School of Distance Education

University of Kerala

Second Semester Assignment

B.Sc. CS/BCA

WRITING AND PRESENTATION SKILLS (EN1211.4)

1. What is brainstorming?
2. What is Netiquette?

3. Prepare a power point presentation on the topic environmental pollution.

4. How are survey questions to be made effective? Explain.

5. What are the various stages of writing? Explain.

6.what is topic sentence

MATHEMATICS II (MM 1231.9/1231.10)

1. Prove that $\big((P \to q) \wedge (q \to r)\big) \to (p \to r)$ is a tautology.
2. Define a well formed Formula. How we can generate a well formed formula? Give example.
3. Show that the set of all positive rational numbers form a group under the composition defined by $a \times b = \frac{ab}{3}$.
4. Define:
   a) Monoid
   b) Semigroup.
   c) Group with example.

5. a) Prove that the number of vertices of odd degree in a graph is always even.

   b).show that the maximum number of edges in a simple graph with n vertices is $\frac{n(n-1)}{2}$.

   c) Show that $f(x) = \frac{x}{2}$ is partially recursive.

6. Find the derivative of $\sin^{-1}\sqrt{\frac{1-X}{1+X}}$.

7. Find the Laplace transform of

   a) L(t).

   b) $L(e^{at})$.

8. a) State the Warshal's algorithm.

   b) Define a bijection between two sets. Prove that there is a bijection between the set of all integers and the set of all even integers.

9.a)Check whether the relation (a/b) "divides" on the set of positive integer is an equivalence relation

b)Prove that

   i) A - (B U C) = (A- B)⋂ (A-C)

   ii) A - (B ⋂ C) = (A- B) U (A - C).

10.Solve the differential equation $(1+x)(1+y^2)dx + (1+y)(1+x^2)dy=0$

ENVIRONMENTAL STUDIES (CS 1221/CP 1241)

1. Explain
   a) Shola grassland ecosystem.
   b) Participatory project management.

2. a) "What are Biodiversity Hot Spots"?

   b) What are the threats to biodiversity? Explain.

3. Explain the significance of wetland ecosystems.

4. Write a brief note on point and non point sources of water pollution.

5. Give a brief account on ecological succession.

DATA STRUCTURES (CS 1241/CP 1243)

1. What is hashing? Explain various hashing functions with example.
2. Discuss the structure of the direct file organization.
3. Write a C program to sort the elements in a linked list.

4. What is indexed sequential file? Explain the structure in detail.
5. Discuss the programming methodologies in detail?
6. What is exchange sort?

OBJECT ORIENTED PROGRAMMING (CS 1242/CP 1242).

1. Explain inheritance and various levels of inheritance with example.
2. Explain files and various modes of operations in file.
3. Exlain friend functions and friend class.
4. Explain virtual functions and abstract class.
5. Is operator overloading is possible in OOPs? If yes clarify your answer with example.

Semester 2

Course code	Course Name
EN1211.4	Writing and Presentation Skills
MM1231.9 /MM1231.10	Mathematics II
CS 1221/CP1241	Environmental Studies
CS 1241/CP1243	Data Structures
CS 1242/CP1242	Object Oriented Programming