

**Model Questions****PRS/KS/24/2402**

**Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
DIGITAL FORENSIC FOR INFORMATION TECH  
Elective-I**

Time : Three Hours]

[Maximum Marks : 80]

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Questions No. **2**.
- (3) Solve Question No. **3 OR** Questions No. **4**.
- (4) Solve Question No. **5 OR** Questions No. **6**.
- (5) Solve Question No. **7 OR** Questions No. **8**.
- (6) Solve Question No. **9 OR** Questions No. **10**.
- (7) Solve Question No. **11 OR** Questions No. **12**.
- (8) Assume suitable data wherever necessary.
- (9) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) Why computer forensic is important ? What is the use of digital forensics in law enforcement ? 7  
 (b) What are digital forensics assistance techniques to human resource ? 7

**OR**

2. (a) What is Cyber Crime ? State and explain its various types. 7  
 (b) State and explain the steps taken by digital forensics specialists for investigation. 7
3. (a) Explain standard procedure for performing a live acquisition. 8  
 (b) Explain the rule of evidence. 5

**OR**

4. (a) Enumerate the guidelines for seizing digital evidence at the scene. 6  
 (b) What are the key points to be remembered before seeking electronic information as evidence ? 7

**Model Questions**

5. (a) What are different evidence processing steps ? 6

- (b) Write short notes on :  
(i) Data hiding techniques  
(ii) Performing remote acquisitions. 7

**OR**

6. (a) How digital evidence are stored ? 6

- (b) What data is to be collected and analyzed with respect to computer forensics investigation ?  
Discuss in detail. 7

7. (a) Explain the importance of collecting evidence in Private Sector incident scene. 7

- (b) Explain why it is important to identify digital evidence. Also give suitable example. 6

**OR**

8. (a) What are the steps while preparing for a search securing a crime scene ? 7

- (b) Explain the principles of computer based digital evidence, along with storing digital evidence. 6

9. (a) Explain four components of UNIX that define the system. Explain role of OS forensics. 7

- (b) Explain the role of email in investigation. 7

**OR**

10. (a) State and explain the acquisition procedure for Cell Phone and Mobile Devices. 7

- (b) State and explain procedure to handle an android device during investigation. 7

11. (a) Describe method to validating and testing Computer Forensic tools. 6

- (b) What is the purpose of virtual machine ? 7

**OR**

12. Write short notes on : 13

- (i) File System  
(ii) Microsoft File Structure  
(iii) NTFS disks.



## Model Questions

**SKR/KW/24/2074**

**Faculty of Science & Technology**

**Seventh Semester B.E. (Information Technology) (C.B.S.) Examination**

**DIGITAL SIGNAL PROCESSING**

**(Elective—II)**

Time—Three Hours]

[Maximum Marks—80

### INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
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- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
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- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Assume suitable data wherever necessary.

1. (a) Explain the following system properties with example :

- (i) Linear system
- (ii) Time invariance system
- (iii) Dynamic system
- (iv) Causal system.

7

(b) What are the basic elements of Digital Signal Processing ? Explain in detail.

6

### OR

2. (a) Compute the cross correlation of  $x_1(n)$  with  $x_2(n)$  where :

$$x_1(n) = \{1, 2, 3, 4\}$$

↑

$$x_2(n) = \{5, 6, 7, 8\}.$$

↑

6

(b) Convolve two sequences graphically :

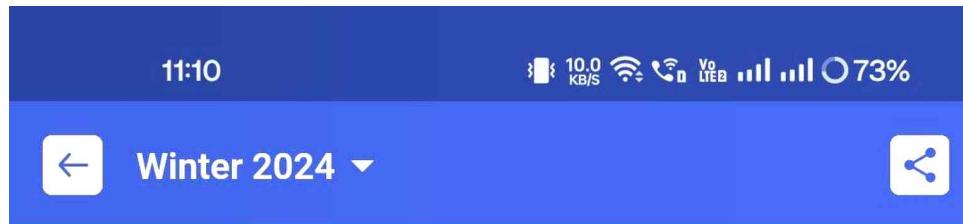
$$x(n) = \{1, 2, 3, 4\}$$

↑

$$h(n) = \{1, 2, 1, -1\}$$

↑

7



## Model Questions

3. (a) State and explain any three properties of Z-transform. 6

(b) Determine the Z-transform of the following finite duration signal :

(i)  $x_1(n) = \{3, 1, 2, 5, 7, 0, 1\}$   
↑

(ii)  $x_2(n) = \delta(n)$

(iii)  $x_3(n) = \{0, 0, 1, 2, 5, 4, 0, 1\}$   
↑

(iv)  $x_4(n) = \{-1, -2, 0, 1, 2\}$ .  
↑

7

OR

4. (a) Determine IZT of  $x(z) = \frac{1}{1-4z^{-1} + 3z^{-2}}$  if ROC is :

(i)  $|z| > 3$

(ii)  $|z| < 1$ .

7

(b) Determine Z-transform of the following infinite duration series :

(i)  $\frac{a^n}{n!}$

(ii)  $e^{j\omega n}u(n)$

(iii)  $\cos(\omega_n n) \cdot u(n)$ .

6

5. (a) State and prove any three properties of DFT.

7

(b) Determine Fourier transform of the signal  $x(n) = a^n$ ;  $-1 < a < 1$ .

7

OR

6. (a) Compute the DFT of the sequence  $x(n) = \{0, 1, 2, 1\}$ . Sketch the magnitude and phase spectrum.

7

(b) Perform circular convolution using DFT-IDFT method for :

$x_1(n) = \{1, 2, 3, 4\}$   
↑

$x_2(n) = \{2, 1, 3, -3\}$   
↑

7

7. Design a digital IIR Butterworth low pass filter using bilinear transformation with following specification :

(i) Pass band ripple 1.5 dB upto 4 rad/sec.

(ii) Stop band attenuation 20 dB beyond  $9\pi$  rad/sec.

(iii) Sampling frequency 25 Hz.

14

OR



## Model Questions

8. Obtain the Direct Form-I, Direct Form-II cascade and parallel structure of the following system :

$$y(n) = \frac{3}{4}y(n-1) - \frac{1}{8}y(n-2) + x(n) + \frac{1}{3}x(n-1). \quad 14$$

9. Design a filter with :

$$H_d(e^{-jw}) = \begin{cases} e^{-jhw}, & -\frac{3\pi}{4} \leq w \leq \frac{3\pi}{4} \\ 0, & \frac{3\pi}{4} < |w| \leq \pi \end{cases}$$

using Hanning window with  $M = 7$ . 13

**OR**

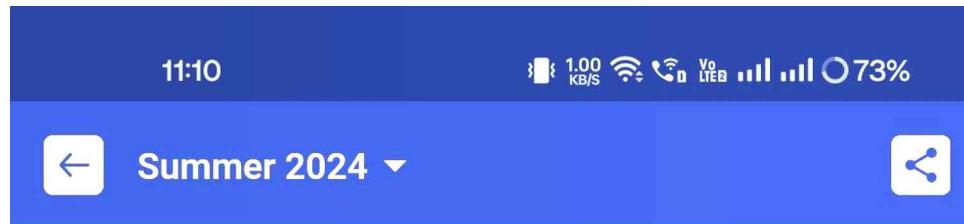
10. Using a Rectangular window design a low pass filter with pass band gain of unity, cutoff frequency of 1 kHz and working at a sampling frequency of 5 kHz. The length of the impulse response should be 7. 13

11. Given  $x(n) = \{1, 2, 3, 4, 4, 3, 2, 1\}$  find  $X(k)$  using DFT-FFT algorithm. 13

**OR**

12. Find and draw the radix -2 16 point DFT-FFT algorithm for the following sequence :

$$x(n) = \mu(n) - \mu(n) - 16. \quad 13$$



## Model Questions

PRS/KS/24/2401

Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
DIGITAL SIGNAL PROCESSING  
Elective-I

Time : Three Hours]

[Maximum Marks : 80

### INSTRUCTIONS TO CANDIDATES

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- (2) Solve Question No. **1 OR** Questions No. **2**.
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- (6) Solve Question No. **9 OR** Questions No. **10**.
- (7) Solve Question No. **11 OR** Questions No. **12**.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Assume suitable data wherever necessary.
- (10) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) An analog signal  $x_a(t) = \sin(480\pi t) + 3 \sin(720\pi t)$  is sampled 600 times per second :

(i) Determine the nyquist sampling rate for  $x_a(t)$

(ii) Determine the folding frequency.

5

(b) Determine whether the system given below are static or dynamic, linear or non-linear :

(1)  $y(n) = n x(n)$

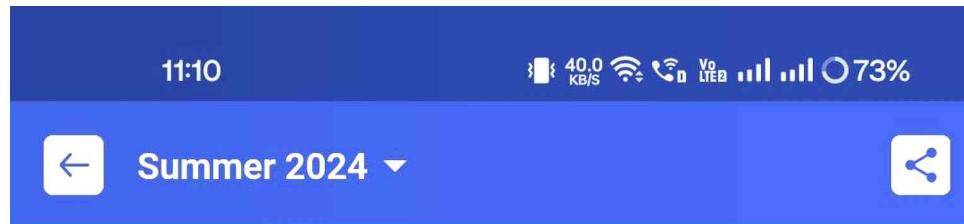
(2)  $y(n) = x(n) + x(2n)$

(3)  $y(n) = e^{x(n)}$

(4)  $y(n) = x(n) + nx(n).$

8

OR



## Model Questions

2. (a) Determine the auto correlation sequence for  $x(n) = \{1, 2, 3, 4\}$ . 5

(b) Determine linear convolution of following sequence :

$$x(n) = \{1, 2, 1, -1\}$$

↑

$$x(n) = \{1, 2, 3, 1\}$$

↑

(i) Graphically

(ii) Analytically. 8

3. (a) A linear time-invariant system is characterized by the system function :

$$H(Z) = (3 - 4Z^{-1}) / (1 - 3.5Z^{-1} + 1.5Z^{-2})$$

Specify the ROC of  $H(Z)$  and determine  $h(n)$  for the following condition :

(a) The system is stable

(b) The system is causal

(c) The system is anticausal. 7

- (b) Determine Z-transform and the ROC of the signal :

(i)  $x(n) = [3(2^n) - 4(3^n)] u(n)$

(ii)  $x(n) = n a^n u(n)$ . 6

**OR**

4. (a) Enumerate and explain three properties of Z-transform. 6

- (b) Determine the inverse Z-transform of

$$H(Z) = 1 / (1 - 1.5Z^{-1} + 0.5Z^{-2})$$
 if

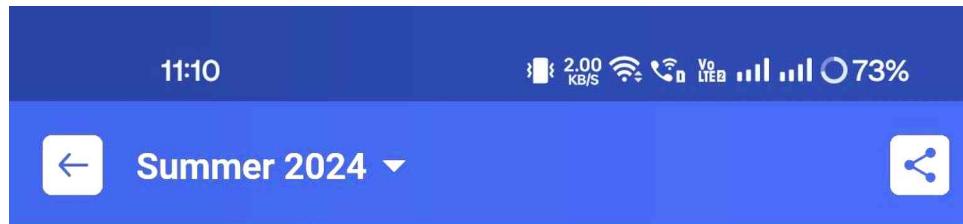
(i) ROC :  $|Z| > 1$

(ii) ROC :  $|Z| < 0.5$

(iii) ROC :  $0.5 < |Z| < 1$  7

5. (a) By means of DFT and IDFT, determine the sequence  $x_1(n)$  corresponding to circular convolution of the sequence  $x_1(n)$  and  $x_2(n)$

$$x_1(n) = \{1, 2, 3, 4\}, x_2(n) = \{5, 6, 7, 8\}. 9$$



## Model Questions

(b) Explain the following properties of the DFT :

- (i) Circular time shift
- (ii) Circular correlation.

4

**OR**

6. (a) Determine 4 point DFT of sequence  $x(n) = \cos \frac{n\pi}{4}$ .

6

(b) Determine IDFT of  $X(k) = \{3, (2+j), 1, (2-j)\}$ .

7

7. (a) The system function of the analog filter is given as

$$H_a(s) = (s + 0.2) / ((s + 0.2)^2 + 9)$$

Obtain the system function of the IIR digital filter by using impulse invariance method. 8

(b) Design a single pole low pass digital filter with 3dB bandwidth of  $0.2\pi$ , using the bilinear transformation applied to the analog filter :

$$H(s) = \frac{\Omega_c}{(s + \Omega_c)}$$

Where  $\Omega_c$  is the 3-dB bandwidth of the analog filter. 5

**OR**

8. Obtain the direct form-I, direct form-II, cascade and parallel form realization for the system :

$$y(n) = -\frac{3}{8}y(n-1) + \frac{3}{32}y(n-2) + \frac{1}{64}y(n-3) + x(n) + 3x(n-1) + 2x(n-2).$$

13

9. Desired frequency response of a low pass filter is :

$$H_d(e^{j\omega}) = e^{-j2\omega}, \quad -\pi/4 \leq \omega \leq \pi/4$$

$$= 0, \quad \pi/4 < \omega \leq \pi$$

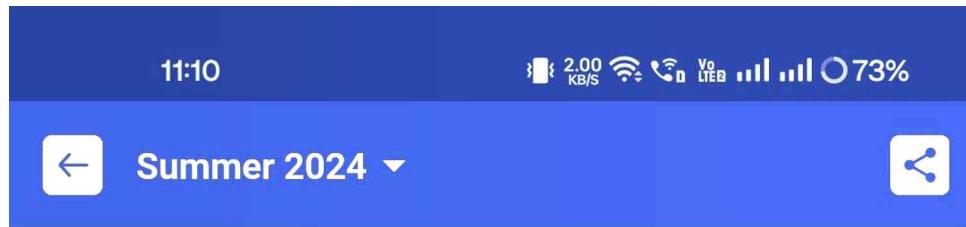
Determine the filter coefficient  $h_d(n)$  if the window function is defined as :

$$\omega(n) = 1, \quad 0 \leq n \leq 4$$

$$= 0, \quad \text{otherwise}$$

Also determine the frequency response  $H(e^j\omega)$  of the designed filter. 14

**OR**



## Model Questions

10. Desired frequency response of a low pass filter is :

$$H_d(e^{j\omega}) = e^{-j3\omega}, \quad -3\pi/4 \leq \omega \leq 3\pi/4$$

$$= 0, \quad 3\pi/4 < \omega \leq \pi$$

Determine  $H_d(e^{j\omega})$  for  $M = 7$  using Hamming window.

14

11. Compute the 8-point DFT of the sequence,

$$x(n) = \{1, 2, 3, 4, 4, 3, 2, 1\}$$

Using DIT FFT algorithm. Follow the signal flow graph and keep track of all the intermediate quantities by putting them on the diagram.

14

**OR**

12. Draw the butterfly diagram of the 8 point inverse decimation in time FFT and use it to obtain the original sequence values. Given  $X(K)$  is

$$X(K) = \{36, -4 + j9.656, -4 + j4, -4 + j1.656, -4, -4 - j1.656, -4 - j4, -4 - j9.656\}$$

14

**Model Questions****SKR/KW/24/2595/2617**

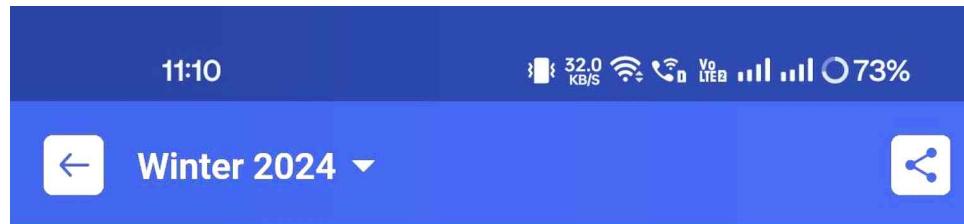
**Faculty of Science & Technology  
Seventh Semester B.Tech. (Computer Science And Engineering /IT) (CBCS) Examination  
JAVA PROGRAMMING  
OPEN ELE- II**

Time : Three Hours]

[Maximum Marks : 70]

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
  - (2) Solve Question No. 1 **OR** Question No. 2.
  - (3) Solve Question No. 3 **OR** Question No. 4.
  - (4) Solve Question No. 5 **OR** Question No. 6.
  - (5) Solve Question No. 7 **OR** Question No. 8.
  - (6) Solve Question No. 9 **OR** Question No. 10.
  - (7) Due credit will be given to neatness and adequate dimensions.
  - (8) Assume suitable data wherever necessary.
1. (a) State and justify your answer "Java is platform independent Language". 4  
 (b) Explain different features of Java programming. 6  
 (c) Explain the following line : public static void main (String[] args) 4
- OR**
2. (a) Explain JVM architecture and its components. 7  
 (b) Explain Java program execution process with example. 7
3. (a) Explain the purpose of 'If' statements and illustrate the various forms of usage of 'If' statement in Java. 3  
 (b) What is the difference between a literal and a variable ? Illustrate with an example. 3  
 (c) Write a menu driven program to execute the following options :-  
 (i) Test whether the entered number is even or odd.  
 (ii) To check whether the entered no. is palindrome or not. 8
- OR**
4. (a) Explain different data types used in Java language, with suitable example of each. 7  
 (b) Enlist the operators used in Java programming and write suitable Java code which makes use of these operators. 7



## Model Questions

5. (a) What is a constructor ? Explain different types of constructor in detail. 7  
(b) Explain the concept of method overriding. Write suitable java code which used method overriding. 7

**OR**

6. (a) State the difference between interface and class. 3  
(b) Explain method overloading with example. 4  
(c) What is multiple inheritance ? 7

Explain with simple example and relate it with Java implementation.

7. (a) Explain any ONE in detail :-  
(i) Creation of packages in Java and importing them in other programs.  
(ii) Checked and unchecked exception.  
(iii) Throw and throws keyword. 7  
(b) What is an exception in Java ? Explain how it is handled in Java. 7

**OR**

8. (a) Define an exception called "No match" exception that is thrown when string is not equal to "Java". Write a program that uses this exception. 7  
(b) Explain the user defined exception in Java with example. Also explain the use of finally block. 7
9. (a) Differentiate serialization and deserialization. 4  
(b) What is stream class in Java ? 3  
(c) Write a Java program to copy the contents of one\_file to another\_file using suitable stream classes. 7

**OR**

10. (a) Explain Sockets. 2  
(b) Explain input and output stream with illustrations. 5  
(c) What do you mean by stream ? Write the hierarchy of stream classes and write the constructors used by any one type of stream class. 7

**Model Questions****PRS/KS/24/2885/2907****Faculty of Science & Technology****Seventh Semester B.Tech. (Computer Science & Engineering/I.T.) (C.B.C.S.) Examination****JAVA PROGRAMMING****Open Elective-II**

Time : Three Hours]

[Maximum Marks : 70]

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- (7) Due credit will be given to neatness and adequate dimensions.
- (8) Assume suitable data wherever necessary.

1. (a) Describe the features of Java Programming in detail. 7

(b) Write short notes on :  
 (i) Java Compiler  
 (ii) Java Interpreter  
 (iii) Java Virtual Machine. 7

**OR**

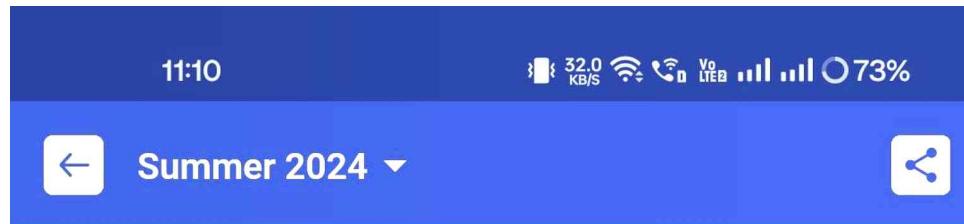
2. (a) Write a Simple Java Program that defined its structure and execution. 7

(b) Write short notes on :  
 (i) Java Programming Environment  
 (ii) Java Development Kit. 7

3. Explain the following operators in Java with example : 14

(i) Arithmetic Operators  
 (ii) Assignment Operators  
 (iii) Conditional Operators  
 (iv) Relational Operators  
 (v) Increment and Decrement Operators. 14

**OR**



## Model Questions

4. (a) What are data types ? Enlist the different built-in data types used in Java in detail. 7  
(b) What is loop ? Enlist different types of loops. Also discuss each type of loop in detail. Explain its syntax also. 7
5. Write a simple Java Program on :  
(a) Simple Inheritance  
(b) Multilevel Inheritance.  
Assume suitable example to write the program. 14

**OR**

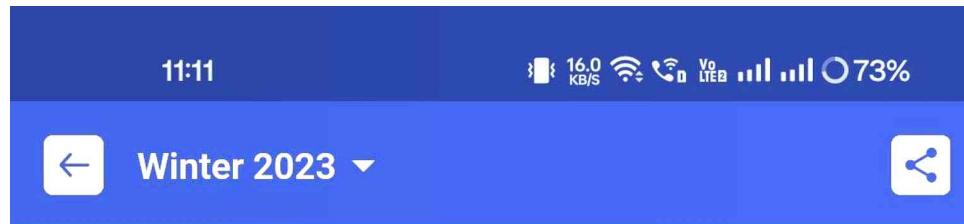
6. Explain the following terms in detail :  
(i) Function overloading v/s Function overriding  
(ii) Parameterized Constructor v/s Non-parameterized Constructor. 14
7. (a) What is exception ? Why there is need to handle the exception ? Discuss the importance of try and catch block for exception handling. Explain this with sample program. 7  
(b) Differentiate between checked and un-checked exceptions. 7

**OR**

8. Write short notes on :  
(i) Throws (2 M)  
(ii) Throw (2 M)  
(iii) Finally (2 M)  
(iv) Exception Hierarchy (4 M)  
(v) Custom Exceptions (4 M). 14
9. (a) What is stream class in Java ? Explain input and output streams with illustration. 7  
(b) Write a Java Program to copy the contents of one file to another file using suitable stream classes. 7

**OR**

10. (a) Write a Java Program that randomly generates n integers and stores them in the file. 7  
(b) Differentiate Serialization and De-serialization. 7



## Model Questions

B.Tech. (Computer Science & Engineering / Information Technology)  
Seventh Semester (C.B.C.S.)

### Open Elective-II : Java Programming

P. Pages : 2  
Time : Three Hours



PSM/KW/23/2885/2907  
Max. Marks : 70

Notes : 1. All questions carry marks as indicated.  
2. Solve Question 1 OR Questions No. 2.  
3. Solve Question 3 OR Questions No. 4.  
4. Solve Question 5 OR Questions No. 6.  
5. Solve Question 7 OR Questions No. 8.  
6. Solve Question 9 OR Questions No. 10.  
7. Due credit will be given to neatness and adequate dimensions.  
8. Assume suitable data whenever necessary.

1. a) What are the main feature of java? 5  
b) What is the importance of java? 4  
c) Explain the data types in Java programming language? 5

OR

2. a) Write short note on. 9  
i) Class.  
ii) Object.  
iii) Encapsulation.  
b) What is the overview of history of java programming language? 5
3. a) Explain the following operator used in java programming. 7  
i) Arithmetic operator.  
ii) Relational operator.  
iii) Logical operator.  
b) What is significance of wrapper classes in java programming? 7

OR

4. a) State the difference between string and string buffer classes? Explain any two methods of string classes with suitable java code? 7  
b) Write the difference between vectors and arrays? 7

**Model Questions**

5. a) What is applied statistics in data science? 7  
b) What are the four types of data in statistics? 7

**OR**

6. a) Explain switch case and conditional operator in java with suitable example? 7  
b) Write all primitive data types available in Java with their storage sizes in bytes? 7  
7. a) Develop a program to create a class 'Student' having data members 'Roll-No', 'Name' and 'Maks'. Derive a class 'Student Info' having data member 'Result' and method to initialize and display the information for three objects?  
b) What are the types of inheritance? Explain with suitable example? 7

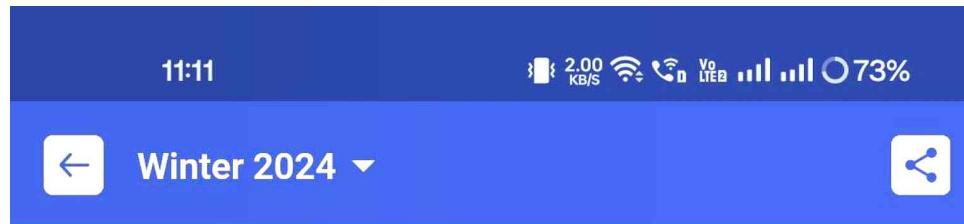
**OR**

8. a) Write a program to create a class 'salary' with data members 'empid', 'name' and 'basic salary'. Write an interface 'Allowance' which stores rates of calculation for da as 90% of basic salary,hra as 10% of basic salary and pf as 8.33% of basic salary. Include a method to calculate net salary and display it.  
b) Explain exception handling mechanism. W.r.t. try, catch, throw and finally? 7
9. a) What is difference between File Reader & File Writer in Java? 7  
b) Write the server socket class method in java programming language? 7

**OR**

10. a) What is stream and file handling in Java? 6  
b) What is the serialization & Deserialization in java programming with suitable example? 8

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## Model Questions

SKR/KW/24/2068

Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
MOBILE COMPUTING  
Elective—I

Time—Three Hours]

[Maximum Marks—80

### INSTRUCTIONS TO CANDIDATES

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- (9) Illustrate your answers whenever necessary with the help of neat sketches.

1. (a) Explain cellular communication with its generation. 7  
(b) Explain the handover scenario in GSM. 6

### OR

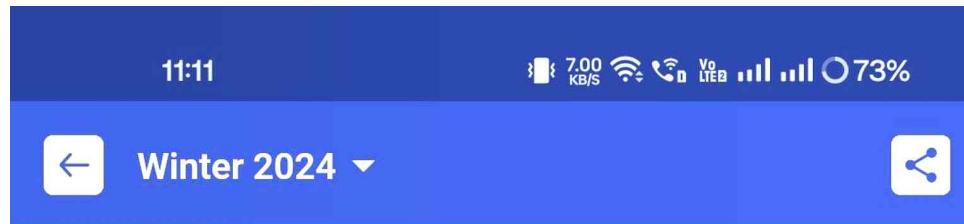
2. (a) Explain localization and calling with suitable diagram. 6  
(b) List and explain various examples of wireless communication system. 7  
3. (a) Describe three tier architecture of mobile computing. 7  
(b) Write short note on Internet the Ubiquitous Network. 6

### OR

4. (a) Explain the design consideration for mobile computing. 6  
(b) Describe the significance of core, edge and access network. What are their functions ? 7  
5. (a) Explain IEEE 802.11 standards in brief. 7  
(b) Explain MAC management in detail. 7

### OR

6. (a) Draw and explain the system architecture for wireless LAN. 8  
(b) Describe the various advantages of WLAN. 6



## Model Questions

7. (a) Describe the agent TCL architecture with suitable diagram. 7  
(b) What are different requirements for mobile agent system ? Explain in detail. 7

**OR**

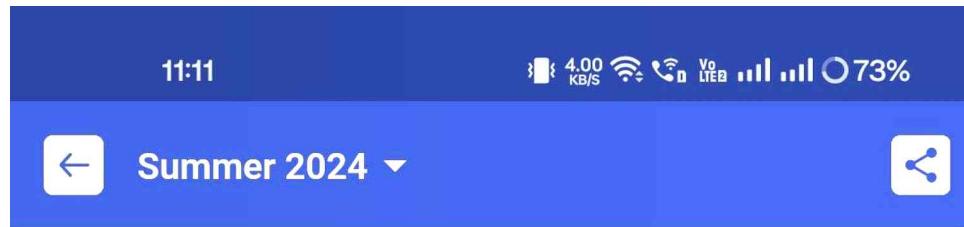
8. (a) How does an agent migration occur between two computers ? Explain. 7  
(b) Explain Aglet Object Model. 7  
9. (a) Explain wireless datagram protocol in detail. 7  
(b) How wireless transaction protocol works ? Explain. 6

**OR**

10. (a) Draw and explain working of wireless application protocol model (WAP). 7  
(b) Write short note on wireless session protocol. 6  
11. (a) What are the features of Android and explain android components in detail. 7  
(b) Describe the role of Android SDK in application programming. 6

**OR**

12. Write short notes on any **THREE** :  
(i) Hardware tools.  
(ii) Mapping application to process.  
(iii) State of service in android.  
(iv) Android development basics. 13



## Model Questions

PRS/KS/24/2395

Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination

MOBILE COMPUTING

Elective-I

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATES

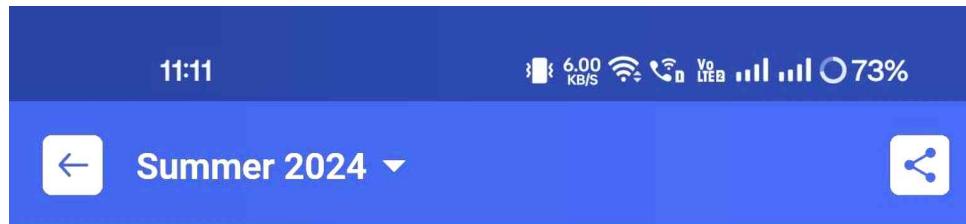
- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Assume suitable data wherever necessary.
- (10) Diagrams and chemical equations should be given wherever necessary.

1. (a) What is Mobile Computing ? What are its applications ? Explain anyone application in detail. 6
- (b) What is the need of handover in GSM ? What are possible handover scenario ? 7

**OR**

2. (a) Explain Localization and calling. 6
- (b) Explain the simplified reference model for cellular networks. 7
3. (a) Describe three tier architecture for mobile computing. 6
- (b) Describe the significance of core, edge and access network. What are their functions ? 7

**OR**



## Model Questions

4. (a) Explain the design consideration for mobile computing. 6  
(b) What is content adaption and transcoding classify different types of transcoding ? 7  
5. (a) Explain IEEE 802.11 standards in detail. 6  
(b) What is WLAN ? Explain the different types of wireless LAN. State advantages of WLAN. 8

**OR**

6. (a) What is the need of specialized MAC in wireless communication ? 7  
(b) Write a short note on Physical Layer Convergence Procedure (PLCP) and Frequency Hopping Spread Spectrum (FHSS). 7  
7. (a) Explain Remote Procedure Call (RPC) and define features of RPL with working. 7  
(b) Explain Aglet object model. 6

**OR**

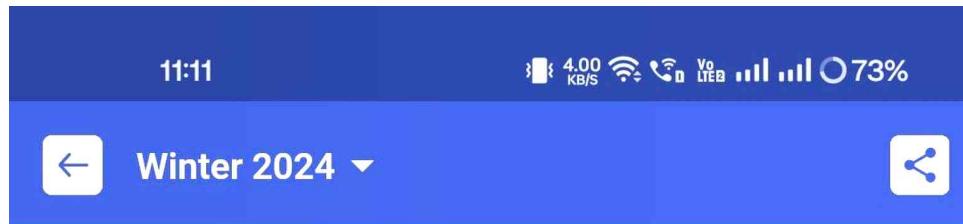
8. (a) Explain architecture of agent Tel. 7  
(b) Explain different characteristics of Mobile Agent (MA). 6  
9. (a) Explain wireless datagram protocol in detail. 7  
(b) How wireless transaction protocol works ? Explain 6

**OR**

10. (a) Explain in brief wireless markup language. Define a features of WML. 7  
(b) Explain a Bluetooth Protocol Stack. 6  
11. (a) Draw and explain in detail Android Architecture. 9  
(b) Explain the android activity with example. 5

**OR**

12. Short notes on (any **three**) :  
(i) Hardware tool  
(ii) Android Features  
(iii) Mapping application to process  
(iv) Android SDK. 14



## Model Questions

**SKR/KW/24/2068**

**Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
MOBILE COMPUTING  
Elective—I**

Time—Three Hours]

[Maximum Marks—80]

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Illustrate your answers whenever necessary with the help of neat sketches.

1. (a) Explain cellular communication with its generation. 7
- (b) Explain the handover scenario in GSM. 6

**OR**

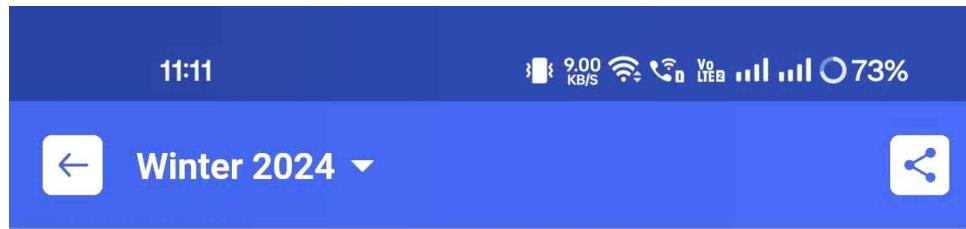
2. (a) Explain localization and calling with suitable diagram. 6
- (b) List and explain various examples of wireless communication system. 7
3. (a) Describe three tier architecture of mobile computing. 7
- (b) Write short note on Internet the Ubiquitous Network. 6

**OR**

4. (a) Explain the design consideration for mobile computing. 6
- (b) Describe the significance of core, edge and access network. What are their functions ? 7
5. (a) Explain IEEE 802.11 standards in brief. 7
- (b) Explain MAC management in detail. 7

**OR**

6. (a) Draw and explain the system architecture for wireless LAN. 8
- (b) Describe the various advantages of WLAN. 6



## Model Questions

7. (a) Describe the agent TCL architecture with suitable diagram. 7  
(b) What are different requirements for mobile agent system ? Explain in detail. 7

**OR**

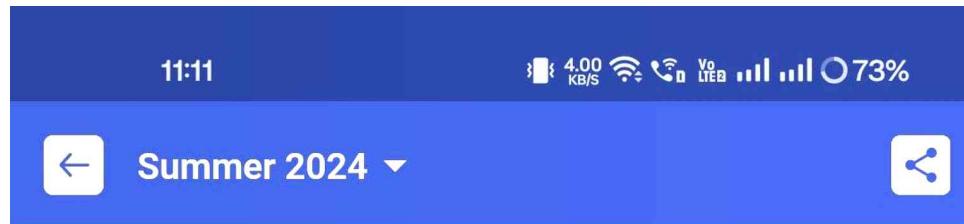
8. (a) How does an agent migration occur between two computers ? Explain. 7  
(b) Explain Aglet Object Model. 7  
9. (a) Explain wireless datagram protocol in detail. 7  
(b) How wireless transaction protocol works ? Explain. 6

**OR**

10. (a) Draw and explain working of wireless application protocol model (WAP). 7  
(b) Write short note on wireless session protocol. 6  
11. (a) What are the features of Android and explain android components in detail. 7  
(b) Describe the role of Android SDK in application programming. 6

**OR**

12. Write short notes on any **THREE** :  
(i) Hardware tools.  
(ii) Mapping application to process.  
(iii) State of service in android.  
(iv) Android development basics. 13



## Model Questions

PRS/KS/24/2395

Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination

MOBILE COMPUTING

Elective-I

Time : Three Hours]

[Maximum Marks : 80

**INSTRUCTIONS TO CANDIDATES**

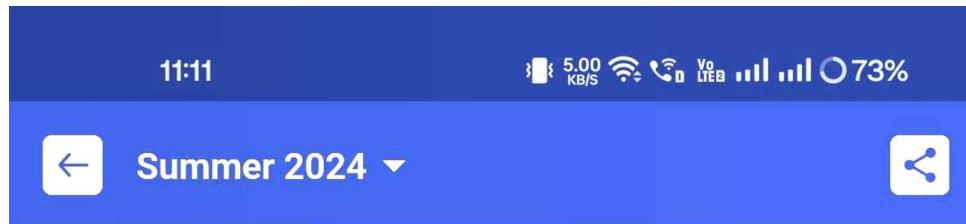
- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Assume suitable data wherever necessary.
- (10) Diagrams and chemical equations should be given wherever necessary.

1. (a) What is Mobile Computing ? What are its applications ? Explain anyone application in detail. 6
- (b) What is the need of handover in GSM ? What are possible handover scenario ? 7

**OR**

2. (a) Explain Localization and calling. 6
- (b) Explain the simplified reference model for cellular networks. 7
3. (a) Describe three tier architecture for mobile computing. 6
- (b) Describe the significance of core, edge and access network. What are their functions ? 7

**OR**



## Model Questions

4. (a) Explain the design consideration for mobile computing. 6  
(b) What is content adaption and transcoding classify different types of transcoding ? 7  
5. (a) Explain IEEE 802.11 standards in detail. 6  
(b) What is WLAN ? Explain the different types of wireless LAN. State advantages of WLAN. 8

**OR**

6. (a) What is the need of specialized MAC in wireless communication ? 7  
(b) Write a short note on Physical Layer Convergence Procedure (PLCP) and Frequency Hopping Spread Spectrum (FHSS). 7  
7. (a) Explain Remote Procedure Call (RPC) and define features of RPL with working. 7  
(b) Explain Aglet object model. 6

**OR**

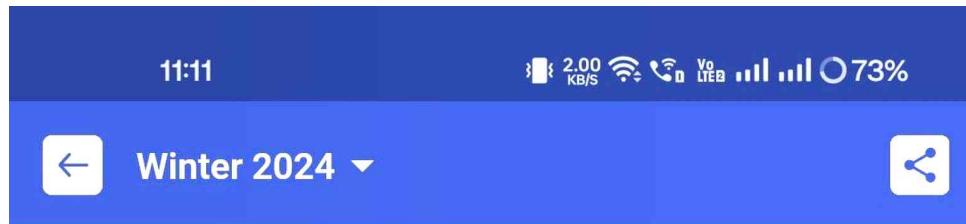
8. (a) Explain architecture of agent Tel. 7  
(b) Explain different characteristics of Mobile Agent (MA). 6  
9. (a) Explain wireless datagram protocol in detail. 7  
(b) How wireless transaction protocol works ? Explain 6

**OR**

10. (a) Explain in brief wireless markup language. Define a features of WML. 7  
(b) Explain a Bluetooth Protocol Stack. 6  
11. (a) Draw and explain in detail Android Architecture. 9  
(b) Explain the android activity with example. 5

**OR**

12. Short notes on (any **three**) :  
(i) Hardware tool  
(ii) Android Features  
(iii) Mapping application to process  
(iv) Android SDK. 14



**SKR/KW/24/2069**

**Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
MULTIMEDIA SYSTEM  
(Elective—I)**

Time—Three Hours]

[Maximum Marks—80]

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Assume suitable data wherever necessary.
- (9) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) Explain multimedia workstation architecture in detail. **7**
- (b) Define elements of multimedia. **6**

**OR**

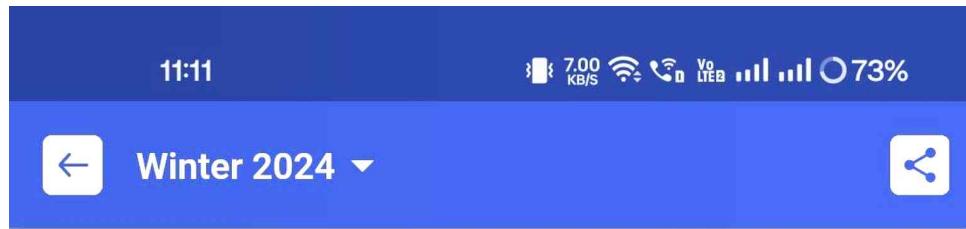
2. (a) Explain virtual reality and video conferencing in detail. **7**
- (b) Explain OCR software with its format. **6**
3. (a) Explain the communication devices used in multimedia. **7**
- (b) Explain Input and Output devices in detail. **6**

**OR**

4. (a) Explain memory and storage hardware devices used for multimedia. **7**
- (b) What are different types of authoring tools ? Explain. **6**
5. (a) Explain Multimedia building block “Text” in detail. **7**
- (b) Explain the MIDI and give advantages and disadvantages of MIDI over. **7**

**OR**

6. (a) Write short notes on any **TWO** :
  - (i) Animation Techniques.
  - (ii) MM building block video.
  - (iii) Principle of Animation. **8**
- (b) Explain dithering. **6**



## Model Questions

7. (a) Explain the general data compression schemes and compression standards. 7  
(b) What are requirement for full motion video compression ? Explain. 6

**OR**

8. (a) What is fractal compression ? Give its advantages and disadvantages. 7  
(b) What is difference between lossless and lossy compression ? 6  
9. (a) Define multimedia databases. Explain optimization of multimedia databases. 7  
(b) Explain how transaction management system works for multimedia systems. 6

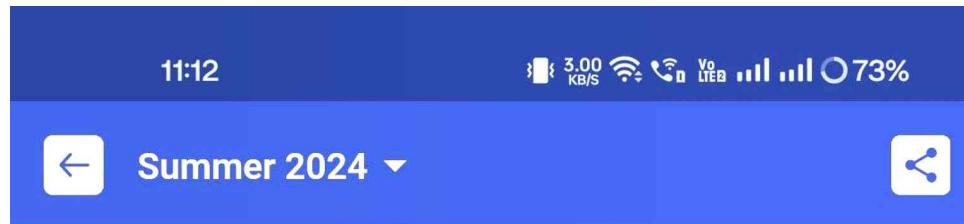
**OR**

10. (a) Explain multimedia skill required for project development. 6  
(b) Explain database organization and transaction management for multimedia systems. 7

11. (a) Explain the role of MIME in detail. 7  
(b) Explain virtual reality designing and modelling (VRML) in detail. 7

**OR**

12. (a) Write short notes on :  
    (i) Multimedia on web 8  
    (ii) Copyrights in MM.  
(b) Write short note on VRML. 6



## Model Questions

**PRS/KS/24/2396**

**Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination**

**MULTIMEDIA SYSTEM**

**Elective-I**

Time : Three Hours]

[Maximum Marks : 80

### **INSTRUCTIONS TO CANDIDATES**

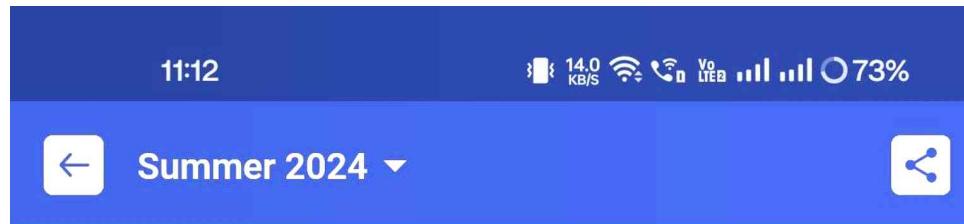
- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Assume suitable data wherever necessary.
- (9) Illustrate your answers wherever necessary with the help of neat sketches.

1. (a) Explain multimedia workstation architecture in detail. 7
- (b) Explain the application areas of multimedia. 6

**OR**

2. (a) Write short notes on :
  - (i) Virtual reality
  - (ii) Video conferencing. 8
- (b) Explain the types of multimedia. 5
3. (a) Explain how Macintosh and windows operating system is used for multimedia. 6
- (b) Which platforms are used for development of multimedia project ? Explain. 7

**OR**



## Model Questions

4. (a) Explain memory and storage hardware devices used for multimedia. 7  
(b) Justify the rule of authoring tools in multimedia. 6  
5. (a) Give advantages and disadvantages of MIDI over digital audio. 5  
(b) What is dithering ? Explain with example. 5  
(c) How to set sound for mobile ? Write down steps. 3

**OR**

6. (a) What is Hypertext ? Explain in detail the Hypermedia. 6  
(b) What is difference between 8 bit image data types and 24 bit colour data types ? What are look up tables ? Explain. 7  
7. (a) What is need of data compression ? Explain in detail general data compression scheme. 8  
(b) What are the requirements for full motion video compression ? Explain. 6

**OR**

8. (a) Explain the binary image compression. 7  
(b) Explain the lossy compression encoding. 7  
9. (a) Explain multimedia storage and retrieval process. 7  
(b) Explain how transaction management system work for multimedia systems. 6

**OR**

10. (a) Explain the different file format of sound and movies. 7  
(b) Discuss MPEG compression for video. 6  
11. (a) Explain virtual reality designing and modelling (VRML) in detail. 7  
(b) What are different bandwidth bottlenecks ? Explain. 7

**OR**

12. Write short notes on (any **three**) :  
(i) Multimedia on web  
(ii) Copyrights in MM  
(iii) Plugins and delivery vehicles  
(iv) Role of MIME. 14



## Model Questions

**SKR/KW/24/2595/2617**

**Faculty of Science & Technology**

**Seventh Semester B.Tech. (Computer Science And Engineering /IT) (CBCS) Examination**

**JAVA PROGRAMMING**

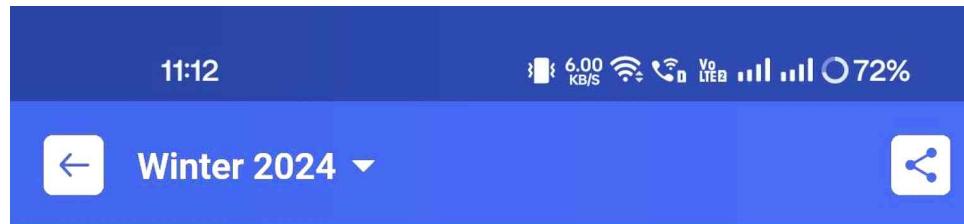
**OPEN ELE- II**

Time : Three Hours]

[Maximum Marks : 70

### **INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
  - (2) Solve Question No. **1 OR** Question No. **2**
  - (3) Solve Question No. **3 OR** Question No. **4**.
  - (4) Solve Question No. **5 OR** Question No. **6**
  - (5) Solve Question No. **7 OR** Question No. **8**
  - (6) Solve Question No. **9 OR** Question No. **10**.
  - (7) Due credit will be given to neatness and adequate dimensions.
  - (8) Assume suitable data wherever necessary.
1. (a) State and justify your answer "Java is platform independent Language". 4  
 (b) Explain different features of Java programming 6  
 (c) Explain the following line : public static void main (String[] args) 4
- OR**
2. (a) Explain JVM architecture and its components. 7  
 (b) Explain Java program execution process with example. 7
3. (a) Explain the purpose of 'If' statements and illustrate the various forms of usage of 'If' statement in Java. 3  
 (b) What is the difference between a literal and a variable ? Illustrate with an example. 3  
 (c) Write a menu driven program to execute the following options :-  
 (i) Test whether the entered number is even or odd.  
 (ii) To check whether the entered no. is palindrome or not. 8
- OR**
4. (a) Explain different data types used in Java language, with suitable example of each. 7  
 (b) Enlist the operators used in Java programming and write suitable Java code which makes use of these operators. 7



## Model Questions

5. (a) What is a constructor ? Explain different types of constructor in detail. 7  
(b) Explain the concept of method overriding. Write suitable java code which used method overriding. 7

**OR**

6. (a) State the difference between interface and class. 3  
(b) Explain method overloading with example. 4  
(c) What is multiple inheritance ? 7

Explain with simple example and relate it with Java implementation.

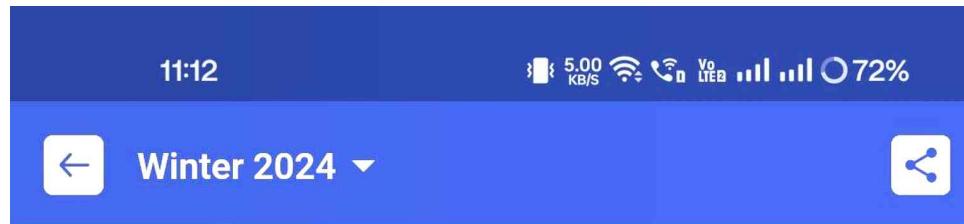
7. (a) Explain any ONE in detail :-  
(i) Creation of packages in Java and importing them in other programs.  
(ii) Checked and unchecked exception.  
(iii) Throw and throws keyword. 7  
(b) What is an exception in Java ? Explain how it is handled in Java. 7

**OR**

8. (a) Define an exception called "No match" exception that is thrown when string is not equal to "Java". Write a program that uses this exception. 7  
(b) Explain the user defined exception in Java with example. Also explain the use of finally block. 7  
9. (a) Differentiate serialization and deserialization. 4  
(b) What is stream class in Java ? 3  
(c) Write a Java program to copy the contents of one\_file to another\_file using suitable stream classes. 7

**OR**

10. (a) Explain Sockets. 2  
(b) Explain input and output stream with illustrations. 5  
(c) What do you mean by stream ? Write the hierarchy of stream classes and write the constructors used by any one type of stream class. 7



## Model Questions

SKR/KW/24/2616/2626

**Faculty of Science & Technology  
Seventh Semester B. Tech. Information Technology/CT (CBCS) Examination  
PYTHON PROGRAMMING  
OPEN ELE - II**

Time—Three Hours]

[Maximum Marks—70

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Assume suitable data whenever necessary.
- (8) Illustrate your answers whenever necessary with the help of neat sketches.

1. (a) Explain different types of operators in Python Programming. 7
- (b) Explain features of Python Programming. 7

**OR**

2. (a) Explain different string handling functions in Python. 7
- (b) Explain Topic, List, Dictionary & Set. 7
3. (a) Write a Python Program to find factorial of entered number. 7
- (b) Define constant. Explain its types. 7

**OR**

4. (a) Explain nested loops in Python with example. 7
- (b) Explain switch statement in Python. 7
5. (a) Explain Global and Local Variables 7
- (b) Explain Built in function in Python. 7

**OR**

MI—11538

1

(Contd.)

**Model Questions**

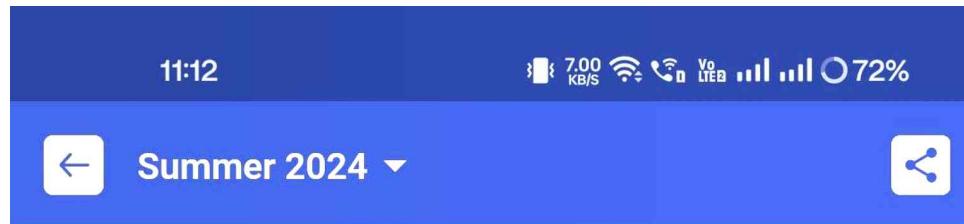
6. (a) Explain types of function in Python. 7  
(b) Explain Mutable Arguments. 7  
7. (a) Define constructor. Explain types of constructor. 7  
(b) Explain features of OOP. 7

**OR**

8. (a) Explain multiple inheritance. 7  
(b) Explain Python class & objects. 7  
9. (a) Explain input output file operation in Python. 7  
(b) Explain write operation in Python. 7

**OR**

10. (a) Explain set file offset. 7  
(b) Explain file object method. 7



## Model Questions

PRS/KS/24/2906/2916

Faculty of Science & Technology  
Seventh Semester B.Tech. (Information Technology/C.T.) (C.B.C.S.) Examination  
PYTHON PROGRAMMING  
Open Elective-II

Time : Three Hours]

[Maximum Marks : 70

### INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**
- (3) Solve Question No. **3 OR** Question No. **4**
- (4) Solve Question No. **5 OR** Question No. **6**
- (5) Solve Question No. **7 OR** Question No. **8**
- (6) Solve Question No. **9 OR** Question No. **10**.  
  
1. (a) Explain characteristics of Python Programming. 7  
(b) Explain different types of identifier and keyword with suitable example. 7

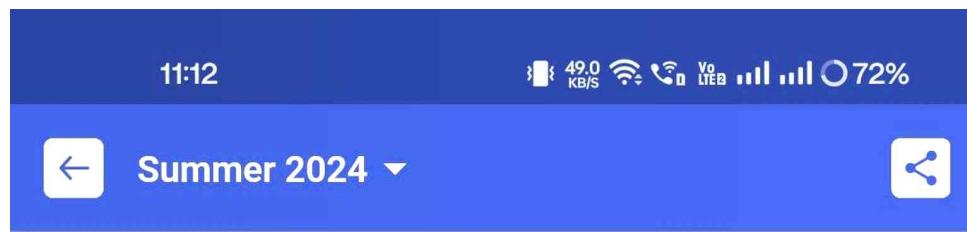
### OR

2. (a) Explain different types of operator in Python Programming. 7  
(b) Explain string with basic operation on string. 7
3. (a) Explain different types of conditional statement in Python Programming. 7  
(b) Discuss looping in Python with suitable example. 7

### OR

4. (a) Explain control statement with suitable example. 7  
(b) Explain Range( ) function with suitable example. 7
5. (a) Explain different types of Built in function in Python Programming. 7  
(b) Explain different types of function in Python Programming 7

### OR



## Model Questions

6. (a) Explain argument and mutable argument with suitable example. 7
- (b) Discuss global and local variable with example 7
7. (a) Explain characteristics of Object Oriented Programming 7
- (b) Explain Python class and objects with suitable example. 7

**OR**

8. (a) Explain constructor and destructor within Object Oriented Programming. 7
- (b) Discuss inheritance with its types in Object Oriented Programming. 7
9. (a) Explain File Input Output Operation in Python Programming. 7
- (b) Explain Read Write Operation in Python Programming. 7

**OR**

10. (a) Explain set file offset in Python. 7
- (b) Explain Python file object methods. 7

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## Model Questions

B.Tech. (Computer Technology / Information Technology) Seventh Semester (C.B.C.S.)  
**Open Elective-II : Python Programming**

P. Pages : 1

Time : Three Hours



**PSM/KW/23/2906/2916**

Max. Marks : 70

- Notes : 1. All questions carry marks as indicated.  
2. Solve Question 1 OR Questions No. 2.  
3. Solve Question 3 OR Questions No. 4.  
4. Solve Question 5 OR Questions No. 6.  
5. Solve Question 7 OR Questions No. 8.  
6. Solve Question 9 OR Questions No. 10.

1. a) Define python. Explain features of python. 7  
b) Explain different types of operators in python. 7

**OR**

2. a) Explain various datatypes used in python. 7  
b) Explain string manipulation functions in detail. 7

3. a) Explain control statements in python. 7  
b) WAP in python for multiplication of 2 number entered by user. 7

**OR**

4. a) Explain while loop with proper syntax and example. 7  
b) Difference between Break and continue statement. 7

5. a) Explain Mutable Arguments. 7  
b) Explain Global and local variables. 7

**OR**

6. a) Explain various library functions in python. 7  
b) Define function and explain how to call a function in python. 7

7. a) Define OOP and list out its feature. 6  
b) Explain constructor in python. 8

**OR**

8. a) Explain simple and multiple inheritance in python. 8  
b) Explain Destructor with example. 6

9. a) Explain write operations in python. 7  
b) Explain set file offset in python. 7

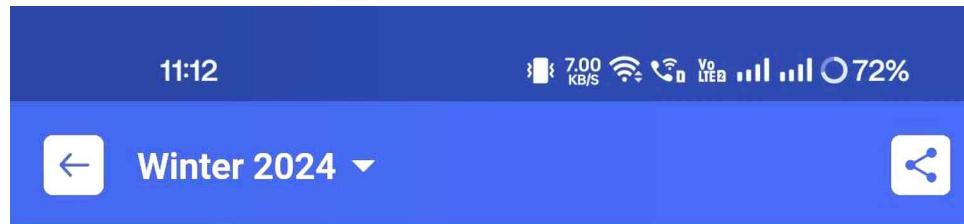
**OR**

10. a) Explain python file object methods. 7  
b) Explain python file read operation. 7

\*\*\*\*\*

**PSM/KW/23/2906/2916**

1



## Model Questions

SKR/KW/24/2590/2601/2612

Faculty of Science & Technology  
Seventh Semester B.Tech. (C.S.E.) (C.B.C.S.) Examination  
SALESFORCE TECHNOLOGY  
Elective-IV

Time : Three Hours]

[Maximum Marks : 70

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question 1 **OR** Question No. 2.
- (3) Solve Question 3 **OR** Question No. 4.
- (4) Solve Question 5 **OR** Question No. 6.
- (5) Solve Question 7 **OR** Question No. 8.
- (6) Solve Question 9 **OR** Question No. 10.
- (7) Due credit will be given to neatness and adequate dimensions.
- (8) Assume suitable data wherever necessary.
- (9) Illustrate your answers wherever necessary with the help of neat sketches.
- (10) Use of non programmable calculator is permitted.

1. (a) Define cloud computing. Explain various services of cloud computing. 7
- (b) What do you mean by salesforce ? Explain various types of cloud related to salesforce. 7

**OR**

2. (a) Explain steps to create salesforce developer edition account. 8
- (b) Write short note on Customer Relationship Management (CRM). 6
3. (a) Explain lookup relationship and master detail relationship in salesforce with proper example. 8
- (b) Differentiate between workflow rules and process builder. 6

**OR**

4. (a) Write short notes on reports and dashboards in salesforce. 7
- (b) Explain various actions present in workflow rules. 7
5. (a) Explain the steps to create profile and permission sets in salesforce. 7
- (b) Write short notes on sharing rules. 7

**OR**

**Model Questions**

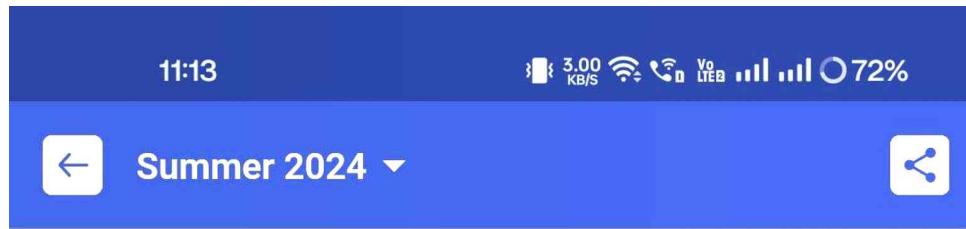
- |    |  |   |
|----|--|---|
| 6. | (a) Explain the role of Data loader in salesforce.   | 7 |
|    | (b) Explain org-wide defaults with suitable example.   | 7 |
| 7. | (a) Explain role of triggers in salesforce. Also explain various types of triggers with example. | 9 |
|    | (b) Explain SOQL and SOSL controllers in apex.   | 5 |

**OR**

- |    |  |   |
|----|--|---|
| 8. | (a) Explain different types of collections in Apex.              | 8 |
|    | (b) What do you mean by trigger context variables ? Explain.     | 6 |
| 9. | (a) Write short note on Asynchronous Apex.                       | 7 |
|    | (b) Explain the difference between Batch Apex and Future Method. | 4 |
|    | (c) Explain the need of scheduled Apex in salesforce.            | 3 |

**OR**

- |     |   |   |
|-----|---|---|
| 10. | (a) What is test class in salesforce ? Also explain the need of @testsetup in salesforce. | 7 |
|     | (b) Write a process to create any test class in salesforce.                               | 7 |



## Model Questions

PRS/KS/24/2880/2891/2902

**Faculty of Science & Technology**  
**Seventh Semester B.Tech. Computer Science & Engineering (CE/IT) (C.B.C.S.) Examination**  
**SALESFORCE TECHNOLOGY / SALESFORCE**  
**PROG. ELECTIVE-IV**

Time : Three Hours]

[Maximum Marks : 70]

## **INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
  - (2) Solve Question No. **1 OR** Question No. **2**.
  - (3) Solve Question No. **3 OR** Question No. **4**.
  - (4) Solve Question No. **5 OR** Question No. **6**.
  - (5) Solve Question No. **7 OR** Question No. **8**.
  - (6) Solve Question No. **9 OR** Question No. **10**
  - (7) Assume suitable data wherever necessary.

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- (b) Explain in detail Salesforce data types, field types, and components. 7

6



100

- (b) What do you mean by Salesforce validation rules ? Explain. 7

OR

4. (a) Compare & Contrast Salesforce Flows and Process Builder. 8  
(b) Write short notes on :- 6

- (ii) Salesforce Reports and Dashboards
  - (iii) Salesforce Workflow

MH—20729

1

(Contd.)

## Model Questions

5. (a) What are permission sets in Salesforce ? Explain in detail. 7  
(b) Enlist & explain Organization-wide defaults in Salesforce. 7

OR

6. (a) Write short notes on **(any two)** :-

  - (i) Sharing rule
  - (ii) Manual sharing
  - (iii) Import and Export data

(b) What is significance of Data Loader in Salesforce ? Explain in detail.

ed to

8. (a) Write short notes on :-

  - (i) Apex SOQL
  - (ii) Apex SOSL
  - (iii) Apex trigger
  - (iv) Apex trigger governor limits

- (iii) Apex trigger (iv) Apex trigger

- (iv) Apex trigger

- Compare & contrast

- llers

- (a) Explain ASYNCHRONOUS APEX in detail.

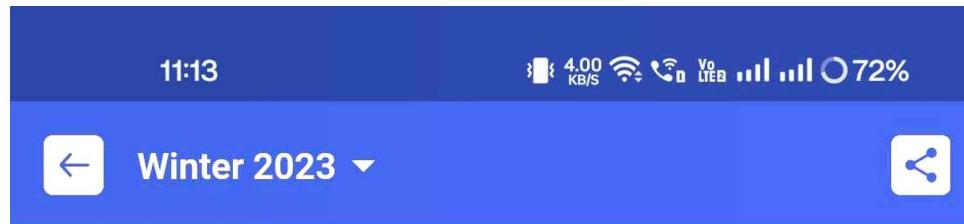
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- (iii) Start Test (iv) Stop Test



- (vii) Get Query Locator



## Model Questions

B.Tech. (Computer Science & Engineering / Information Technology / Computer Engineering)  
Seventh Semester (C.B.C.S.)

### Program Elective-IV : Salesforce Technology / Salesforce

P. Pages : 2  
Time : Three Hours



PSM/KW/23/2880/2891/2902  
Max. Marks : 70

- Notes : 1. All questions carry marks as indicated.  
2. Solve Question 1 OR Questions No. 2.  
3. Solve Question 3 OR Questions No. 4.  
4. Solve Question 5 OR Questions No. 6.  
5. Solve Question 7 OR Questions No. 8.  
6. Solve Question 9 OR Questions No. 10.  
7. Assume suitable data whenever necessary.  
8. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) What is Cloud Computing? Classify different types of cloud. 7  
b) What is Object in Salesforce? Explain field dependency in detail. 7

OR

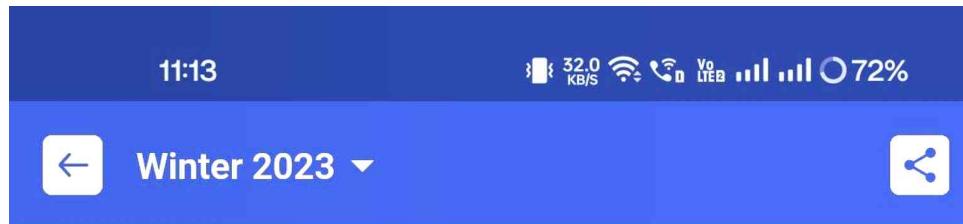
2. a) Illustrate different Services of Cloud Computing. 6  
b) What is Salesforce? Illustrate types of app and tab in salesforce. 8  
3. a) What are validation rules in Salesforce? 5  
b) Compare & Contrast Master detail relationship and LookUp relationship. How many Master-detail relationship fields can be created in an object? 9

OR

4. a) Define workflow and demonstrate workflow rule along with its components. 8  
b) What is Report and its different types in Salesforce? Explain. 6  
5. a) What is OWD? Illustrate OWD settings in detail. 7  
b) What is Profile and Permission Set in Salesforce. Can you customize standard profile in salesforce? 7

OR

6. a) What is the difference between export and export all in Salesforce. 4  
b) What is Profile in Salesforce? How do you create custom profile. 5  
c) What is Role hierarchy in Salesforce? Explain with scenario. 5



## Model Questions

7. a) Difference between-  
• SOQL & SOSL  
• List, set and map 10

- b) What is trigger in salesforce? Illustrate its types in detail. 4

**OR**

8. a) What is governor limit in salesforce? Explain in detail. How to overcome governor limits in salesforce. 7

- b) When Opportunity with Account equals to null gets created than Opportunity Stage should get converted to Closed Lost. Illustrate with trigger code. 7

9. a) What is Asynchronous Apex? Where we can use it and what are its types? 7

- b) Let's say, we have run an apex batch to process 2000 records, and It is running with batch size 200. Now, while doing DML on 298<sup>th</sup> record, an error occurred, what will happen in that case? 3

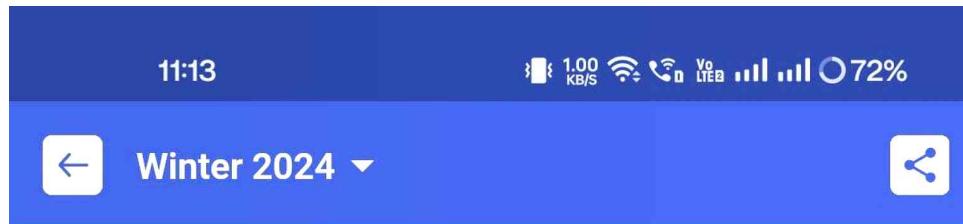
- c) What is Future Apex, Batch Apex and Queueable Apex? 4

**OR**

10. a) What are best practices for batch apex and future methods? 6

- b) Can we call the batch in to another batch apex? Can we call the batch apex from triggers in salesforce? How many times start, execute, finish methods will execute in batch apex? 8

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## Model Questions

**SKR/KW/24/2072**

**Faculty of Science & Technology**

**Seventh Semester B.E. (Information Technology) (C.B.S.) Examination**

**SOFTWARE TESTING & QUALITY ASSURANCE**

**Elective—II**

Time : Three Hours

[Maximum Marks : 80]

### **INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. 1 **OR** Question No. 2.
- (3) Solve Question No. 3 **OR** Question No. 4.
- (4) Solve Question No. 5 **OR** Question No. 6.
- (5) Solve Question No. 7 **OR** Question No. 8.
- (6) Solve Question No. 9 **OR** Question No. 10.
- (7) Solve Question No. 11 **OR** Question No. 12.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Assume suitable data whenever necessary.
- (10) Diagrams and chemical equations should be given whenever necessary.
- (11) Illustrate your answers whenever necessary with the help of neat sketches.

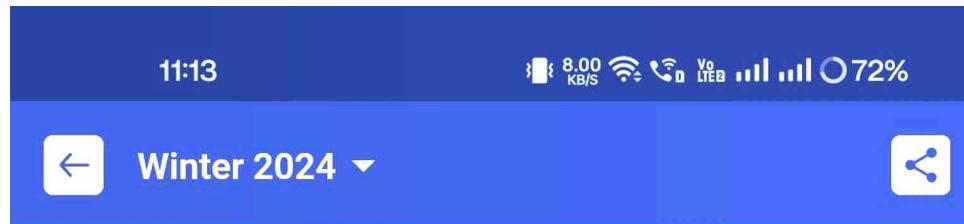
1. (a) Explain the need of software along with its advantages. 6
- (b) Explain V-model with diagram. 7

### **OR**

2. (a) What are different limitations of Testing ? Explain. 6
- (b) What is software testing ? Give a brief note on Unit Integration and Regression testing. 7
3. (a) Enlist and explain various tools for Unit Testing. 7
- (b) What is debugging and the three approaches to debugging ? 6

### **OR**

4. (a) Explain mutation testing with examples. 6
- (b) What is defect prevention ? What are the kinds of checks that are to be performed routinely to avoid the defects ? 7



## Model Questions

5. (a) Explain the concept of control flow testing : give proper example. 6  
(b) Explain control flow graph with example. 8

**OR**

6. (a) Describe test data selection using example. 7  
(b) Draw and control flow graph for binary search function & also specify the limitation of control flow based testing. 7  
7. (a) Explain the data flow anomalies in the data flow testing. 7  
(b) What is test plan for system integration ? 6

**OR**

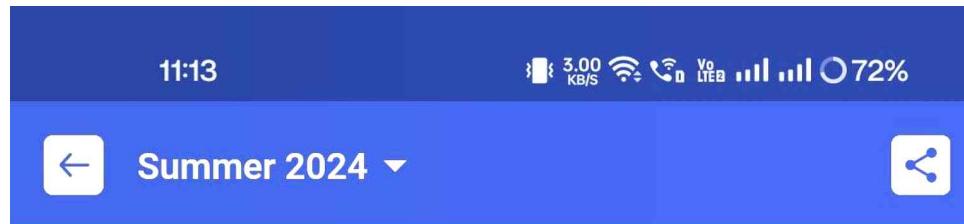
8. (a) Explain types of interfaces & interface errors in Integration testing. 7  
(b) Write short note on McCabe's complexity measure. 6  
9. (a) What are the similarities and differences between quality assurance and safety measure ? 7  
(b) Describe various types of Robustness tests. 6

**OR**

10. (a) Explain in detail functional specification based test case design. 6  
(b) Explain load & stability tests in detail. 7  
11. (a) Explain relationship between quality factors & criteria. 7  
(b) Explain in short User acceptance testing and Business acceptance testing. 7

**OR**

12. (a) Explain ISO 9001 : 2001 Software Quality Standards and its requirement. 7  
(b) Explain client server testing and web application testing. 7



## Model Questions

PRS/KS/24/2399

**Faculty of Science & Technology  
Seventh Semester B.E. (Information Technology) (C.B.S.) Examination  
SOFTWARE TESTING & QUALITY ASSURANCE  
Elective-I**

Time—Three Hours]

[Maximum Marks—80

**INSTRUCTIONS TO CANDIDATES**

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.  
1. (a) Explain the following terms :  
  - (i) Errors
  - (ii) Faults
  - (iii) Defects
  - (iv) Failures. 8  
(b) What is software testing ? Explain characteristics of a good software. 6

**OR**

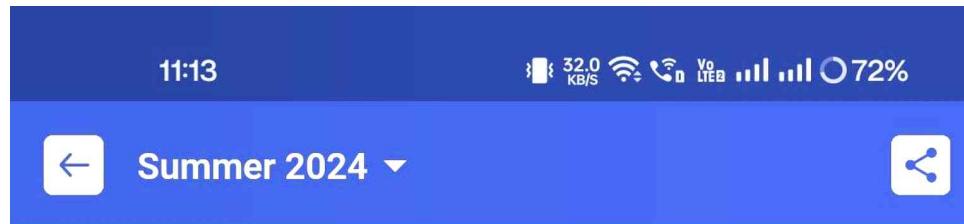
2. (a) Explain V-model in detail with its importance. 6
- (b) What are different sources of information for test case selection ? Explain in detail. 8
3. (a) What is debugging ? Explain different approaches used for debugging in unit testing. 8
- (b) What do you mean by mutation testing ? Explain with example. 6

**OR**

4. (a) Explain dynamic unit testing in detail. 6
- (b) What is defect prevention ? What are kinds of checks that are to be performed routinely to avoid the defect ? 8
5. Explain each path selection criteria in detail. 13

**OR**

6. (a) Explain the process of generating test input data for control flow testing. 7
- (b) Draw control flow graph for binary search function and also explain limitation of control flow based testing. 6



## Model Questions

7. (a) Write short notes on :  
(i) System Integration testing.  
(ii) Types of Interface and Interface errors. 7  
(b) Explain different approaches involved in integration testing with advantages and disadvantages. 6

**OR**

8. (a) Draw a data flow Graph for the binsearch( ) function given below:

```
= int binsearch(int x, int v[ ], int n)
{
    int low, high, mid;
    low = 0;
    high = n-1;
    while (low <= high)
    {
        mid = (low + high)/2;
        if(x < v [mid])
            high = mid -1;
        else if(x > v [mid]);
            low = mid + 1;
        else return mid;
    }
    return -1
}
```

8

- (b) By referring to the data flow graph obtained above, find a set of complete path satisfying all-defs selection criteria with respect to variable mid. 5

9. (a) What is robustness test ? Explain various reasonable tests which are involved in robustness test. 7  
(b) Explain load and stability test in detail. 6

**OR**

10. What are different between software testability and reliability ? What is more important in a software high testability or high reliability ? Justify your answer. 13

11. Write short notes on :

- (i) Client server testing  
(ii) Web and mobile application testing  
(iii) ISO-9126 quality characteristics. 13

**OR**

12. (a) Define acceptance testing. Explain different types of acceptance testing. 7  
(b) What is software quality ? Why are Acceptance test cases executed in two phases ? 6