

2025

COMPUTER SCIENCE — HONOURS

Paper : SEC-3

(Mobile App Development)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and **any four** questions from the rest.

1. Answer **any five** questions : 2×5
 - (a) What are the alternative methods for running Flutter?
 - (b) How does an IDE differ from an SDK?
 - (c) What is material design? Explain with appropriate illustrations.
 - (d) What are assets related to flutter?
 - (e) What is a List View widget?
 - (f) What is Navigator? Explain in brief.
 - (g) What do you mean by widget Tree?
 - (h) What is const constructor? What is the purpose of using it in Flutter?
2.
 - (a) What is pubspec.yaml file? What is its purpose?
 - (b) What are Runes? Explain the use of it with suitable examples. 4+6
3.
 - (a) Differentiate between a full widget tree and a shallow widget tree in Flutter. Explain with an example how a full widget tree is built.
 - (b) Explain how complex UIs are created using nested widgets in Flutter. Draw a simple diagram showing a widget tree for a small app. (3+2)+(3+2)
4.
 - (a) What are Maps in Dart? Explain how to declare, initialize, and use Maps with suitable examples.
 - (b) What do you mean by Native and Cross platform Development?
 - (c) Explain how functions and classes are used in Dart programs. (2+2)+3+3
5. What is JSON? Why is JSON commonly used in Web Development? Explain the overall structure of JSON. 3+3+4
6.
 - (a) How is local storage created in Flutter? Explain with proper illustrations.
 - (b) What is Firebase storage? Explain with suitable example. (3+2)+(3+2)

Please Turn Over

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7. (a) What is the purpose of container? Explain with appropriate illustrations.

(b) What is state management and how is it handled in Flutter?

2+3+5

8. Write short notes on (*any two*) :

5×2

(a) Stateless widget life cycle

(b) Hero Animation

(c) Android Virtual Device (AVD) and its use

(d) Asynchronous programming with respect to Dart.
