



**ARKAJAIN**  
**University**  
Jharkhand

**6<sup>th</sup> Semester End Term Examination: 2021-22.**

**Subject : Internet & Web Technologies**      **Roll No: .....**

**Course : POLY [CSE]**

**Full Marks : 70**

**Time : 3 Hours.**

**Instructions to the Candidates:**

- Read the question paper very carefully.
- Start writing from 2nd page onwards; Don't Write On The 1st Page Backside.
- Question Paper is divided into Three Parts -A, B & C.
- Part-A is containing 12 multiple choice questions.
- Part- B containing SIX questions out of which FOUR questions are to be answered.
- Part C containing FOUR questions out of which TWO questions are to be answered.
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**PART - A**

**Multiple Choice Questions**

[12x1=12]

1. \_\_\_\_\_ topology requires a multipoint connection:  
a. Star  
b. Ring  
c. Mesh  
d. Bus
2. Physical or logical arrangement of network is:  
a. Routing  
b. Protocol  
c. Topology  
d. Addressing
3. TCP/IP model does not have \_\_\_\_\_ layer but OSI model have this layer  
a. Session  
b. Application  
c. Transport  
d. Network
4. The size of an IP address in IPv6 is \_\_\_\_\_  
a. 4 bytes  
b. 8 Bytes  
c. 128 bits  
d. 100 bits



5. Identify the incorrect statement regarding FTP.
  - a. FTP stands for File Transfer Protocol
  - b. FTP uses two parallel TCP connections
  - c. FTP sends its control information in-band
  - d. FTP sends exactly one file over the data connection
6. FTP server \_\_\_\_\_
  - a. is Stateless
  - b. maintains state information
  - c. Has single TCP connection for a file transfer
  - d. Has UDP connection for file transfer
7. OSI model contains \_\_\_\_\_ layers.
  - a. 7
  - b. 10
  - c. 5
  - d. 6
8. What is the storage capacity of a single cookie?
  - a. 4095MB
  - b. 2048MB
  - c. 4095 Bytes
  - d. 2048 Bytes
9. Header of a frame generally contains \_\_\_\_\_.
  - a. Synchronization bits/Bytes
  - b. Frame identifier
  - c. Addresses
  - d. All of them
10. Two devices are in network if \_\_\_\_\_.
  - a. A process is running on both devices
  - b. A process is active and another is inactive
  - c. A process in one device is able to exchange information with a process in another device.
  - d. All of them
11. SMTP uses which of the following TCP port?
  - a. 22
  - b. 23
  - c. 25
  - d. 21
12. Which of the following is not applicable for IP?
  - a. Error Reporting
  - b. Datagram format
  - c. Packet Handling
  - d. All of them

**PART - B**

**Answer any TWO out of FOUR**

**[2x15=30]**

1. What is a Server? Why is it expensive as compared to a normal system? Explain the client-server architecture with a neat diagram.
2. What is meant by the term Topology? Explain segment format of TCP header with a neat diagram.
3. What is HTTP? How is it different from FTP? Design a webpage showing the ordered list of subjects along with the name of subject teachers of your class. Also use at least 3 CSS elements for designing the page.
4. Write detailed notes on any three:
  - a. Repeater
  - b. Gateway
  - c. Ethernet
  - d. WWW

**PART - B**

**Answer any FOUR out of SIX**

**[4x7=28]**

1. What is an IDE? How is it different from notepad? Draw a neat diagram of any IDE that is suitable for HTML & CSS.
2. Differentiate between IPv4 and IPv6. Write an HTML code to show a table consisting of your exam dates (at least show 3 rows and 3 columns).



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**PART - A**

**Multiple Choice Questions**

**[12x1=12]**

1. Unit testing is done by:  
a. User    b. Developers    c. Customers    d. None of the mentioned
2. Which of the following is not a Software Development Life Cycle Phase?  
a. Requirements Gathering    c. Test Closure  
b. Coding    d. Testing
3. White-box testing can be started:  
a. After installation    c. After SRS creation  
b. After programming    d. After designing
4. Which is not a type of incremental testing approach?  
a. Bottom up    b. Top down    c. Big-bang    d. Functional incrimination



5. Which of the following is Not a Test Type?

- a. Database Testing
- b. Statement Testing
- c. Security Testing
- d. Functional Testing

6. Which is a Procedure?

- a. Wait
- b. Exit
- c. Wait for Property
- d. None of these.

7. Which things are measured by Software Test Effectiveness?

- a. How many customer requirements are implemented in system?
- b. How well the customer specifications are achieved by the system?
- c. How much effort is put in developing the system?
- d. All of the above

8. To check whether coding standards are followed, which type of testing will be beneficial?

- a. Dynamic Testing
- b. Parameter Testing
- c. Static Testing
- d. Computation Testing

9. Testing helps us to \_\_\_\_\_ of product by finding defects in product.

- a. Fix defect
- b. Measure quality
- c. Improve quality
- d. All of the above

10. Which technique is applied for usability testing?

- a. White box
- b. Black box
- c. Grey box
- d. Combination of all

11. In prioritizing what to test, the most important objective is to:

- a. Test high risk areas.
- b. Obtain good test coverage.
- c. Find as many faults as possible.
- d. Test whatever is easiest to test.

12. The Decision table testing is a -----?

- a. White box Test Design Technique
- b. Experience-based Test Design Technique
- c. Black Box Test Design Technique
- d. Technique Grey Box Test Design Technique

## PART B

### ANSWER ANY FOUR OUT OF SIX

(4x7=28)

1. What do you mean by black box and white box testing? What is the difference between dynamic white box testing and debugging?
2. Define Software Quality. Explain the State testing techniques?
3. Define Error. Explain the software error case study by Disney Lion King.
4. Define the term Debugging or fault localization. What are the product components of the software?
5. What are the boundary condition and write it types.
6. What are the conditions for Test-to-pass and Test-to-fail?

## PART C

### Answer any TWO out of FOUR:

(2x15=30)

1. What effort goes into a software product? Explain in details.
2. Discuss about the formal Reviews. With four essential elements & write about an Addition to finding problems, holding formal reviews has a few indirect results
3. Discuss about configuration testing in details.
4. If you are assigned to test compatibility of your product's data file formats, how would you approach the task?



19.5.22



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**PART - A**

**Multiple Choice Questions**

[12x1=12]

1. The symbol, 'addr 16' represents the 16-bit address which is used by the instructions to specify the
  - a. Destination address of CALL
  - b. Source address of JUMP
  - c. Destination address of call or jump
  - d. Source address of call or jump
2. The address register for storing the 16-bit addresses can only be
  - a. Stack pointer
  - b. Instruction register
  - c. Data pointer
  - d. Accumulator
3. Which of the following is bit-addressable register?
  - a. SBUF
  - b. PCON
  - c. TMOD
  - d. SCON
4. Which of the following can provide hardware handshaking?
  - a. RS232
  - b. Parallel port
  - c. Counter
  - d. Timer



5. PCI stands for
- Peripheral Component Interconnect
  - Peripheral Computer Internet
  - Processor Computer Interconnect
  - Processor Cable Interconnect

6. The register that keeps track of all the DMA channel pending requests and status of their terminal counts is

- Mask register
- Status register
- Request register
- Count register

7. The transfer of a block of data from one set of memory address to another takes place in

- Block transfer mode
- Memory to memory transfer mode
- Demand transfer mode
- Cascade mode

8. What rate can define the timing in the UART?

- Bit rate
- Baud rate
- Speed rate
- Voltage rate

9. The connection between the device file and device driver is based on the

- Name of device file
- Name & number of device file
- Number of device file
- None of the mentioned

10. The time taken to respond to an interrupt is known as

- Interrupt delay
- Interrupt latency
- Interrupt time
- Interrupt function

11. What is Inter process communication?

- Allows processes to communicate and synchronize their actions when using the same address space
- Allows processes to communicate and synchronize their actions
- Allows the processes to only synchronize their actions without communication
- None of the mentioned

12. Mutual exclusion implies that

- If a process is executing in its critical section, then no other process must be executing in their critical sections
- If a process is executing in its critical section, then other processes must be executing in their critical sections
- If a process is executing in its critical section, then all the resources of the system must be blocked until it finishes execution
- None of the mentioned

## PART B

**Answer any Four out of Six**

(4x7=28)

- Write working of SBUF, TCON, TMOD, SMOD, and SCON Register.
- Explain the functionalities of RS-232 C standard Serial interface with Neat diagram?
- Explain Concept of Interrupts handling Mechanism?
- Write a program segment that uses timer 1 in mode 2 to toggle P1.0 once whenever the counter reaches a count of 100. Assume the timer clock is taken from external source P3.5 (T1).
- Explain Merits and Limitation of SRAM and DRAM as random Access Memory
- Explain types and working of multitasking?

## PART C

**Answer any two out of Four :**

(2x15=30)

- Discuss a pin diagram and internal memory Organisation of 8-Bit Microcontroller with neat Diagram.
- Write a program to subtract a 16 bit number stored at locations 51H-52H and 55H-56H and store the result in locations 40H and 41H. Assume that the significant byte of data or the result is stored in low address. If the result is positive, then store 00H, else store 01H in 42H.
- With a neat diagram explain the working direct memory access (DMA) mention the memory management method?
- Discuss Inter process communication (IPC)? Give an overview of different IPC mechanisms adopted by various operating systems?