QP CODE: 19102625

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Reg No : .....

Name : .....

BSc DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Fifth Semester

Core Course - MM5CRT04 - ENVIRONMENTAL MATHEMATICS & HUMAN RIGHTS

B.Sc Mathematics Model I,B.Sc Mathematics Model II Computer Science

2017 Admission Onwards

0D926CDA

Maximum Marks: 80 Time: 3 Hours

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What do you mean by dams?
2. What are the uses of mineral resources?
3. What do you mean by food resources?
4. What do you mean by ground water pollution?
5. What are the mitigation measures for flood?
6. What is Trade Effluent?
7. Find (2076, 1776)
8. Define characteristic roots of Recurrence Relation.
9. Evaluate $lim\frac{L_n}{L_{n+1}}$.
10. Let A and B be two circles, B inside A, and are tangential to each other at the point O. If a chord OP of the circle A meets the circle B at Q, prove that Q divides OP in the golden ration.
11. Describe the function of committee on the elimination of discrimination against women.
12. Describe the human rights maintenance in Indian constitution.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What are the ill effects of timber extraction?

14. Explain the role of an individual in the conservation of natural resources.

15. What is soil pollution? What are the different aspects of soil pollution?

16. Discuss the various methods for disposing of hazardous wastes.

17. Define triangular numbers. Write triangular Fibonacci numbers and triangular Lucas numbers.

18. Explain the relation between Fibonacci numbers and Sewage Treatment

19. Why Golden ratio is referred to as 'the number of our physical body'? Explain.

20. Explain the Gatteis discovery of Golden ratio

21. Describe the economic and social council of UN. What are its programmes?

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. What are the different types of environmental pollution? Explain each in details with its effects and solutions.

23. Let F_n denote the nth Fibonacci number and $\alpha = \frac{1+\sqrt{5}}{2}$. Prove that $\alpha^{n-2} < F_n < \alpha^{n-1}$, $n \geq 3$

24.
    1. Discuss about Euler's construction of Golden ratio
    2. Explain Newton's method of generating the Golden ratio

25. Describe UDHR. Write the summary of the articles of UDHR.

(2×15=30)