

**UNIVERSITY OF KERALA**  
**SCHOOL OF DISTANCE EDUCATION**

**First Semester Assignment Questions**

**B.Sc. Computer Science/BCA**

**I. SPEAKING AND LISTENING SKILLS (EN1111.4 )**

1. Describe in your own words the essential factors involved in listening procedure. Also distinguish between hearing and listening. Present your answers with appropriate examples.
2. How do you classify speech sounds? Describe in your own words-vowels, consonants, phonemes, phonology, phonetics, phones and allophones. Your answer should be supported by suitable examples.
3. What are the major influences of Science & Technology on English? And also describe the barriers of effective communication.
4. Describe the different types of telephone conversations – personal, official, making enquiries, how to begin and conclude conversation.

**II. MATHEMATICS I (MM 1131.9/1131.10)**

1. Find the  $n^{\text{th}}$  derivative of  $\frac{x^4}{(x-1)(x-2)}$ .
2. Prove that  $28! + 233$  is divisible by 899.
3. Solve  $\frac{dy}{dx} + y \tan x = \cos^3 x$ .
4. Form a Partial difference equation by eliminating the constants a and b from  $Z = (x^2+a)(y^2+b)$ .
5. If  $\sin(A+iB)=X+iY$ . Show that  $\frac{x^2}{\cos^2 h^2 B} + \frac{y^2}{\sin^2 h^2 B} = 1$  and  $\frac{x^2}{\sin^2 A} - \frac{y^2}{\cos^2 A} = 1$
6. If  $y = \sin(m \sin^{-1} x)$ , Prove that  $(1-x^2)y_{n+2} - (2n+1)y_{n+1} + (m^2-n^2)y_n = 0$ .
7. Prove that, if m is prime to n, then  $\phi(mn) = \phi(m)\phi(n)$ .
8. Solve  $\frac{dx}{x^2+2y^2} = \frac{dy}{-xy} = \frac{dz}{xz}$ .
9. Obtain the Fourier series expansion for  $f(x) = x^2$  in  $-\pi < x < \pi$ .
10. Find the inverse Laplace transform of  $\frac{s}{(s-2)^4}$ .

### **III. INTRODUCTION TO IT (CS 1121/CP 1121)**

1. Explain the working of CRT and LCD with diagrams.
2. Write a note on free Software.
3. Explain the working of a hard disk.
4. What is ISP? What do you mean by a leased line?
5. Discuss the IT Policy and IT Development.

### **IV. DIGITAL ELECTRONICS (CS 1131/CP 1131)**

1. Explain RC coupled amplifier.
2. Differentiate TTL and ECL Logic family.
3. What is Race around Condition? How is it rectified?
4. Differentiate synchronous and asynchronous counters
5. Explain universal gates.

### **V. PROGRAMMING IN C (CS 1141/CP 1141)**

1. Write a note on pre-processor directives.
2. Explain about macros with arguments.
3. Explain about the file handling functions.
4. Explain how will you do the pointer comparisons.
5. Explain various storage classes in C with examples.