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Reg. No. :

Code No. : 20633 E

Sub. Code : EMCS 41

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2025.

Fourth Semester

Computer Science — Core

JAVA PROGRAMMING

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of these keywords can be used to prevent inheritance of a class?
- | | |
|-----------|--------------|
| (a) super | (b) constant |
| (c) class | (d) final |

2. Which of these class is superclass of every class in Java?
- | | |
|--------------------|---------------------|
| (a) String class | (b) Object class |
| (c) Abstract class | (d) ArrayList class |
3. Which of these operators is used to allocate memory for an object?
- | | |
|------------|-----------|
| (a) malloc | (b) alloc |
| (c) new | (d) give |
4. Which of the following is the correct way of implementing an interface A by class B?
- | | |
|--------------------------|-----------------------------|
| (a) Class B extends A{ } | (b) Class B implements A{ } |
| (c) Class B imports A{ } | (d) None of the mentioned |
5. Which of these keywords is used to manually throw an exception?
- | | |
|-----------|-------------|
| (a) try | (b) finally |
| (c) throw | (d) catch |

6. Which of these class is used to make a thread?
- (a) String (b) System
- (c) Thread (d) Runnable
7. Event class is defined in which of these libraries?
- (a) java.io (b) java.lang
- (c) java.net (d) java.util
8. Which of these methods are used to register a keyboard event listener?
- (a) KeyListener()
- (b) AddKistener()
- (c) AddKeyListener()
- (d) EventKeyboardListener()
9. Which is the container that doesn't contain title bar and MenuBars but it can have other components like button, textfield etc?
- (a) Window (b) Frame
- (c) Panel (d) Container

10. Which of these functions is called to display the output of an applet?
- (a) Display()
- (b) Paint()
- (c) DisplayApplet()
- (d) PrintApplet()

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the data types used in Java?
- Or
- (b) Explain if statement in Java.
12. (a) What is abstract classes in Java? Explain with the program.
- Or
- (b) Define final keyword in Java.
13. (a) Write a Java Program to implement try and catch statement.
- Or
- (b) What is thread classes in Java?

14. (a) Discuss about stream classes in Java.

Or

- (b) Explain keyboard event in java.

15. (a) Write a Java Program to implement label classes in AWT package.

Or

- (b) Explain panels in AWT.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write about any four string classes in Java.

Or

- (b) Discuss in detail about static data and static method in Java.

17. (a) Write a Java Program to implement package.

Or

- (b) Discuss in details about to implement interface in Java program.

18. (a) Discuss in details about synchronized method and synchronized statement in Java.

Or

- (b) How implement deadlock program in Java?

19. (a) Discuss about writing console input in Java with program.

Or

- (b) Discuss about byte and character stream in Java.

20. (a) Discuss the following Java components.

(i) Button

(ii) Ttext.

Or

- (b) How to implement colour in AWT Java program?

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Reg. No. : 23083241802112017

Code No. : 20641 E Sub. Code : EECS 43

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2025.

Fourth Semester

Computer Science

Elective — BIOMETRICS

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is not a type of biometrics?
(a) Finger print
(b) Face recognition
(c) Voice recognition
(d) Person recognition

2. A person's biometric information is captured and stored as a template is called
(a) Recognition (b) Enrollment
(c) Match score (d) Identification
3. During matching, the system calculates the similarity or distance between the _____ of the detected face and those stored in the database.
(a) Feature vector (b) Features
(c) Feature values (d) Matching
4. Which of the following is used to transform the segmented region into rectangular shape?
(a) Matching
(b) Segmentation
(c) Normalization
(d) Rectangularization
5. Which of the following can expose individuals to long term risks?
(a) Lack of control (b) Identity theft
(c) Misuse (d) Data breaches

6. Which of the following is a hard biometric?
(a) Finger print (b) Voice
(c) Typing (d) Hair
7. Which of the following system uses multiple biometric traits to identify a person?
(a) Face biometric
(b) Iris biometric
(c) Multimodel biometric
(d) Finger print biometric
8. Which of the following watermarking is designed to remain detectable?
(a) Fragile watermarking
(b) Semi-Fragile watermarking
(c) Robust watermarking
(d) Visible watermarking
9. _____ use a person's physical or behavioral traits to verify their identity.
(a) Biometric technologies
(b) Data hiding
(c) Watermarking
(d) Pattern recognition

10. What is the full form of RFID?
(a) Radio Frequency Identify
(b) Radio Frequency Identification
(c) Radio Frequency Identity
(d) Radio Frequently Identification

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the applications of Biometrics?
Or
(b) What is Biometric? Write the history of Biometric.
12. (a) What are the advantages and disadvantages of Iris Biometrics?
Or
(b) Describe the design of face recognition system.

13. (a) Give details about Fingerprint Biometrics.

Or

- (b) Discuss the privacy concerns associated with Biometric deployment.

14. (a) How the multimodel Biometrics applied using face and ear?

Or

- (b) Discuss the basic framework of watermarking.

15. (a) Discuss the role of biometrics in border security.

Or

- (b) Give the comparative study of various Biometric techniques.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain the basic working of biometric matching.

Or

- (b) How can we design a biometric system? Explain.

17. (a) Explain the procedure to design a face recognition system.

Or

- (b) Explain the applications of Iris Biometrics.

18. (a) Explain about the Fingerprint recognition system.

Or

- (b) Give the comparison of various Biometrics in terms of privacy.

19. (a) Explain the characteristics of multimodel Biometrics.

Or

- (b) Explain the classification of watermarking.

20. (a) Explain Biometrics and Information Technology Infrastructure.

Or

- (b) Explain DNA Biometrics.