



QP CODE: 22101975



22101975

Reg No :

Name :

B.Sc DEGREE (CBCS) SPECIAL SUPPLEMENTARY EXAMINATIONS, MAY 2022

Fifth Semester

CORE COURSE - MM5CRT04 - ENVIRONMENTAL MATHEMATICS & HUMAN RIGHTS

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

2019 Admission Only

6F7ACEE6

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What is deforestation?
2. What are the uses of mineral resources?
3. What do you mean by wave energy?
4. What do you mean by ground water pollution?
5. What are the different aspects of disaster management?
6. What is acid rain?
7. Write Recurrence relation in Lucas numbers and find the value of L_0 .
8. Find the solution of Recurrence Relation $a_n = \gamma a_{n-1}$ with $a_0 = c$
9. Prove that $\sum \frac{1}{\alpha^n} = \alpha$, $n=1,2,3,\dots$
10. What will be ratio between height and distance from navel to the top of the head?
11. What is the role of UN secretariat in the maintenance of human rights?
12. What is CERD? Describe how it functions.

(10×2=20)

Part B

*Answer any **six** questions.*

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





13. What are the benefits of dams?
 14. What are the effects of agriculture on the environment?
 15. Explain the essentials of Air Prevention and Control of Pollution Act.
 16. What are the causes of thermal pollution?
 17. Let a and b be positive integers, and r be the remainder when ' a ' is divided by ' b '. Then Prove that $(a, b) = (b, r)$
 18. Express $ab = \sum_{i=0}^n q_i r_i^2$ where q_i 's are quotients and r_i s are remainders, If $a = 2076$ and $b = 1776$
 19. Solve the equation $f^{-1}(x) = f^m(x)$ using Gattei's theory.
 20. How do we relate centroids of circles and Golden ratio?
 21. Describe the articles for the maintenance of human rights for children in India.
- (6×5=30)

Part C

*Answer any **two** questions.*

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

22. Explain in detail Forest Conservation Act.
23. a) Explain the relation between Fibonacci numbers and Compositions of positive integers expressing as a sum of 1s and 2s
b) Prove that number of distinct compositions C_n of a positive integer n in terms of 1s and 2s is F_{n+1} where $n \geq 1$
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)

