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Question Paper Code: U2G31

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Third Semester

Civil Engineering

21UGM231- ENVIRONMENTAL SCIENCE

(Regulations 2021)

(Common to All branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The ecological footprint measures _____ and _____ of natural capital CO1 - U
(a) Demand, supply (b) Raw material, waste
(c) Deforestation, afforestation (d) None of the above
2. _____% of oxygen content in Troposphere? CO1 - U
(a) 19 (b) 21 (c) 28 (d) 1
3. Which of the following is/are the sources of air pollution? CO1 - U
(a) Forest fires (b) Volcanic eruption (c) Water incineration (d) All of these
4. Which one of the following is an example of area source of air pollution? CO1 - U
(a) Oil refineries (b) Ports and Rail yards
(c) Fossil-fires power plants (d) Highways and major roadways
5. Which of the following can help in controlling global warming? CO1 - U
(a) Reduction in water wastages (b) Reduction in fossil fuel usage
(c) Increment in solid waste generation (d) Burning Human-derived waste
6. The maximum permissible night-time noise levels in residential areas, CO1 - U
as per Indian standards for ambient noise
(a) 35 dB (b) 45 dB (c) 50 dB (d) 55 dB

7. Mega cities are metropolitan regions with total population in excess of CO1 - U
 (a) 5 million (b) 10 million (c) 20 million (d) 25 million
8. Which one of the following is a result of overpopulation? CO1 - U
 (a) adequate storage of natural resources
 (b) pressure on land and other renewable resources
 (c) increasing the amount of forest
 (d) decrease the storage of water
9. Which of the following concentrating solar power technologies has the CO1 - U
 highest solar to electricity efficiency?
 (a) Parabolic trough (b) Parabolic dish
 (c) Linear-Fresnel reflector (d) Solar tower
10. Which of the following is the ultimate source of energy? CO1 - U
 (a) LPG (b) Nuclear (c) Solar (d) CNG

PART – B (5 x 2= 10 Marks)

11. Illustrate types of Environment. CO1 - U
12. Differentiate BOD from COD. CO1 - U
13. What is global warming and how can it be controlled? CO1 - U
14. What is Environmental awareness? CO1 - U
15. Thermal power plant is considered a bad source of energy. Why? CO1 - U

PART – C (5 x 16= 80 Marks)

16. (a) Discuss the structure and functions of various components of an CO1 - U (16)
 ecosystem.
 Or
 (b) Describe different types of aquatic ecosystem in detail. CO1 - U (16)
17. (a) What are the major pollutants of atmosphere? Enumerate the CO1 - U (16)
 adverse effects caused by these pollutants.
 Or
 (b) Demonstrate the various classes of water pollution and enumerate CO1 - U (16)
 in detail.

18. (a) Find out rainwater harvesting methods currently being adopted in your locality or in your own house and try to propose suggestions for improvement. CO1 - U (16)
- Or
- (b) Describe the phenomenon of greenhouse effect. What are its effects? CO1 - U (16)
19. (a) Explain the terms with statistical support of exponential growth and population explosion. CO1 - U (16)
- Or
- (b) Draw a typical population pyramid of a developing country and discuss how it is likely to differ from that of a developed country? CO1 - U (16)
20. (a) Compare, (i) Renewable energy with non-renewable energy, (ii) Fission with fusion CO1 - U (16)
- Or
- (b) Explain how the alternate energy sources play an important role in environmental impact. CO1 - U (16)

