PG2S-379-B-23

M.Sc. II Semester (CBCS) Degree Examination

APPLIED ELECTRONICS

Fiber Optic Communication

Paper - SCT-2.1

Time : 3 Hours   Maximum Marks :80

Instructions to the Candidates:

1)   Answer the questions as per the given instructions.

2)   Write question number clearly.

PART - A

Answer any EIGHT of the following.   (8×2=16)

1.   a)   What is numerical aperture?

b)   Mention the types of optical fibers.

c)   What is the function of core and cladding in optical fiber?

d)   State Snell's Law.

e)   Draw the block diagram of an optical communication system.

f)   What are the losses (or) signal attenuation mechanism in a fiber?

g)   Sketch DFB laser diode.

h)   Illustrate a PIN photo detector.

i)   What do you mean by skew rays?

j)   Compare LED and LASER.

k)   What is the fundamental parameter of SM fiber?

PART - B

Answer any FOUR of the following.   (4×7=28)

2.   Explain with neat diagram the elements of an optical fiber transmission link.

3.   Derive an expression for numerical aperture of a step index fiber.

4.   Draw and explain the acceptance angle and numerical aperture of an optical fiber and derive expressions for both.

5.   Explain the step involved in splicing the fiber. Discuss the various splicing techniques employed between two fibers.

6.   Explain the attenuation and losses in fiber.

7.   Discuss the sources of errors in optical receivers.

PART - C

Answer any THREE of the following   (3×12=36)

8. Explain fiber materials.

9. Explain core and cladding losses.

10. What is meant by 'fiber splicing'? Explain fusion splicing of optical fibers.

11. Explain the construction and working of LASER diode.

12. Discuss the noise and disturbances affecting the optical detection Systems.

13. Explain the fundamental concept of homodyne detection system.

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PG2S-378-B-23

M.Sc. II Semester(CBCS) Degree Examination

APPLIED ELECTRONICS

8086 Microprocessor and Interfacing

Paper - HCT-2.2

Time : 3 Hours   **Maximum Marks :80**

Instructions to Candidates:

    1)   **Write question number clearly.**

    2)   **Answer the questions as per the instructions given in the each parts.**

PART - A

Answer any EIGHT of the following.   (8×2=16)

1.   a)   What do you mean by pipelining in 8086 μ p?

    b)   What is meant by software interrupt?

    c)   What are the functions of segment registers?

    d)   Differentiate between program memory and data memory.

    e)   Compare CALL and PUSH instructions.

    f)   List the various program development tools.

    g)   State the meaning of assembler instruction format.

    h)   What is the purpose of PROC directive?

    i)   Define asynchronous serial data communication.

    j)   Justify the necessity of math co-processor.

PART - B

Answer any FOUR of the following.   (4×7=28)

2.   Explain the internal architectural features of 8086 μ p

3.   Describe the input and output structure to support 8086 μ p

4.   Explain program organization directives with suitable examples.

5.   Give the classification of the instructions set of 8086 μ p. With suitable examples.

6.   Define Macro. Why they are called as open subroutine. Write its disadvantages over procedures.

7.   Mention distinguish features between LAN and WAN.

PART - C

Answer any THREE of the following   (3×12=36)

8. Define addressing mode. How the user can specify the address of the memory in 16 different ways? Mention the different categories of addressing modes of 8086 μp.

9. Explain branch instruction of 8086 μp with examples.

10. Why data control directives are used. Describe them.

11. With a neat block diagram, discuss the overall organization of 80186 CPU.

12. Write short notes on any **TWO** :   (2×6=12)

    a)   Interrupt Service Routine

    b)   Data transfer instructions

    c)   Alignment directives

    d)   Serial data transfer methods and standards.

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PG2S-377-B-23

M.Sc. II Semester (CBCS) Degree Examination
APPLIED ELECTRONICS
Computer Fundamentals and C Programming
Paper - HCT-2.1

Time : 3 Hours

Maximum Marks :80

Instructions to Candidates:

1) Answer the questions as per the given instructions.
2) Write question number clearly.

PART - A

Answer any EIGHT of the following.

(8×2=16)

1.   a)   Sketch a basic structure of a computer.

     b)   What is the purpose of main and auxiliary memory?

     c)   Write the necessity of operating system.

     d)   Define constants and variables.

     e)   Cite the examples where loop control statements are required.

     f)   List a few library functions in C.

     g)   Why we define the functions in C?

     h)   Write the concept of pointers in C.

     i)   Write the typical structure of C++ program.

     j)   What do you mean by classes and objects in C++ ?

PART - B

Answer any FOUR of the following.

(4×7=28)

2.   Explain the classifications of computer.

3.   List the important input and output functions in C and explain them.

4.   Discuss the significance of arrays in C.

5.   With an example, explain how the pointers acts as addresses.

6.   Write the prime features of OOP.

7.   Write a C program to search a smallest and largest number from a given 10 decimal numbers.

PART - C

Answer any THREE of the following (3×12=36)

8. Discuss the working of different input and output devices of computer.

9. With suitable example, explain the bidirectional conditional statements in C.

10. With a neat diagram, explain C-pre-processor and its significance.

11. Tabulate the differences between C and C++

12. Write short notes on any **TWO**.

    i)   Audio and Video cards

    ii)   Lexical elements of C

    iii)   File handling in C

    iv)   LAN

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