D. B. J. College Chiplun

ATKT ~~First Term End~~ Examination ~~Apr~~ Oct 2023

Class: S. Y. B. Sc.	Semester: IV
Subject:Computer Science	Paper Name : Research Methodology (USCS4071) Paper No - 7
Duration : 2 ½ hrs	Marks: 75

N.B. 1) All questions shall be compulsory with internal choice within the questions.
2) Figures to the right indicate marks.
3) Illustrations, in-depth answers and diagrams will be appreciated.
4) Mixing of sub-questions is not allowed.

Q1 Attempt any four. **20**

a) Write a note on research and scientific method.
b) List and explain general objectives of Research.
c) Define the research problem. Explain technique involved in it.
d) What is variable? Explain its type with suitable example.
e) What are the needs of research design? Explain features of a good design.
f) List and explain the basic principles of experimental designs.

Q2 Attempt any four. **20**

a) How would you differentiate between simple random sampling and complex random sample design? Explain.
b) Enumerate the different methods of collecting data. Explain any one method and its merits and demerits.
c) Describe the various steps involved in testing hypothesis.
d) Discuss the four types of measurement scales.
e) Write a note on case study method.
f) What is reliability and validity of research? Explain.

Q3 Attempt any four. **20**

a) List and explain any four reasons for citing references?
b) How do you write a technical research proposal? Explain.
c) Write a note on materials and methods section of a scientific article?
d) What points will you keep in mind while preparing a research report? Explain.
e) How to organize the discussion section in research? Explain.
f) What is a Scientific Paper? Explain ethics in scientific publishing a scientific paper.

Q4 Attempt any five. **15**

a) Write a short note on pilot survey.
b) What is descriptive and analytical research?
c) Explain the term cluster sample.
d) What is One-tailed and Two-tailed test?
e) How to prepare effective graphs?
f) What is acknowledgment?

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First Term End Examination ~~Apr~~ Oct 2023

Class: S. Y. B. Sc.	Semester: IV Paper No. 6
Subject: Computer Science	Paper Name : Advanced Application Development (USCS406)
Duration : 2 ½ hrs	Marks: 75

N.B. **1) All questions shall be compulsory with internal choice within the questions.**
2) Figures to the right indicate marks.
3) Illustrations, in-depth answers and diagrams will be appreciated.
4) Mixing of sub-questions is not allowed.

Q1 Attempt any four. **20**

a) What is Node.js? Where can you use it? Explain.
b) Describe the basic structure of Node.js to angular stack components.
c) What are the directives used in package.json file? Explain.
d) List and explain the most important features of MongoDB?
e) Discuss the CRUD operation in MongoDB.
f) How to create HTTP web server with Node.js? Explain.

Q2 Attempt any four. **20**

a) Write and explain steps to install express module and express object settings.
b) List and explain four main methods for implementing parameters in route.
c) What are the benefits of template engine? How to install EJS module in your application.
d) Demonstrate the web application that print "Hello Word!" message using angular components.
e) Write a note on dependency injection.
f) How to use NgForOf directive in angular? Explain.

Q3 Attempt any four. **20**

a) List and explain steps to install and configure the flutter SDK with android studio.
b) How common flow statements (such as if, and the ternary operator)work in dart? Explain.
c) Explain the stateful and stateless widget lifecycle.
d) How to nest the column and row widgets together to create different UI layouts?
e) Illustrate class and add method to class in dart.
f) Write a note on test operators and Assignment operators in dart.

Q4 Attempt any four. **15**

a) What is deleteMany function?
b) Write a short note on routing in node.js.
c) List and describe any two build-in middleware components that come with express.
d) Why Angular used in application development?
e) What is flutter?
f) Why use dart?

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ATKT First Term End Examination Apr 2023

Class: S. Y. B. Sc.	Semester: IV
Subject: Computer Science	Paper Name : Android Application Development (USCS405)
Paper No.	5
Duration : 2 Hours 30 Min.	Marks: 75

N.B. 1) All questions are compulsory.

2) Figures to the right indicate full marks.

Q1 **Attempt any Four.** 20

A Write a note on unit returning function.

B Explain android architecture with the help of diagram.

C Explain application components in detail.

D Explain variable declaration in kotlin with example.

E State and explain features of android.

F State and explain various stages of activity lifecycle.

Q2 **Attempt any Four.** 20

A List and Explain various types of layouts in android.

B What is the purpose of button? Explain any four attributes of button control.

C Write a note on the listview control. Give suitable example.

D What is the purpose of menu? Explain popup menu with suitable example.

E Write a note on screen navigation.

F What is a gallery view? Explain with example.

Q3 **Attempt any Four.** 20

A What are Services in android? Give suitable example where Services can be used.

B What is a Broadcast Receiver in android? Explain.

C Write a note on Drawables in android.

D Explain lifecycle of Services in android.

E Write a note on animation in android.

F Briefly explain the concept of async task.

Q4 **Attempt any Five.** 15

A Explain how intent can be used in android application.

B Write a note on screen orientation.

C What is the purpose of autotextcompleteview?

D State and explain various features of SQLite database.

E Write a note on job scheduler.

F Explain how Themes and Styles can be used to customize user interface design in android application.

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Class: S. Y. B. Sc.	Semester: IV
Subject: Computer Science	Paper Name : Computer Network (USCS402)
Paper No	2
Duration : 2 ½ hrs	Marks: 75

Notes:
1) All questions are compulsory.
2) Figures to right indicate full marks.
3) Assume necessary data as required.

Que 1 **Attempt any Four of the following.** 20

A What is network topology? Explain network topologies.
B Explain the TCP/IP reference model with neat diagram.
C Write a note on Attenuation.
D Illustrate the fiber optic.
E Describe a ASK.
F Write short note on Packet switching.

Que 2 **Attempt any Four of the following.** 20

A Explain the Point to Point Protocol in detail.
B Elaborate Multiple Access Protocols.
C Write a note on concept of Token Bus.
D Describe a Random Access Protocol.
E Write a note on TDMA.
F Explain the CSMA.

Que 3 **Attempt any Four of the following.** 20

A Write a note on IPV6 Protocol.
B Discuss how flow control to improve QoS.
C Differences between user datagram and transmission control protocols.
D Elaborate the concept of WWW.
E Describe the concept HTTP.
F Write a note on DNS.

Que 4 **Attempt any Five of the following.** 15

A Explain PM in detail.
B Write a note on Client Server programming.
C Enlist various types of multiplexing.
D State the Shannon capacity for Noisy Channel.
E Describe the Shielded twisted pair (STP) with neat diagram.
F What do you mean by ATM? Clarify it.

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