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BTECH
(SEM VII) THEORY EXAMINATION 2024-25
DESIGN & DEVELOPMENT OF APPLICATIONS

TIME: 3 HRS

M.MARKS: 100

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

Q no.	Question	CO	Level
a.	Critically evaluate the importance of validation in the development cycle of mobile applications.	1	K ₁ , K ₂
b.	How do advancements in embedded systems contribute to the evolution of mobile applications?	1	K ₁ , K ₂
c.	What are the challenges of achieving performance, usability, and security in mobile application design?	2	K ₃
d.	How mobile applications ensure modifiability in resource-constrained environments?	2	K ₃
e.	Discuss the challenges for integrating social media networking features into mobile applications.	3	K ₁ , K ₂
f.	What are the advantages and risks associated with cloud integration?	3	K ₁ , K ₂
g.	Explain the role of GPS in Android application development.	4	K ₃
h.	Discuss the role of Wi-Fi in Android application development.	4	K ₃
i.	Compare Core Data and SQLite in iOS.	5	K ₁ , K ₂
j.	Discuss the challenges of integrating calendar and address book functionalities with social media applications in iOS.	5	K ₁ , K ₂

SECTION B

2. Attempt any three of the following: 10 x 3 = 20

Q no.	Question	C O	Level
a.	Explain the processes involved in publishing and delivering mobile applications. What challenges might arise during this phase, and how can they be mitigated?	1	K ₁ , K ₂
b.	Explain the concept of architecting mobile applications. How does this process differ when designing for various operating systems?	2	K ₃
c.	Develop a strategy for integrating a mobile application with cloud-based services. What factors would you prioritize?	3	K ₁ , K ₂
d.	Critically analyze the role of Android development environments in enhancing developer productivity.	4	K ₃
e.	Design an iOS application with location-aware features using Core Location and Map Kit. Discuss the technical considerations involved.	5	K ₁ , K ₂

SECTION C

3. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	C O	Level
a.	Describe the role of user feedback in the requirements gathering process. How can developers leverage this feedback for better application design?	1	K ₁ , K ₂

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b.	Compare and contrast various methodologies for requirements gathering in mobile application development. Which method would you recommend for a large-scale application? Why?	1	K ₁ , K ₂
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4. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	C O	Level
a.	Discuss the role of embedded operating systems in mobile application design. How do they affect performance and scalability?	2	K ₃
b.	How can developers measure and improve the quality constraints of mobile applications during the design phase?	2	K ₃

5. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Critically evaluate the effectiveness of design patterns in achieving modifiability and scalability in mobile applications.	3	K ₁ , K ₂
b.	Explain how GPS integration enhances mobile applications. Provide examples of innovative applications leveraging GPS technology.	3	K ₁ , K ₂

6. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Describe the process of packaging and deploying an Android application. What are the common challenges faced during this process?	4	K ₃
b.	Design an Android application to manage personal finances. Explain how you would implement data persistence using SQLite.	4	K ₃

7. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Explain the process of creating a secure, scalable, and high-performance iOS application for e-commerce.	5	K ₁ , K ₂
b.	Evaluate the role of the iPhone marketplace in shaping trends in iOS application design and development.	5	K ₁ , K ₂