

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION MO/SP20\*\*)

CLASS: BARCH  
BRANCH: ARCH

SEMESTER: IX  
SESSION: MO/2022

SUBJECT: AR605 - URBAN ECOLOGY AND ENVIRONMENTAL PLANNING  
TIME: 03 Hours FULL MARKS: 50

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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- Q.1(a) Explain the landscape structure 'corridor' with one example. [2]  
Q.1(b) What kind of work is included in 'scoping' in an environmental impact assessment (EIA)? [3]  
Q.1(c) Describe with an example how 'plurality' of multiple scales in a landscape may come up as a scale challenge. [5]
- Q.2(a) Explain with a diagram and an example, the difference between attrition and shrinkage as impacts to a landscape. [2]  
Q.2(b) Which type of species should we use in vegetation - native or exotic, and why? [3]  
Q.2(c) You have studied that thematic maps are one of the ways to convey crucial information about a site. What is the usefulness of a buffer distance through a thematic map in the context of hydrological corridors? [5]
- Q.3(a) Explain how rain tax helps reduce surface runoff. [2]  
Q.3(b) What are some of the ways soil can be contaminated through human use? [3]  
Q.3(c) You are looking at a land use map of two neighbourhoods A and B. The distribution of land use is as follows: A - residential 30%; forest 50%; water 10%; agricultural 10%, and B - residential 70%; forest 10%; water 10%; agricultural 10%. Compare the urban heat island effects in these two neighbourhoods with respect to their land use. [5]
- Q.4(a) Name one indicator of water pollution. [2]  
Q.4(b) What is the lead area index (LAI) and what is it used for? [3]  
Q.4(c) What is resilience? Explain with an example with respect to fluctuation to weather or climate. [5]
- Q.5(a) Which act holds polluters accountable for environmental pollution? [2]  
Q.5(b) The Ramsar convention was held for the first time in 1972 at a place called Ramsar in Iran. What is the purpose of this convention? [3]  
Q.5(c) Identify one sustainable development goal (SDG) of the United Nations and provide an example of how it aligns with a project in your area of interest. This project may be your proposed thesis. [5]

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