(6 pages)

Reg. No. : .....

Code No. : 10419 E **Sub. Code : EMCS 41/ FCCS 41**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2026

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. The process of converting data from one type to another is called

   (a) Constructor (b) Casting

   (c) Overloading (d) Overriding

2. Which keyword is used to create class-level variables and methods?

   (a) public (b) private

   (c) protected (d) static

3. The dynamic method dispatch is a programming technique that determines which method to call at _____ based on the objects type.

   (a) Design time

   (b) Compile time

   (c) Run time

   (d) Processing time

4. Which of the following is used for defining a package?

   (a) import package_name.*;

   (b) package package-name;

   (c) define package;

   (d) include package-name;

5. _____ Interface in java is used to define classes that can be executed by a thread.

   (a) Runnable (b) Remote

   (c) extends (d) implements

6. _____ is a situation where two or more threads are blocked forever which waiting for each other.

(a) Multithread (b) Deadlock

(c) Preemptive (d) Synchronization

7. Which of the following is not generated by MouseListener?

(a) mouseReleased( )

(b) mouseClicked()

(c) mouseExited( )

(d) mouseMove()

8. Byte streams are used to handle _____ data.

(a) Byte (b) Binary

(c) Text (d) Character

9. Which of the following is not a container?

(a) Frame (b) Panel

(c) Dialog (d) ListBox

10. _____ Component is used to display text or an image.

(a) TextField (b) Label

(c) Button (d) Panel

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) What is constructor? Give example.

Or

(b) Write JVM architecture

12. (a) Write short note on method overriding.

Or

(b) What is mean by abstract class? Give example.

13. (a) Write short notes on synchronization.

Or

(b) How can we create own exception?

14. (a) Give details about Adapter classes.

Or

(b) Write the details about byte and character stream.

15. (a) Give the details about Button class.

Or

(b) What are the different layouts used in java?

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 scope and life time of variables.

Or

(b) Explain the control structures with suitable examples.

17. (a) What is interface? Explain the steps to create and use interface.

Or

(b) Explain the method overloading with suitable example.

18. (a) Explain multithreading with suitable example.

Or

(b) What is the usage of try, catch and throw? Explain with an example.

19. (a) Explain the mouse and keyboard handling methods with suitable example.

Or

(b) Write a java program to read content from a file and display it in screen.

20. (a) Write a java program to apply different text formatting using AWT components.

Or

(b) Explain the Checkbox class with suitable example.

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(6 pages) **Reg. No. :** .....

Code No. : 10433 E **Sub. Code : EECS 43/ FECS 43**

B.Sc. (CBCS) DEGRE EXAMINATION, APRIL 2026.

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 is type of biometric?
   (a) Face
   (b) Fingerprint
   (c) Iris
   (d) All of the above

2. Fingerprint or facial recognition are used to access _____.
   (a) smart phones (b) railway gate open
   (c) airport smart gate (d) none of these

3. Which biometric characteristic is related to the unique patterns in the _____ of the eye?
   (a) Fingerprint (b) Retina
   (c) Voice (d) Iris

4. What is the purpose of biometrics?
   (a) Identify culprit only
   (b) Identify an individual
   (c) Identify victim only
   (d) Identify culprit & victim both

5. Which of the following is NOT a principle of fingerprints?
   (a) Universality (b) Permanence
   (c) Individuality (d) Alterability

6. Facial measurements are included in which type of biometrics?
   (a) Hard biometric (b) Soft biometric
   (c) Both (a) and (b) (d) None of these

7. _____ and _____ are two types of watermarking techniques.

(a) hide, seek

(b) visible, invisible

(c) true, false

(d) none of the above

8. Discrete Cosine Transform (DCT) is a _____ technique for biometric model.

(a) Watermarking (b) Multimodel

(c) Irish (d) None of the above

9. RFID stands for _____.

(a) Real-Frequency Identification

(b) Radio-Frequency Identification

(c) Radio-Fast Identification

(d) None of these

10. DNA means _____.

(a) deoxyribonucleic acid

(b) trioxyribonucleic acid

(c) demo-oxyribonucleic acid

(d) none of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Discuss about Application of Biometrics.

Or

(b) What is meaning of Biometrics system error?

12. (a) Explain Background of Face Recognition.

Or

(b) How Retina Biometrics works?

13. (a) Illustrate the privacy issues with biometrics.

Or

(b) What is biometric technology for vein recognition?

14. (a) Define Data hiding.

Or

(b) What are the characteristics of multimodal biometrics?

15. (a) How the biometrics rolled in border security?

Or

(b) List out the application of Biometrics.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Discuss in detail about types of Biometrics.

Or

(b) Differentiate Biometrics and authentication methods.

17. (a) What are the challenges in Face Biometrics?

Or

(b) Write in detail about Applications of Iris Biometrics.

18. (a) What is soft biometrics? Explain.

Or

(b) Explain in details about Finger print Biometrics.

19. (a) Discuss in details about architecture of multimodal biometris.

Or

(b) Explain about classification of watermarking.

20. (a) Write in details about biometric technology.

Or

(b) Discuss the following :

(i) DNA BIOMETRIC

(ii) RFID.

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