QP CODE: 24038612

24038612

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, OCTOBER 2024

Fifth Semester

CORE COURSE - MM5CRT04 - ENVIRONMENTAL MATHEMATICS & HUMAN RIGHTS

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

2017 Admission Onwards

534BED98

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What do you mean by natural resources?
2. What do you mean by water conflict?
3. What do you mean by exploitation of mineral resources?
4. What are the causes of environmental pollution?
5. What do you mean by ground water pollution?
6. What is soil pollution?
7. Write first 10 Lucas numbers and its Recurrence relation.
8. How Fibonacci numbers and Sunflowers are related?
9. Draw the diagram of a pyramid showing the golden ratio.
10. Solve the differential equation $y'' - y' - 1 = 0$.
11. Describe the universality of human rights? What are the challenges against this?
12. Describe the function of committee on the elimination of discrimination against women.

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. What are the effects of agriculture on the environment?

14. What do you mean by alternative energy? Explain its different sources.

15. Write a short note on elements of disaster management.

16. Explain Global Warming.

17. Express the gcd as a linear combination of 2076 and 1776

18. Write 2nd order LHRRWCC. And find characteristic equation of Recurrence Relation.

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

20. Let A and B be two circles tangential at the point O. Let a and b (a > b) be their radii. Prove that $\frac{a}{b}$ satisfies the equation $x^2 - x - 1 = 0$.

21. What are the major legislations containing rights and safeguards for women?

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Discuss in detail the various waste treatment and disposal methods.

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)