

**Attempt any four Questions: 4 X 10 = 40**

1. Write a program which reads names of 100 students and sort them in alphabetical order. [10]
2. Describe 'Sequence', 'Selection' and 'Loop' with flowchart. Write a program to check if a number is odd or even. [6 + 4]
3. What is pointer ? Describe the benefits of pointer with examples. [4 + 6]
4. What is an array ? Write a program which finds multiplication of two matrices (3 X 3) [2 + 8]
5. Write a program which reads name, roll-number and age from a file named "student.dat" and display them. [10]

**Group B: Short Answer Questions**

**Attempt any seven questions: 7 X 5 = 35**

6. Describe different levels of feasibility study. [5]
7. Who is system analyst? List out the rools of system analyst. [1 + 4]
8. What is RDBMS ? List out the functions of RDBMS. [1 + 4]
9. Describe "Operators" which are used in C-programming. [5]
10. What is Network ? List out the benefits of Networks. [1 + 4]
11. Describe the importance of OOP. [5]
12. Describe Computer crime and its various forms [5]
13. What is multimedia ? List out the advantages of multimedia [1 +4]
14. Describe the objectives of e-governance. [5]
15. Write short notes on [2.5 + 2.5]
  - a. Cyder Law
  - b. Expert System

**HSEB MODEL QUESTION OF COMPUTER SCIENCE**

**GRADE : 12**

**Time : 3hrs F.M. : 75 P.M : 27**

**Group A (Long Answer Question)**

**Attempt any FOUR questions: [4 × 10 = 40]**

1. Differentiate between while and do while loop. WAP to display all prime numbers from 2 to 100. [5+5]
2. a) Write a recursive function to calculate the factorial of any integer number. [5]  
b) Differentiate between structure and array. [5]
3. WAP to enter name, age and sex of 10 persons into structure and display all the information in ascending order on the basis of name. [10]
4. What is control statement? WAP which selects and print the largest number from 10 different numbers. [2+8]
5. WAP to write name, address and id of 10 students in a file called "student.txt" and display the information stored in a file. [10]

**Group B – (Short Answer Questions)**

**Attempt any SEVEN questions: [7 × 5 = 35]**

6. What is Feasibility Study? Explain any three level of feasibility study. [1+4]
7. What is hierarchical database model? List out the advantages and disadvantages of hierarchical database model. [1+4]
8. What is the purpose if the ER-Diagram? List out any three symbols used in ER-Diagram with their meaning and example. [2+3]
9. What is the networking? Differentiate between LAN and WAN. [2+3]
10. What is internet? Explain the uses of internet in business. [2+3]
11. What is ICT? Explain the positive impact of ICT in society? [2+3]
12. What is object oriented programming? How it is different from the procedure oriented programming. [2+3]
13. Write short notes on (any two): [2.5+2.5]

- a. Data security
  - b. Coaxial cable
  - c. E-learning
14. What is multimedia? Explain the components of multimedia. [1+4]

## Computer - XII [Mgmt.]

### SET – 'A'

#### Group 'A'

**C programming** [40 marks]

**Attempt any four questions:** [4X10=40]

1. What is looping? Describe 'for loop', 'while loop' and 'do while loop' with appropriate examples. [1+9]
2. a) What is function? List out advantage of function. [2.5]  
b) Write a program to find the factorial of a given program using function. [2.5]
3. What is control statement? Write program which asks to input three different numbers and prints the largest among three using if-else if statement with flowchart. [2+8]
4. a) Describe string manipulation functions in C. Explain strcpy and strcmp functions with examples. [2+3]  
b) Write a program to demonstrate the value of variable and address of variable using pointers in C. [2+3]
5. a) Describe fscanf and fprintf functions. [5]  
b) Write a program which asks to input name, address and age of a student and write in the file 'student.dat'. [5]

#### Group 'B'

**Fundamentals** [35 marks]

**Attempt any seven questions:** [7×5=35]

6. What are the major activities of SDLC with based on waterfall model. [5]
7. What are the types of LAN topologies? Explain with diagram. [5]
8. Describe centralized and distributed database system. [5]
9. What is networking? List out the advantages and disadvantages of network. [1+4]
10. Describe different data types which are used in C language. [5]
11. Describe the application areas of AI. [5]
12. Describe any five application of multimedia. [5]
13. Write the advantages and disadvantages of OOP. [5]
14. What is relational database model? List the advantages and disadvantages of relational database model. [1+4]
15. Write short notes on: [2.5+2.5]
  - a) Computer crime
  - b) Social impact of ICT

### SET – 'B'

#### Group 'A'

**C programming** [40 marks]

**Attempt any four questions:** [4X10=40]

1. Describe array, structure and pointer with examples. [10]
2. What is nested loop? Write a program to display the multiplication table the nth terms of given numbers. [2+8]

3. Describe the functions in C. Write a program to find the sum of 'n' numbers using function in C.
4. Write a program which finds sum, difference and product of 2 different input numbers using switch case statement. [10]
5. Write a program to ask 100 different numbers and sort them in ascending order. [10]

### Group 'B'

**Fundamentals** [35 marks]

**Attempt any seven questions:** [7×5=35]

6. What is system analysis? Describe briefly. [5]
7. What is DBMS? Explain data integrity with suitable examples. [5]
8. Describe simplex, half duplex and full duplex with examples. [5]
9. Explain different stages of SDLC with neat figure. [5]
10. What is OOP? List different advantages of OOP. [5]
11. Describe the advantages of multimedia. [5]
12. Describe the term DML and SQL [5]
13. Differentiate between guided media and unguided media in networking. [5]
14. What is AI? What are the application area of AI. [5]
15. Write short notes on: [2.5+2.5]
  - a) e-Commerce
  - b) Intellectual Property Rights

### SET – 'C'

### Group 'A'

**C programming** [40 marks]

**Attempt any four questions:** [4X10=40]

1. a) Write difference between 'while loop' and 'do while loop' with appropriate examples. [5]  
b) Write a program to find greatest among 4 input numbers. [5]
2. Describe five "file handling functions" with appropriate examples. [10]
3. Write a program to add two different one dimensional matrices by supplying elements of matrices by the user. [10]
4. What is function? Write a recursive function to find the factorial of an input number. [2+8]
5. a) Describe switch case statement with examples. [5]  
b) Write a program to input a number and find whether the number is odd or even. [5]

### Group 'B'

**Fundamentals** [35 marks]

**Attempt any seven questions:** [7×5=35]

6. Describe SDLC with diagram. [5]
7. What is network topology? Describe any two network topologies with neat diagram. [5]
8. What is hierarchical database model? List out the advantages and disadvantages of hierarchical database model. [5]
9. Differentiate between array and structure with examples. [5]
10. Explain any two transmission media with appropriate diagram. [5]
11. What is ER diagram? Explain the advantage of ER diagram in system design. [5]
12. What is database? List the major uses of database application software. [5]
13. What is e-governance? List out the objectives of e-governance. [5]
14. What are the components of multimedia? Explain. [5]
15. Write short notes on: [2.5+2.5]
  - a) e-learning

- b) Data dictionary

**SET – ‘D’**

**Group ‘A’**

**C programming**

**[40 marks]**

**Attempt any four questions:**

**[4X10=40]**

1. Write a program to read 10 different positive numbers using array and find out the greatest and smallest number among them. [10]
2. Describe any five “string handling functions” with appropriate examples. [10]
3. What is file handling? Write a program which reads employee name, salary of 25 employees print them on monitor from the file “employee.dat” [2+8]
4. a) Write difference between Library functions and User defined function in C with examples. [5]  
b) Write a function to input a number and find whether the number is zero, positive or negative number. [5]
5. Write difference between array and structure. Write a program to input name, department and age of 5 different employees and display the records in proper format using structure. [10]

**Group ‘B’**

**Fundamentals**

**[35 marks]**

**Attempt any seven questions:**

**[7×5=35]**

6. What is feasibility study? Explain different levels of feasibility study. [5]
7. Describe DML and DDL with examples. [5]
8. Describe bus topology and star topology with suitable diagram. [5]
9. Explain centralized database and distributed database models. [5]
10. Describe different modes of file handling concept. [5]
11. Who is system analyst? Write the roles and responsibilities of system analyst. [5]
12. What do you mean by object, class and inheritance in terms of OOP. [5]
13. What are the key challenges in implementing e-governance in developing countries? [5]
14. What is multimedia? What are the components of multimedia? List out. [5]
15. Write short notes on: [2.5+2.5]
  - a) Coaxial cable
  - b) Satellite

**SET – ‘E’**

**Group ‘A’**

**C programming**

**[40 marks]**

**Attempt any four questions:**

**[4X10=40]**

1. Write any two features of C language. Write a program that reads name and salary of 25 employees and count the number of employees whose salary is between 30,000 and 40,000. [2+8]
2. a) Describe fopen and fclose file handling functions with examples. [5]  
b) Write a program that writes “Welcome to Nepal” in a data file “info.dat”. [5]
3. a) Write difference between one-dimensional array and two-dimensional array. [5]  
b) Write a recursive function to find the sum of ‘N’ natural numbers. [5]
4. What are control statements? Explain different control statements with examples. [10]
5. Write a program to input a sentence and count the number of vowels, consonants, spaces and words in the sentence. [10]

## Group 'B'

### Fundamentals

[35 marks]

#### Attempt any seven questions:

[7×5=35]

6. What is system design? Write and explain any four system design tools. [5]
7. What is DBMS? Write advantages and disadvantages of DBMS. [5]
8. What do you mean by OSI reference model? Explain different layers of OSI reference model with the help of a neat diagram. [5]
9. What is variable in C programming? List out different data types in C programming. [5]
10. Differentiate between client server network and peer to peer network. [5]
11. What is cyber law? Write different components of cyber law. [5]
12. What is AI? What are the different uses of AI? [5]
13. Explain the database models with examples. [5]
14. What is OOP? List the features and applications of OOP. [5]
15. Write short notes on: [2.5+2.5]
  - a) Network protocol
  - b) Types of network

## Unit 4: Programming in C

1. What is looping? Write a program to calculate and display the multiplication table using nested loop. [2+8]
2. Describe the "strcpy", "strncpy", "strle" and "strrev" string functions with examples. [10]
3. Write a program to arrange the elements of an array in ascending order. [10]
4. What is "fscanf" function? Write a program to display name, age and address reading from a file named "record.dat". [2+8]
5. What is function? Write a program to generate factorial of given number using recursive function. [2+8]
6. Describe any five 'file handling function' with examples. [10]
7. What is looping? Describe 'for loop', 'while loop' and 'do-while loop' with appropriate examples. [10]
8. Write a program which asks 100 numbers and sort them in ascending order. [10]
9. Write a program to find greatest number among four numbers. [10]
10. Write a program which reads name of 100 students and sort them in alphabetical order. [10]
11. Describe 'Sequence', 'Selection' and 'Loop' with flowchart. Write a program to check if a number is odd or even. [6+4]
12. What is pointer? Describe the benefits of pointer with examples. [4+6]
13. What is an array? Write a program which finds multiplication table of two matrices (3×3). [2+8]
14. Write a program which reads name, roll-number and age from a file named "student.dat" and display them. [10]
15. Write a program which reads the sum, difference and product of 2 numbers using switch case statement. [10]
16. Describe the types of loop with flowchart and examples. [10]
17. Write a program which asks the user to input 'n' terms of number and find out the greatest and smallest number among those numbers. [10]
18. Differentiate between array and structure with suitable examples. [5+5]
19. What is nested loop? Write a program to display the multiplication table of nth terms of given numbers. [2+8]
20. Describe any five "string handling functions" with examples. [10]
21. Write a program which reads salary of 25 employees and count the number of employees who are getting salary between 30,000 to 40,000. [10]
22. Describe fprintf and fscanf file handling functions. Write a program which writes "welcome to Nepal" in a file. [10]
23. What is control statement? Describe 'Sequence', 'Selection' and 'Loop' with flowchart and examples. [2+8]
24. Write a program which reads name of 20 employees and sort them in alphabetical order. [10]
25. Differentiate between structure and union with suitable examples. [5+5]
26. What is recursion? Write a program to calculate factorial value of given number using recursive function. [2+8]
27. Write a program which reads name, department and age from a file named "employee.dat" and display them. [10]
28. What is string? Explain any four string handling functions with example. [2+8]
29. What is control statement? Write a program which selects and prints largest among 3 numbers using "if-else" statement with flow charts. [2+8]
30. Write a program to store mark obtained by 'n' students and count the number of students who obtained mark greater than 70. Also count the number of students who are failed (mark<35). List any five string functions. [10]
31. Write a program to input a string and count the number of consonants containing in the string. [2+8]
32. Write a program to show data writing and reading operating to / from a data file. [2+8]

33. Explain the importance of pointer in C programming. Illustrate pointer operations with examples. Show the relationship between array and pointers with example. [3+3+4]
34. Write an algorithm for a program that input cost price (CP) and selling price (SP) and determines whether there is gain or loss. Convert this algorithm into program code. [5]
35. Write a program to display the name of day on the basis of entered number 1 to 7. For example, 1 for Sunday. [5]
36. Explain data types used in C programming with examples. [5]

**Short answer questions**

38. What is variables in programming? List out the different data types in C program. [2+3]
39. Describe the different mode of file handling concept in C. [5]
40. Explain the array and structure with examples. [2.5+2.5]
41. Differentiate between while and do-while loop. [3.5+3.5]
42. Describe the limitation of using getchar and putchar functions for reading strings. [7]
43. In event driven programming what is event handler? Explain the term 'recession'. [7]
44. What is Program Logic? What are different tools to explain the logic and design of a program? What is infinite loop? What are symbols used to draw a flow chart? [1+3+1+2]
45. What is operator? Describe the types of operators with appropriate examples. [1+4]

## Unit 5: Object Oriented Programming (OOP)

1. Explain class and object. [2.5+2.5]
2. What is OOP? List the characteristics of OOP. [1+4]
3. Explain the terms polymorphism and inheritance. [5]
4. What is OOP? List the advantages of OOP. [1+4]
5. Describe the importance of OOP. [5]
6. What is procedural oriented programming? Explain. [5]
7. What is object oriented programming? How it is different form the procedure oriented programming? [2+5]
8. Why polymorphism and inheritance are important concepts of OOP? Explain. [7]
9. Explain the terms polymorphism and inheritance. [7]
10. Define the terms polymorphism and inheritance with examples. [7]
11. Explain the characteristics of objects oriented programming. [7]
12. Why polymorphism and inheritance are important concepts of OOP? Explain. [7]
13. Name the tools that are used in program design. Polymorphism and Inheritance are important concepts of OOP. What do you understand by there two terms? [ 7]
14. What is Logical operator? Give two examples of their use. Compared to procedure oriented programming what advantages does not event driven programming offer? [3+4]
15. What is object oriented programming? how is it different from the procedure oriented programming? [7]

**Write short notes on:**

16. Inheritance [3.5]
17. Polymorphism [5]

## Unit: 6 Information Communication Technology and Cyber Law

**Short answer questions**

1. Describe the cyber crime in Nepal. What are protection method to the cybercrime? [2+3]
2. Write notes on: Digital divide and social impact of ICT. [2.5+2.5]
3. Describe Computer crime and its various forms. [5]
4. What is cyber crime? Explain its effects raised in this contemporary society. [2+5]
5. What do you mean by IT? Explain the advantages and disadvantages of IT. [2+5]

**Write short notes on:**

6. Computer crime. [2.5]
7. Social impact of the ICT. [2.5]
8. Cyber Law [3.5]
9. Cyber crime. [3.5]

## Unit 7: Multimedia

**Short answer questions**

1. What is multimedia? List out the component of multimedia. [2+3]
2. Explain the components of multimedia. [5]
3. Describe any five application of multimedia. [5]
4. Define multimedia. List the advantages and disadvantages of multimedia. [1+4]
5. What is multimedia? Explain its application areas. [3+4]
6. What is computer animation? How is it used on one film making industry? [3+4]

## Unit 8: Artificial Intelligence

**Short answer questions**

1. What is AI? Explain cyber law. [2+3]
2. Describe applications of AI. [5]
3. What is AI? What are the uses of AI? [2+3]
4. What is AI? Explain the application areas of AI. [1+4]
5. What do you understand by AI? How it affects the modern society? [2+5]
6. What do you understand by AI? How it affects the society? Explain the terms polymorphism and inheritance in terms of OOPs. [1+2+4]
7. What does an AI application work? Can a computer really think with the aid of AI? [3.5]

**Write short notes on:**

8. Application of AI [3.5]

## Unit 9: Contemporary Technology

### Short answer questions

1. Define the terms e-learning and virtual reality. [2.5+2.5]
2. What is E-governance? List out the objectives of E-governance. [1+4]
3. Define the terms e-business and e-learning. [2.5+2.5]
4. List out the advantages and disadvantages of e-business. [5]
5. What are the objectives of e-governance? Explain. [5]
6. What are the key challenges of implementing e-governance in developing countries? [5]
7. What is e-commerce? Explain its role to enhance the digital economy. [5]
8. What is e-commerce? Write impact of e-commerce technology in our society. [3+4]
9. What do you mean by e-commerce? Distinguish between WWW (world wide web) and Internet? What is multimedia? What are the hardware devices required by a personal computer to make it 'multimedia capable'? [2+2+1+2]

### Write short notes on:

10. E-Learning [2.5]
11. E-Commerce [2.5]