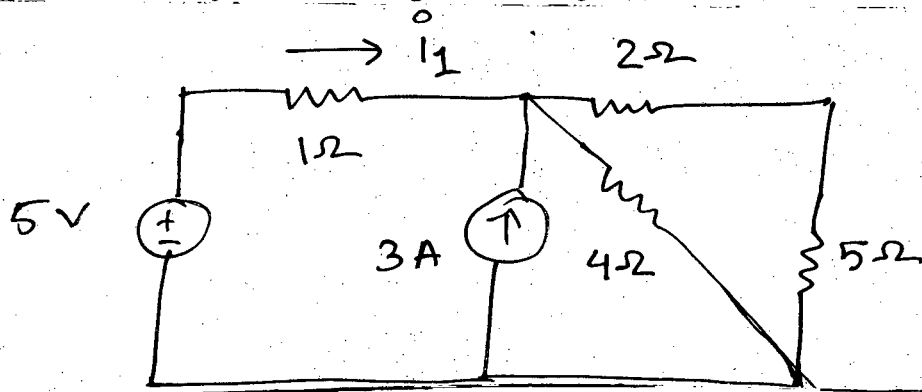


Fig. 7(a)

- (b) Find i_0 in the following circuit of Fig. 7(b) using nodal analysis.

(12 $\frac{1}{3}$)

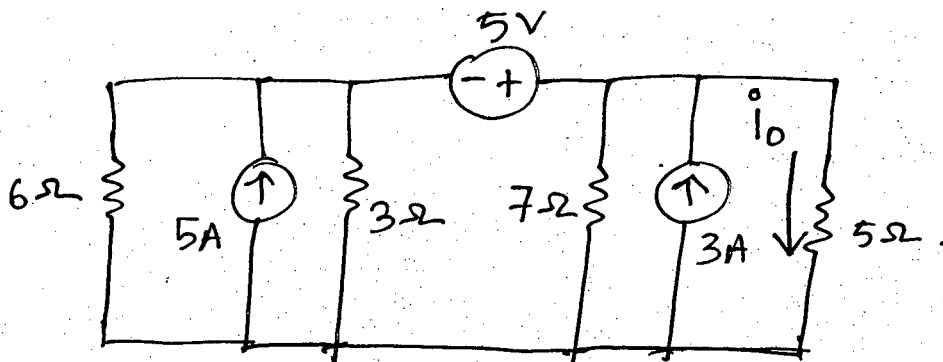


Fig. 7(b)

8. (a) Using Norton's theorem find the current through the 6Ω resistance in the following circuit of Fig. 8(a).

(11)

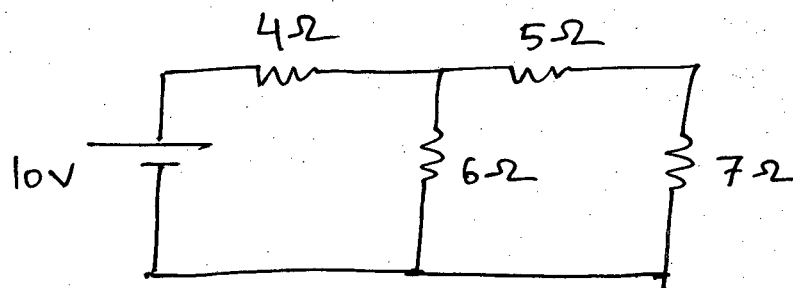


Fig 8(a).

- (b) Using Thevenin's theorem find the current through the Galvanometer G with 16Ω resistance (Fig. 8(b)).

(12 $\frac{1}{3}$)

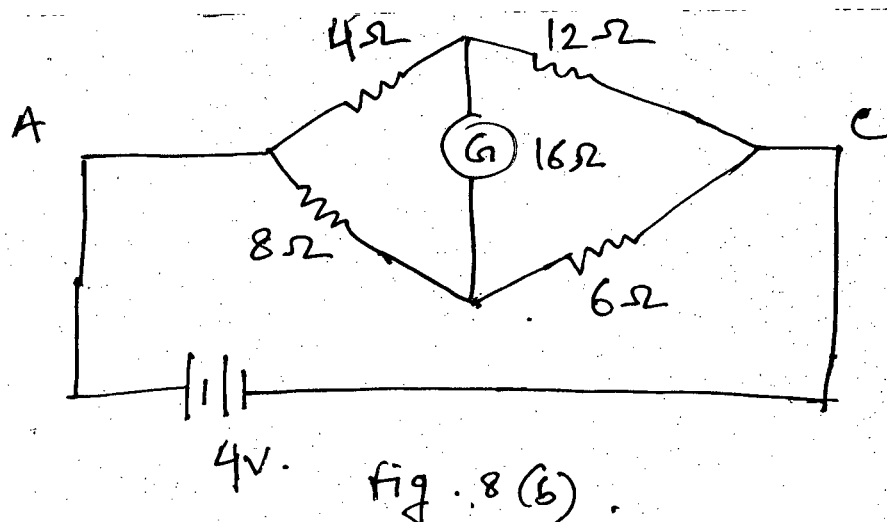
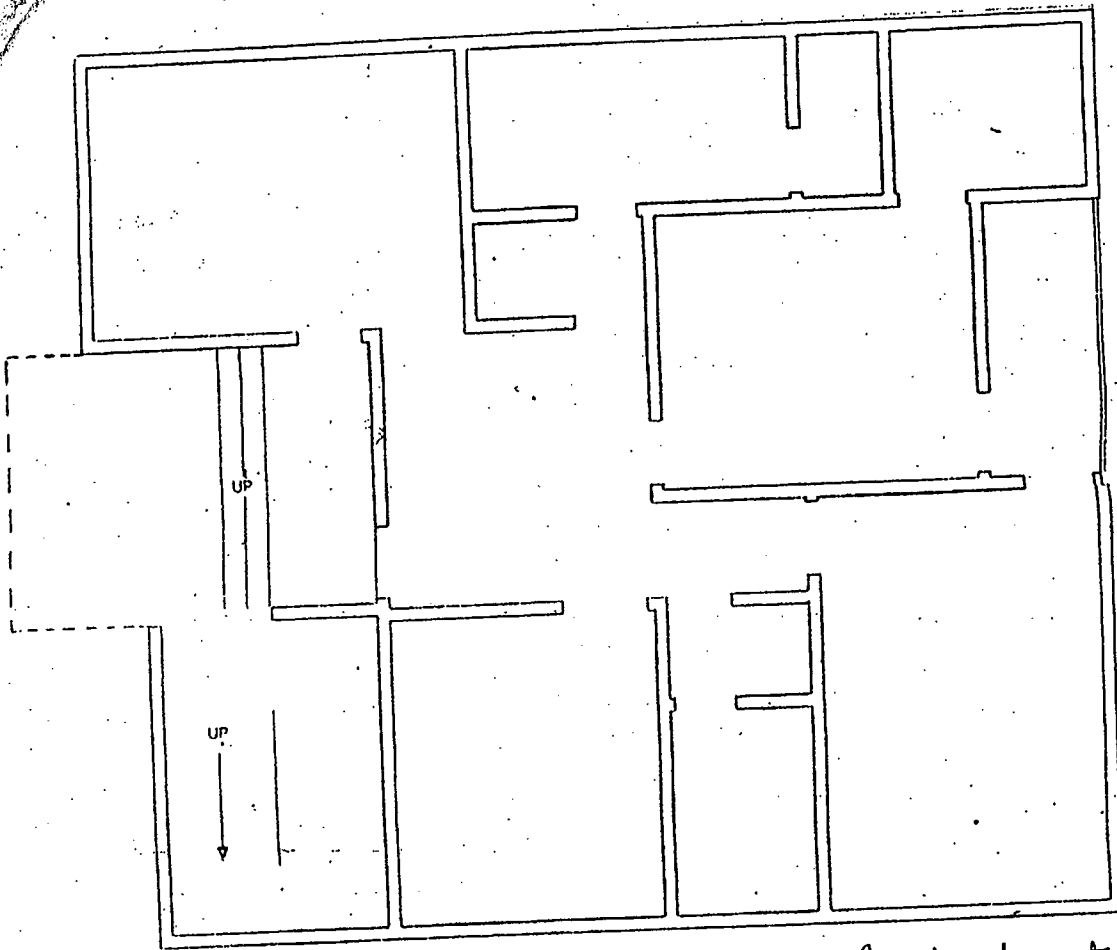


Fig. 8(b)

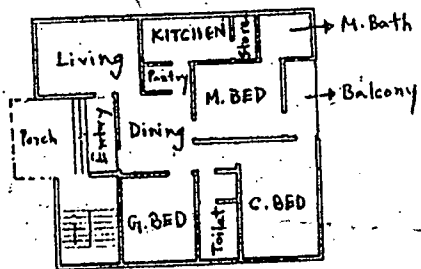
EE 373



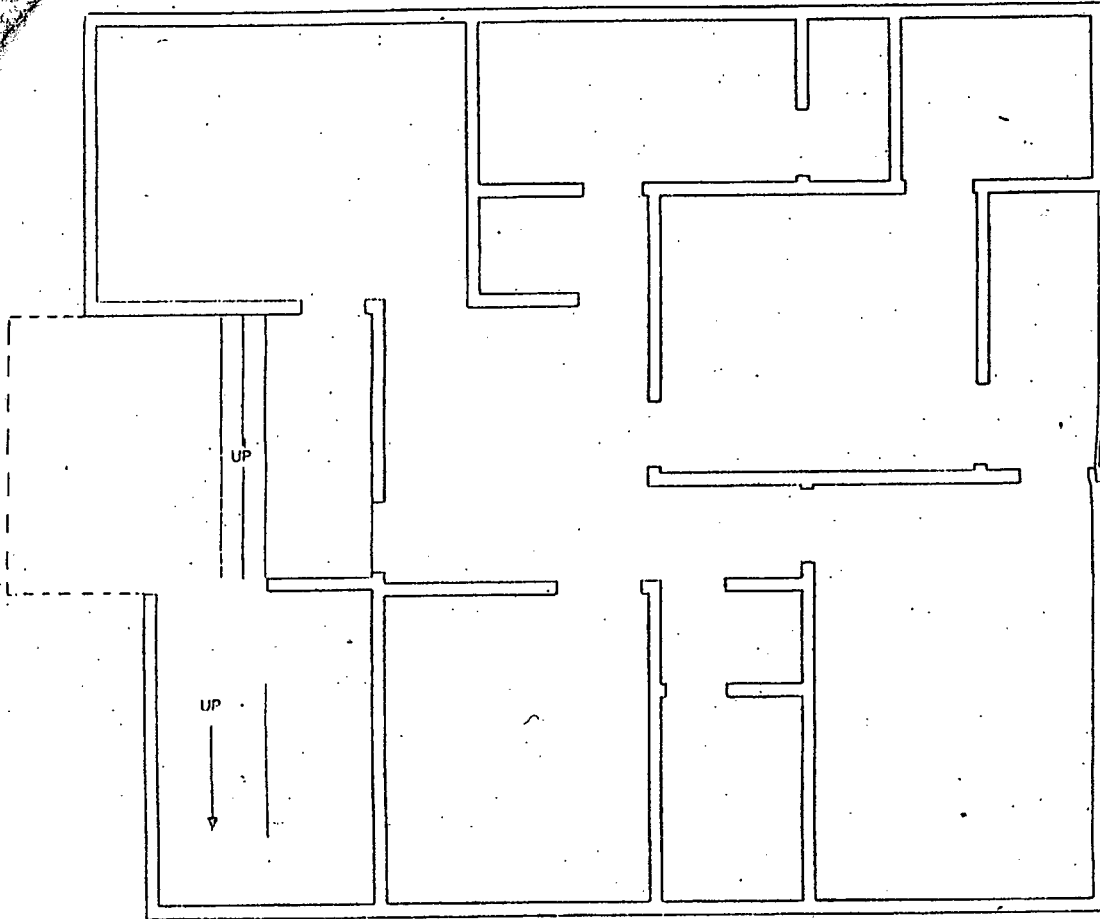
LIVING AREA
1432 sq. ft.

Fittings & Fixture Layout
Reflected Ceiling Plan

[Fig. for Q. No. 4(a)]



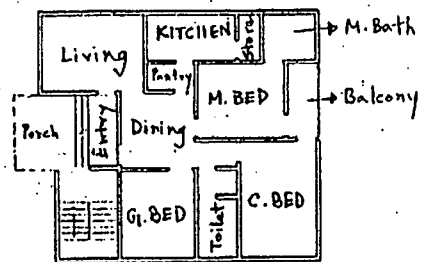
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LIVING AREA
423 sq. ft.

Fittings & Fixture Layout
Reflected Ceiling Plan

[Fig. for Q. No. 4(b)]



Sub : **ARCH 331** (Architecture of Indian Sub Continent)

Full Marks : 140

Time : 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FIVE** questions in this section. Answer **Q. No. 5** and any **THREE** from the rest. Use necessary sketches.

1. (a) Briefly explain the reasons behind the development of rock-cut architecture in India. (6)
(b) 'Rock cut caves are sculptures on a grand and magnificent scale' – explain with reference to the Karli Chaitya hall. (12)
2. (a) Elaborate the architectural characteristics of Great Stupa at Sanchi with reference to its reconstruction and expansion. (12)
(b) Write about the key elements of Ashokan School of Art and Architecture with sketches. (6)
3. (a) State in detail the architectural characteristics of the Great Lingaraja Temple at Bhubaneswar as one of the finest examples of Orissan temple architecture. (10)
(b) "Chalukyan adopted 'Shanthaghara' for Hindu worship" – Explain. (8)
4. (a) "The temple becomes a fort and the fort becomes a city" – explain in relation to the development of South Indian temple Complexes. (8)
(b) Discuss the theme and layout of Shore Temple at Mahabalipuram. (10)
5. Write short note on any two: (8×2=16)
 - (a) Frescos of Ajanta
 - (b) Vastupurusha-mandala
 - (c) Gopuram

SECTION – B

There are **FOUR** questions in this section. Answer **Q. No. 6** and any **TWO** from the rest.

6. (a) Draw the layout plan of Fatehpur Sikri to show the location of various buildings in relation to the open spaces. (26)
(b) Explain the concept of multiple axis and zoning with sketches.
(c) Mention how the visual harmony among the built forms was established.
(d) Examine how the scale was negotiated in the mighty Buland Darwaza.

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7. Critically evaluate the 'compartmentalization' concept and other architectural aspects of Khirki masjid (Jahanpanah) in relation to the Kalan masjid (Shahjahanabad), with sketches. (22)
 8. Compare the architectural elements of Humayun's tomb and Tajmahal and analytically explain how the aesthetic properties were determined in the design of Tajmahal. Use sketches in plan, elevation as necessary. (22)
 9. Write short notes on (any two of) the following: (22)
 - (i) Planning aspects of Feroz Shah Kotla.
 - (ii) Architectural aspects of Raja Birbal's palace.
 - (iii) Development of squinch arch, as a method of installing a dome, with examples.
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L-3/T-1/ARCH

Date : 02/08/2017

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-3/T-1 B. Arch Examinations 2016-2017

Sub : ARCH 351 (Landscape Design)

Full Marks: 140

Time : 3 Hours

USE SEPARATE SCRIPTS FOR EACH SECTION

The figures in the margin indicate full marks.

SECTION – A

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

1. What is a plant community? Why it is important to know about plant community of a given context? Propose a plant community for the geological context of Dhaka. (22)
2. How does the knowledge of landscape ecology help you to understand “the landscape” as a whole? State the foci of landscape ecology. (16)
3. Establish ecological significance of the Sundarbans (Mangrove forest) explaining ecological services offered by it. (16)
4. How soil plays an important role to preserve ecosystem of a particular area? Use necessary sketches. (16)
5. What are the strategies you would follow to design open spaces to attain ecologically responsive neighborhood in the context of new Dhaka. (16)

SECTION-B

There are **FIVE** questions in this section. Answer **Q. No. 6** and any **THREE** from the rest.

6. (a) What is “Altered landscape”? Write about appropriate measures to mitigate flooding in urban context due to altered landscape. (22)
 7. Define Land Erosion. What are the reasons for land erosion in Bangladesh? Can vegetation play any role to mitigate land erosion? Explain how? (16)
 8. What is Water Smart Landscaping? State the benefits of water smart landscaping. What are the means to attain “Water Smart Landscaping”? (16)
 9. What is planting? What are the steps involved in planting? Which is the appropriate season for planting? Why? (16)
 10. Write short notes on the following: (8×2=16)
 - (a) Sustainable site development principles.
 - (b) Living machine and living wall.
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