

**2011000105020001**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS**  
**(FIFTH SEMESTER)**  
**UNIX & SHELL PROGRAMMING (502) LEVEL 2**

[Time: As Per Schedule]

[Max. Marks: 70 ]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
  - b. Name of the Subject: **UNIX & SHELL PROGRAMMING (502) LEVEL 2**
  - c. Subject Code No: **2011000105020001**
2. Sketch neat and labelled diagram wherever necessary.  
3. Figures to the right indicate full marks of the question.  
4. All questions are compulsory.

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Student's Signature

**Q.1 Answer the following questions. (Any seven)**

**14**

1. What happens when cd command is run without arguments?
2. Which command can be used to rename a file or a directory?
3. How to remove a file?
4. Which command is used to display the top of the file?
5. What do you mean by sticky bit?
6. Which command is used to count just the number of characters in a file?
7. Explain -u, -n, -r options of sort.
8. Explain the use of tee command.
9. What is the purpose Super block?

**Q.2 Answer in detail. (Any two)**

**14**

1. Explain the features of Unix Operating System.
2. Explain booting Process of Unix Operating System.
3. Explain functions of Kernel.

**Q.3 Answer in detail. (Any two) 14**

1. Which command is useful to change the file permission? Explain it giving by example.
2. Write a shell script to calculate simple interest.
3. Write a shell script to check whether the given file exists or not.

**Q.4 Answer in detail. (Any Two) 14**

1. Explain grep command with example.
2. Explain expr command giving example for string manipulation.
3. Explain following commands
  - a) Who
  - b) head
  - c) tail

**Q.5 Write the short note (any two) 14**

1. Explain redirection in Unix Operating System.
2. Explain case statement in Unix.
3. Explain string comparison with test command.
4. Explain any two functions used in AWK with example.

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**2011000105030001**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**  
**NETWORK TECHNOLOGIES (503) LEVEL 3**

[Time: As Per Schedule]

[Max. Marks: 70 ]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
  - b. Name of the Subject: **NETWORK TECHNOLOGIES (503) LEVEL 3**
  - c. Subject Code No: **2011000105030001**
2. Sketch neat and labelled diagram wherever necessary.
  3. Figures to the right indicate full marks of the question.
  4. All questions are compulsory.
  5. Write to the point.

Seat No:

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Student's Signature

**Q.1 Answer the Following Questions.**

**10**

1. Which one of the following has MAC address and IP address?
  - a) Router
  - b) Repeater
  - c) Hub
  - d) Modem
  
2. UDP needs the \_\_\_\_\_ address to deliver the user datagram to the correct application program
  - a) Application
  - b) Physical
  - c) Port
  - d) Internet
  
3. The \_\_\_\_\_ logical topology uses the token concept to transmit the data within network.
  - a) Bus
  - b) Ring
  - c) Star
  - d) Mesh

4. In \_\_\_\_\_ mode, each station can both transmit and receive, but not at the same time.
- a) Simplex
  - b) Half duplex
  - c) Duplex
  - d) None of the above
5. IP is responsible for \_\_\_\_\_ communication while TCP is responsible for \_\_\_\_\_communication.
- a) Host-to-host; process-to-process
  - b) Network-to-network; host-to-host
  - c) Process-to-process; network-to-network
  - d) Host-to-host; network-to-network
6. The \_\_\_\_\_ carry signal in light form.
- a) Twisted air cable
  - b) Coaxial cable
  - c) Fiber optics
  - d) None of above
7. The \_\_\_\_\_ is required for communication between two systems within the same network.
- a) Logical address
  - b) IP address
  - c) Port number
  - d) Physical address.
8. Expansion of VANET is
- a) Vehicular AdHoc Network
  - b) Vehicular Address Network
  - c) Vehicular AdHock Neural Network
  - d) Vehicle Address Network
9. TCP is \_\_\_\_\_layer protocol.
- a) Application
  - b) Session
  - c) Transport
  - d) Datalink

10. Which of the following transmission media is used for cable TV network?

- a) Twisted Pair
- b) Coaxial
- c) Fiber optics
- d) None of the above

**Q.2 Answer the Following (Any Four)**

**24**

1. What is networking? Explain advantages, disadvantages and need of network.
2. Explain twisted pair cable in detail.
3. What is network topology? Explain Bus and Mesh topology in detail.
4. Explain types of MANET. Also explain the characteristics of MANET.
5. Explain SSL and FTP in detail.
6. Explain Working and services of Email.

**Q.3 Answer the Following (Any Four)**

**24**

1. What is internet? Explain architecture of internet. Also explain Difference between Internet and Intranet.
2. Explain Hub and Router network devices in detail.
3. Discuss responsibility of Network Layer and Session Layer in detail.
4. What is DNS? Explain DNS in detail.
5. Explain Different types of network
6. Explain UTP in detail.

**Q.4 Write a Short note on (Any Two)**

**12**

1. IP address and its classes.
2. URL and its types.
3. HTTP VS. HTTPS.

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**2011000105050001**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**  
**ASP.NET (505) LEVEL 5**

[Time: As Per Schedule]

[Max. Marks: 70]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
- b. Name of the Subject: **ASP.NET (505) LEVEL 5**
- c. Subject Code No: **2011000105050001**

- 2. Sketch neat and labelled diagram wherever necessary.
- 3. Figures to the right indicate full marks of the question.
- 4. All questions are compulsory.

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Student's Signature

**Q.1 Select appropriate option**

**10**

- 1. Which status code indicates redirection of the client to another URL?
  - a. 5xx
  - b. 4xx
  - c. 3xx
  - d. 2xx
  
- 2. How to identify that the page is Post back?
  - a. Is Post Back property
  - b. Smart Navigation property
  - c. Auto Post Back property
  - d. By using session
  
- 3. To read cookies you need to use
  - a. Response object
  - b. Request object
  - c. Server object
  - d. None

4. Which of the following object acts as a bridge between data source and Dataset?
- a. DataSet
  - b. DataReader
  - c. DataAdapter
  - d. Command
5. We can have multiple machine.config file on our computer.
- a. True
  - b. False
6. For separating server-side code from client-side code on ASP.NET page, what programming model should you use?
- a. Separation Model
  - b. Code-Behind Model
  - c. In-Line Model
  - d. Client-Server Model
7. Which property of Button control can be used to prevent Page Validation?
- a. Validate
  - b. CausesValidation
  - c. IsValid
  - d. PreventValidation
8. <WebMethod> attribute is used to
- a. Declare web service
  - b. Attach web service with any of web application
  - c. Declare method as web service
  - d. None of the above
9. Which of the following is not a server side state management technique?
- a. User Profile
  - b. Session
  - c. Cookies
  - d. Application
10. The property of FileUpload control used to verify that the control contains a file to upload or not is
- a. HasFile
  - b. HasRows
  - c. Contains
  - d. None

**Q.2 Answer the following**

**15**

- a Explain Page life cycle with page events
- b Explain Themes and CSS with an example
- c Explain AdRotator control with its properties and example

**OR**

- a Write a note on CLR
- b Explain Master Page with an example
- c Explain SiteMapPath control with its properties and web.sitemap file.

**Q.3 Answer the following**

**15**

- a Write a note on DataReader Object with its properties and methods
- b Write a note on Login Name, LoginView and Login Status controls
- c Explain RegularExpressionvalidator control with an example

**OR**

- a Write a note on Command object with its properties and methods
- b What are advantages and disadvantages of Disconnected Data Model
- c Explain Compare Validator control with an example

**Q.4 Answer the following**

**15**

- a Explain Session State Management Technique with an example
- b Explain Client server communication.
- c What is Cookie? Explain it with an example

**OR**

- a What do you mean by Developer Productivity in ASP.NET? Explain in detail.
- b Explain Request Object with its properties and methods
- c What is QueryString and URL Encoding with an example

**Q.5 Answer the following (Any Three)**

**15**

- a User Control
- b Web Services
- c User Profile
- d Error handling
- e Explain how to achieve master-detail relationship using data binding controls in ASP.NET?

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**2211000105010002**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**  
**501-1: ADVANCED WEB DESIGNING LEVEL 1**

[Time: As Per Schedule]

[Max. Marks:70 ]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
  - b. Name of the Subject : **501-1: ADVANCED WEB DESIGNING LEVEL 1**
  - c. Subject Code No : **2211000105010002**
2. Sketch neat and labelled diagram wherever necessary.
  3. Figures to the right indicate full marks of the question.
  4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Answer the following questions in short. (Any 7)**

**14**

1. Define NoSQL databases. List the different NoSQL databases.
2. Explain primary key - foreign key relationships in MongoDB.
3. How Real DOM is different from Virtual DOM?
4. What is JSX?
5. Explain event.target.name in React JS.
6. What are Hooks in React JS.
7. What are expressions in AngularJS
8. What is Angular JS? Explain two features of it.
9. Explain ngRoute.

**Q.2 Answer the following questions. (Any 2)**

**14**

1. Write about Projection and sort Operators in MongoDB.
2. Explain aggregate functions of MongoDB.
3. Write about the features of React.JS with its advantages and disadvantages

**Q.3 Attempt the following questions. (Any 2) 14**

1. Write about event handling in React.JS.
2. Explain each expression in Angular.JS.
3. Write about ng-app, ng-init and ng-repeat directives of Angular.JS.

**Q.4 (A) Write the queries using MongoDB (Any 5) 10**

1. Create database EMP and Make Collection With name "EMPL"  
(empno, empname, salary, role)
2. Update Salary Of Employee where Name is "ST" by +8000.
3. Update Salary Of All Employee by giving an increment of +4000 each.
4. Update role of "MSD" as "C and WK".
5. Delete the document of empno :5
6. Find top 3 document of the highest paid Employee
7. Find document from the empl collection where empname begins with 'S'

(B) Create a Login form (email, password) and validate it using Angular JS 4

**OR**

Create a Login form (email, password) using React JS

**Q.5 Write a short note on following (Any 2) 14**

1. MongoDB Data Types with example
2. useRef, useCallback of React.JS
3. \$routeProvider service from ngRoute in AngularJS
4. Filters in Angular.JS with examples

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**2211000105010003**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**  
**501-02 : ADVANCED MOBILE COMPUTING LEVEL 1**

[Time: As Per Schedule]

[Max. Marks:70 ]

**Instructions:**

1. Fill up strictly the following details on your answer book
  - a. Name of the Examination : **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
  - b. Name of the Subject : **501-02 : ADVANCED MOBILE COMPUTING LEVEL 1**
  - c. Subject Code No : **2211000105010003**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.
5. Mention your options clearly.

Seat No:

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Student's Signature

**Q.1 Answer the following (Any 7)**

**14**

1. Mention two advantages of using Kotlin over Java.
2. What is the difference between val and var in Kotlin?
3. What is the advantage of using named parameters with default values?
4. How can you add scrolling capabilities to a layout in Android?
5. What is the role of the Logcat pane in Android Studio?
6. Explain how to open a web URL from an app using implicit intents.
7. Give an example of a JSON array of strings.
8. How does an Android app connect to a MySQL database?
9. Which Android permissions are needed to capture images using the device camera?

**Q.2 Do as directed:**

**14**

- A. Compare and contrast the if and when statements in Kotlin. Provide examples of how both are used in decision-making.

**OR**

- A. Discuss loops in Kotlin, specifically the for and while loops. How are break, continue, and return used in these loops?

- B. Differentiate between open and abstract classes in Kotlin. Write a Kotlin program that demonstrates the use of both an open class and an abstract class with appropriate examples.

**OR**

- B. Explain the visibility modifiers in Kotlin (public, private, protected, and internal). How do they control the access of properties, methods, and classes? Provide examples to demonstrate their usage.

**Q.3 Do as directed: (Any 2)**

**14**

- A. Discuss the concept of named parameters in Kotlin and explain how constructors are used. Provide a code example that demonstrates named parameters and constructor initialization in a Kotlin class.
- B. Explain the Android Activity Lifecycle with the help of a diagram and describe how it is logged using the Logcat pane in Android Studio.
- C. What is the role of event handling in Android development? Explain the usage of set On Click Listener with an example.

**Q.4 Do as directed: (Any 2)**

**14**

- A. Explain the concept and features of JSON. How does JSON differ from XML, and in what ways are they similar?
- B. Discuss the process of sharing media from an app to other apps using implicit intents. Provide an example of how this can be achieved in Android.
- C. Explain how to build multi-screen Android apps using intents. Differentiate between explicit and implicit intents, and give examples of their applications.

**Q.5 Do as directed: (Any 2)**

**14**

- A. Explain the process of capturing an image using the device camera in an Android app. Discuss how to use the ACTION\_IMAGE\_CAPTURE intent of the Media Store class and handle the captured image.
- B. Describe how to access a user's current location in an Android app. What permissions are required, and how do you implement location services in Kotlin?
- C. Discuss the methods for reading, updating, and deleting data from a database in an Android app. Provide sample Kotlin code to illustrate these operations.

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**2211000105040002**  
**EXAMINATION JUNE - 2025 (PURAK EXAM)**  
**BACHELOR OF COMPUTER APPLICATIONS**  
**(FIFTH SEMESTER)**  
**WEB FRAMEWORK AND SERVICES LEVEL 4**

[Time: As Per Schedule]

[Max. Marks:70 ]

**Instructions:**

**1. Fill up strictly the following details on your answer book**

- a. Name of the Examination: **BACHELOR OF COMPUTER APPLICATIONS (FIFTH SEMESTER)**
  - b. Name of the Subject: **WEB FRAMEWORK AND SERVICES LEVEL 4**
  - c. Subject Code No: **2211000105040002**
2. Sketch neat and labelled diagram wherever necessary.
  3. Figures to the right indicate full marks of the question.
  4. All questions are compulsory.

Seat No:

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Student's Signature

**Q.1 Answer following in short. (Any 7)**

**14**

1. Explain difference between== and ===.
2. How do we create a constant in PHP?
3. Explain difference between include () and require () .
4. Give example of a constructor in PHP.
5. How to remove a variable from session? Give an example.
6. List out PHP superglobal variables.
7. How do we call a Python script from PHP?
8. Give use of render\_template () .
9. List out Flask HTTP methods.

**Q.2 Answer following questions. (Any 2)**

**14**

1. What is an associative array in PHP? Explain asort () and ksort () .
2. Explain working of for and foreach loops.
3. Explain form validation using regular expressions.

- Q.3 Answer following questions. (Any 2) 14**
1. Explain date & time methods of PHP.
  2. Explain any 7 methods of OS module in Python.
  3. Explain subprocess module methods of Python.
- Q.4 Answer following 07**
1. Explain cookie giving examples.
- OR**
- What is session? Explain working of session giving examples. **07**
2. Explain steps of database connectivity between PHP and database. **07**
- OR**
- What is Ajax? Explain backend query processing using Ajax. **07**
- Q.5 Write short notes. (Any 2) 14**
1. Explain steps in creating and hosting a flask application.
  2. List Jinja2 delimiters. Explain dynamic data representation using Jinja2.
  3. Explain url\_for() and add\_url\_rule() functions with examples.

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