

# Madhya Pradesh Bhoj (Open) University, Bhopal

## M.Sc.(CS)- Final Year

**Subject: I- Data Communication & Network**

**Maximum Marks: 30**

---

निर्देश-

1. सभी प्रश्न स्वयं की हस्तलिपि में हल करना अनिवार्य है।
2. दोनों सत्रीय प्रश्न पत्र में से किसी एक प्रश्नपत्र को हल करना अनिवार्य है।
3. सत्रीय कार्य उत्तर पुस्तिकाओं के स्थान पर A4 साईज के सादे कागज पर छात्र द्वारा लिखे जायेंगे जिन पर क्षेत्रीय निदेशक के हस्ताक्षरित मुहर अंकित किया होना अनिवार्य है।
4. सत्रीय कार्य जमा करने की अंतिम तिथि 15 अक्टूबर 2011 है।
5. सत्रीय कार्य उत्तर पुस्तिकाओं को जमा करने की रसीद अवश्य प्राप्त कर लें।

---

### Assignment -(I)

Q1. (a) What are different types of Topologies? Explain with diagram and suitable example.

(b) What are Connection Oriented and Connection Less Services.

Q2. (a) What are Networking Medias? Explain their properties.

(b) Describe the EDI Architecture?

Q3. (a) How is TCP/IP used in Client Server System?

(b) Describe IP and its structure in Detail.

Q4. (a) Write note on OSI Reference Model.

(b) Write short note on the following:

(1) Multiplexing (2) Gateways

### Assignment -(II)

Q1. (a) Discuss the need and advantages of Computer Networks.

(b) If you have to develop a Computer Lab with 5 computers in Network then describe the way you will design it.

Q2. (a) What do you understand by Network Protocols?

(b) Discuss the steps involved when ATM is used in LAN's?

Q3. (a) What is Congestion Control? How is it controlled in Virtual Circuit Subnet and datagram Subnet.?

(b) What is Bluetooth? Explain its applications.

Q4. (a) Write short note on the following :

(1) IPV6 (2) Shortest Routing Algorithm

(3) Ethernet (4) Cryptography

**Subject:**  
**Assignment -(I)**

**Object Oriented programming using C++**  
**Marks :30**

- Q.1 (a) What is an Object and how objects can be defined in C++?  
(b) Compare early binding and late binding. When virtual functions are created for implementing late binding what basic rule should be observed?
- Q2. (a) What is a stream? Describe briefly the features of Input /Output stream supported by C++.  
(b) What is Inline function? Discuss the advantages and disadvantages of it.
- Q3. (a) Write short note on Constructor & Destructor.  
(b) Explain briefly about function prototype with examples.

**Subject:**  
**Assignment -(II)**

**Object Oriented programming using C++**  
**Marks :30**

- Q1. (a) What do you understand by Function Overloading in C++? Explain with example.  
(b) What is Unary Operator Overloading? Explain with example.
- Q2. (a) Write short note on Inheritance and its types.  
(b) Write a program in C++ to implement hierarchical inheritance.
- Q3. (a) Write short note on container class and tokens.  
(b) Write short note on the following with example (1) Private (2) Public  
(3) Protected

**Subject:**  
**Assignment -(I)**

**Software Engineering**  
**Marks :30**

- Q1. (a) Describe characteristics of Software Engineering.  
(b) What are the various automated estimating tools? Explain with examples.
- Q2. (a) Explain feasibility study in detail.  
(b) Discuss System Development Life Cycle.
- Q3. (a) How estimation of resources are done to accomplish software development efforts.  
(b) Differentiate between Top down and Bottom Up design.
- Q4. (a) Describe the Spiral model activities and its advantages.  
(b) Explain Data Flow Diagram and Data Dictionary.

**Subject:**  
**Assignment -( II)**

**Software Engineering**  
**Marks :30**

- Q1. What is Prototype model? Under what circumstances it is beneficial to construct a prototype model? Does the construction of a prototype model always increase the overall cost of software development.
- Q2. (a) Elaborate different software quality assurance (SQA) activities.  
(b) Elaborate the principle of Software Design.
- Q3. (a) What do you mean by CASE ? Explain Software Process.  
(b) Compare the relative advantages of using Water Fall model and the Spiral model of software development.
- Q4. (a) Discuss different types of Coupling and Cohesion.  
(b) What is Empirical Estimation? Explain **COCOMO** model.

**Subject:**  
**Assignment -(I)**

**Internet & Web Programming**  
**Marks :30**

- Q1. (a) Discuss about Internet Architecture and Internet services.  
(b) Describe different layers of TCP/IP model.
- Q2. (a) What is Website? Write down the steps to create and maintain a website.  
(b) What kind of FTP software you need to use file transfer. Explain them.
- Q3. (a) What are different types of Lists offered by HTML? Explain each with appropriate example.  
(b) Differentiate between Static webpage and Dynamic web page.
- Q4. Write short note on the following:  
(1) Web server (2) Different security measures applied in Internet.

**Subject:**

**Internet & Web Programming**

**Assignment -(II)**

**Marks :30**

- Q1. (a) What do you mean by Internet? List the various advantages and disadvantages of it.
- (b) How many types of Internet connections are available? Describe in detail.
- Q2. (a) Write the different tools needed to develop a website.
- (b) How Websites are published? What are the minimum requirements to do it.
- Q3. (a) What are the URLs? Explain the Absolute URL and Relative URL with example.
- (b) Give the name of any five browsers and explain them in brief.
- Q4. (a) Define Telnet with its process and merits and de-merits.
- (b) How an image can be used in a web page? Explain with example.

**Subject:**

**Programming In Java**

**Assignment -(I)**

**Marks :30**

- Q1. (a) Describe Java Environment. How Java is different from C++?
- (b) Explain Virtual Java Machine.
- Q2. (a) Define various access specifiers in Java. Describe Multiple Inheritance in Java.
- (b) Write a program to sort the elements of an array.
- Q3. (a) Explain Polymorphism in Java with example.
- (b) What is Abstract Class method?
- Q4. (a) What method is required for a thread to execute? Explain in detail about method.
- (b) What is Applet? Develop an applet that takes two numbers as input from the user and then show the largest of the given numbers.

**Subject:**

**Programming In Java**

**Assignment -(II)**

**Marks :30**

- Q1. (a) What is Finally Block? When and how is it used in Java?
- (b) Why Java is platform independent.?
- Q2. (a) Describe Life Cycle of Applet and describe each stage briefly.
- (b) How can you add applet to HTML file. Give an example.
- Q3. (a) What is an Exception? How do you define TRY/CATCH Block?
- (b) What do you mean by Thread Priority?

- Q4. (a) What is the use of Package in Java?  
(b) Explain procedure to add a class to a package.

**Subject:**  
**Assignment -(I)**

**.Net**  
**Marks :30**

- Q1. (a) Describe the .NET framework.  
(b) Fill the List box with name of Fruits . On selection of Fruit name from the list display the message on label as “ My choice of fruit is “ – Fruit name from the list.
- Q2. (a) Explain Exception. And uses of exception in .NET.  
(b) Create a blank database in access naming PERSONINFO having following structure
- |           |            |
|-----------|------------|
| (1) ID    | CHAR - 4   |
| (2) NAME  | CHAR - 4   |
| (3) BASIC | NUMBER - 7 |
- Q3. (a) Difference between Web controls and HTML Controls.  
(b) Which property allows you to determine whether a page is being loaded for the first time?

**Subject:**  
**Assignment -(II)**

**.Net**  
**Marks :30**

- Q1. (a) Explain the characteristics of .NET  
(b) What are XML Web server used for?
- Q2. (a) Create the Login form so that it has the following functionality
- (1) The form should have two labels namely Login –Id and Password.
  - (2) Two text boxes which take user input.
  - (3) When user input the password the text box shows \*\*\*\*\* in place of text.
  - (4) Write a loop that continues until the password is not correct .
  - (5) If an invalid password is typed by the user then a message box will appear on a screen with proper message
  - (6) Clear the password textbox and redisplay the login form.
  - (7) Allow only three times to user to input wrong password.
- Q3. (a) Write down the ASP.NET advantages over classic ASP.  
(b) Write a program for printing Fibonacci series ... 0,1,1,2,3,5,8,13,21,34,55