

Course Code : ITT 409-1

SMSM/MS – 15 / 1506

Eighth Semester B. E. (Information Technology) Examination

Elective – III

MOBILE APPS DEVELOPMENT

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates :—

- (1) Due credit will be given to neatness and adequate dimensions.
- (2) Assume suitable data wherever necessary.
- (3) Mobile phones are prohibited in examination hall.
- (4) Retain the construction lines.
- (5) Illustrate your answers wherever necessary with the help of neat sketches.
- (6) All questions carry equal marks.

1. Attempt the following :—

- (a) Outline the various views of DDMS perspective and their purpose in detail. 5
- (b) Illustrate three approaches to develop a mobile app along with scenarios where we need to apply these approaches. 5

OR

2. Describe android platform architecture. Discuss various layers and their components and functions in detail. 10

3. Attempt the following :—

- (a) Define the procedure to navigate between activities and exchange data between them. 5
- (b) Explain Telephony Manager API and its usage in detail. 5

OR

4. Attempt the following :—

- (a) Outline the process of Intent Resolution. 4
- (b) Explain implementation of Broadcast Receiver in Android. 6

SMSM/MS-15/1506

Contd.

5. Attempt the following :—

- (a) Explain various methods of JsonReader API used for parsing JSON data. 4
- (b) Write a code which read and write content into flat file. 6

OR

6. Attempt the following :—

- (a) Illustrate data persistence and access using shared preferences. 6
- (b) Write a code which create table, retrieve records and delete record from SQLite database. 4

7. Attempt the following :—

- (a) Outline the steps involved in working with sensors in an app. 5
- (b) Define strategies to deal with multiple screen densities and sizes in an app. 5

OR

8. Attempt the following :—

- (a) Illustrate the states and relevant methods of MediaPlayer API. What permissions are required to do media playback over a Wi-Fi network ? 6
- (b) Describe various types of animation supported by android in detail. 4

9. Attempt the following :—

- (a) Explain purpose of different types of testing for mobile app. 5
- (b) Explain in detail steps to create unit testing of an activity. 5

OR

10. Attempt the following :—

- (a) List and explain various features of Monkey Talk. 5
- (b) Explain test project structure. 5

11. Attempt the following :—

- (a) Explain various mechanism to distribute a mobile app. 5
- (b) Define the prework that is required to publish an app. 5

OR

12. Attempt the following :—

- (a) Explain in detail various ways to release android app. 5
- (b) Explain in detail packaging of android app. 5

Eighth Semester B. E. (Information Technology) Examination

Elective – III

BUSINESS INTELLIGENCE

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates :—

- (1) Assume suitable data wherever necessary.
- (2) Mobile phones are prohibited in examination hall.
- (3) All questions carry marks as indicated.

1. (a) Name any five types of activities that are part of ETL process. Which of these is time consuming ? Explain any three. 6
- (b) What is data profiling and when and how to conduct data profiling ? 4

OR

2. (a) State and Explain key issues to be considered while planning for data warehouse for Information Technology department. 4
- (b) What is a data warehouse and what is the need of data warehouse ? Goals of data warehouse. 6
3. (a) Cite a few examples from everyday life of fact-based decision making. 6
- (b) Explain the terms ROI, ROA, TCO and TVO giving appropriate examples. 4

OR

4. (a) Assume you are a project manager who has been sent to collect business requirements for a retail chain. Give a few examples of business requirements that you would have collected. 6
- (b) Compare OLTP and OLAP systems with examples. 4

5. (a) Give information package for recording information requirement for "Hotel Occupancy" considering dimensions like time, Hotel etc. Design star schema from information package. If possible draw Snowflake schema. 6
- (b) What KPIs are used in a cricket academy to select batsmen, bowlers and fielders ? 4

OR

6. (a) A company is looking for recruiting graduates for their new business unit. They have asked HR team to go ahead with recruitment. What KPIs will be more relevant for measuring the effectiveness of the recruiting process ? 6
- (b) Data Integration and Transformation with an example. 4

7. Explain Funnel analysis, Distribution analysis and performance analysis along with example. 10

OR

8. Assume you are a owner of a fast food chain. Give the different ways in which you will promote your fast food outlet. How will you perform the analysis ? 10
9. (a) Explain constraint based association rule mining. 6
- (b) Explain multilevel association rules. 4

OR

10. (a) Explain KDD process and architecture of typical data mining system. 10
11. A manufacturing company has a huge sales network. To control the sales, it is divided in the regions. Each region has multiple zones. Each zone has different cities. Each sales person is allotted different cities. The object is to track sales figure at different granularity levels of region and also to count the number of products sold. Create both data warehouse schema to take into consideration of above granularity levels for region, sales person and the quarterly, yearly and monthly sales. 10

OR

12. Explain a case study using decision trees to predict customer response and optimize profit. 10

Eighth Semester B. E. (Information Technology) Examination

Elective – III

SOFT COMPUTING

Time : 3 Hours]

[Max. Marks : 60

Instructions to Candidates :—

- (1) Due credit will be given to neatness and adequate dimensions.
- (2) Assume suitable data wherever necessary.
- (3) Mobile phones are prohibited in examination hall.
- (4) Retain the construction lines.
- (5) Illustrate your answers wherever necessary with the help of neat sketches.
- (6) Diagrams and chemical equations should be given wherever necessary.
- (7) All questions carry equal marks.

1. (a) How does learning rate play an important role in learning ? How can the training of neural network be improved ? 3
- (b) What are the objectives of soft computing ? Briefly mention the application area of soft computing ? 7

OR

2. (a) Differentiate between biological neuron and artificial neuron on the basis of structure and function of a single neuron. 3
 - (b) A single layer neural network has input vector $[X = X_1, X_2, X_3]^t$ and initial weight vector $W = [3 \ 1 \ 0.5]^t$. Taking $C = 2.5$ and $X_1 = [2 \ -2 \ 2.5]$, $X_2 = [0.9 \ 1 \ -2]^t$ and $X_3 = [2 \ 0 \ -3]^t$, find the final weights using Hebbian learning rule. 7
3. (a) Give and explain Backpropagation Training algorithm. What are the applications of back propagation algorithm ? 7
 - (b) Draw the diagram for winner Take all learning rule and explain how the weights are updated using this rule. 3

OR

4. (a) The column measure as input vector. $X1 = [2 \ -3 \ 0 \ 2]$ $X2 = [1 \ 1 \ 2 \ -1]$
 $X3 = [-1 \ 1 \ 3 \ 0]$ and $W1 = [1 \ -1 \ 2 \ 0.5]$ $d1 = -1$, $d2 = -1$, $d3 = 1$, $c = 0.2$,
 $\lambda = 1$. Calculate weight matrix using Delta learning Rule. Assume characteristics
of neurons as continuous. 7
- (b) Train a perceptron network for learning a binary OR gate function. Work
out two complete iterations. 3
5. (a) Construct a Hopfield network to associate 3x3 input images with dots and
dashes. 4
- (b) Explain the concept of simulated annealing in context with Neural networks.
6

OR

6. (a) Sketch the architecture of Boltzmann network and mention the steps for
recall procedure. 6
- (b) Explain the applications of Hopfield network in detail. 4
7. (a) Using your own intuition, develop fuzzy membership function on the real
line for fuzzy number "approximately 2 or approximately 8" using following
function shape
- (i) Symmetric triangles.
- (ii) Trapezoids. 4
- (b) Consider the fuzzy rule R: If service is good then customer is satisfied.
Related universe are service rating = $\{a, b, c, d, e\}$ and satisfactory
grade = $\{1, 2, 3, 4, 5\}$ where the service rating a, b, c, d, e are in ascending
order and the satisfaction grades 1, 2, 3, 4, 5 are in ascending order.
The fuzzy set good service and satisfied are as follows :
- Good service = $1.0/a + 0.8/b + 0.6/c + 0.4/d + 0.2/e$
- Satisfied = $0.2/1 + 0.4/2 + 0.6/3 + 0.8/4 + 1.0/5$ 6

OR

8. (a) Develop reasonable membership function for following fuzzy set based upon height measured in centimetres (I) TALL (II) SHORT (III) NET SHORT

4

- (b) Explain following methods of defuzzification of fuzzy logic.

(A) Centroid method

(B) Centre of sums

(C) Mean of Maxima

6

9. Write short note on Temporal fuzzy logic.

10

OR

10. Explain defuzzification of temporal logic with one of the application.

10

11. Describe the design of fuzzy AC (Air Conditioner) controller.

10

OR

12. Explain Neuro-fuzzy controller ? State the applications of it.

10

