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SEAT No. :

P5262

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T.Y.B.C.A. (Science)

DSE-IV : ANDROID PROGRAMMING

(2019 Pattern) (Semester -VI) (BCA361)

Time :3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Figures to the right indicate full marks.*
- 2) *Draw diagram wherever necessary.*

Q1) Attempt the following:

A) Choose the correct options:

[5×1=5]

- i) The android_____ provides you the API libraries and developer tools necessary to build, test and debug apps for android
 - a) JDK
 - b) SDK
 - c) ADT
 - d) AVD
- ii) An_____ object is a bundle of information which is used by the component that receives the intent as well as information.
 - a) Intent
 - b) Fragment
 - c) Activity
 - d) Request
- iii) The table layout groups views into_____ and_____
 - a) rows
 - b) Columns
 - c) Layouts
 - d) Both (a) and (b)
- iv) The _____ is a view that shows items (such as images) in center locked, horizontal scrolling list.
 - a) Gallery
 - b) Grid view
 - c) Image view
 - d) Image switcher
- v) _____ menu displays information related to current activity.
 - a) Contexts
 - b) Options
 - c) Popups
 - d) Menus

P.T.O.

B) Attempt the following

[5]

- i) What is meant by google map?
- ii) define cursor in SQLite?
- iii) What is context menu?
- iv) Example of text view?
- v) What is AVD

Q2) Answer the following: (any five)

[5×3=15]

- a) Write any five features of android.
- b) What is scroll view? Explain with example.
- c) With the help of example explain spinner.
- d) Explain the term displaying google map in detail.
- e) Explain life cycle of fragment?
- f) What is video view? Explain with example.

Q3) Answer the following : (Any five)

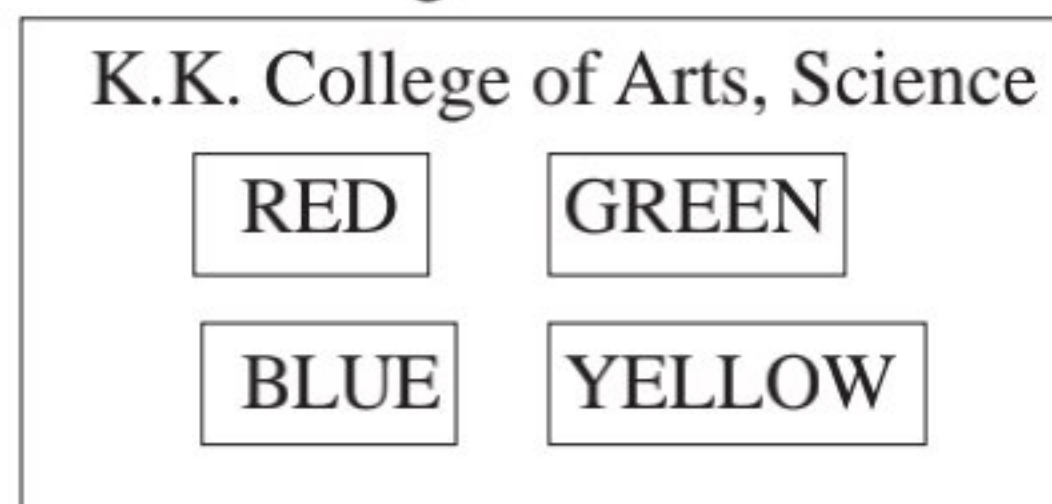
[5×4=20]

- a) What is Toggle button? How to create it? Explain with example.
- b) Explain life cycle of activity.
- c) Create a simple application which read a number from the user and display factorial value in another activity.
- d) How to create database in SQLite? Explain with example.
- e) How to send message using intent?
- f) Explain list view using adapter with the help of example.
- g) Explain any four layouts with example.

Q4) Answer the following : (Any five).

[5×5=25]

- a) Create an android application that will change color of the college name on click of button & change font size and color using xml.



- b) How to do navigation to a specific location.
- c) Differentiate between:
 - i) Location based services & Google map
 - ii) Geocoding & reverse geocoding.
- d) Explain Architecture of android.
- e) Create Android Application for performing the following operation on the table customer (id, name, address, phone)
(Use SQL database)
 - i) Insert new customer
 - ii) Display details on toast.
- f) Explain the following with example.
 - i) Progress Bar
 - ii) Toast
 - iii) Radio button
 - iv) Check box
- g) Write an application to send Email (using to, subject & message) with following view.

TO

Subject

Message

Send



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T.Y.B.C.A. (Science)

DSE-VI, BCA - 362 : PROGRAMMING IN GO
(2019 Pattern) (Semester - VI)

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Figures in the right indicate full marks.*
- 2) *Draw diagram wherever necessary.*

Q1) Attempt the following.

[5×1=5]

A) Choose the correct option.

- a) In Golang, which of the following transfers control to the labelled statement?
 - i) enum
 - ii) goto
 - iii) jump
 - iv) return
- b) func is a _____ in Go language.
 - i) identifier
 - ii) keyword
 - iii) constant
 - iv) parameter
- c) _____indexing cannot be used in an array.
 - i) Positive
 - ii) Up
 - iii) Down
 - iv) Negative
- d) _____can be defined inline without the need for a name.
 - i) Array
 - ii) Package
 - iii) Class
 - iv) Anonymous function
- e) A_____is a communication mechanism that allows Goroutines to exchange data.
 - i) Channel
 - ii) Pipe
 - iii) Subroutine
 - iv) None of these

B) Attempt the following.

[5×1=5]

- a) What are nested structures?
- b) What is a method in Go programming?
- c) What is the use of wait Groups?
- d) Define a package.
- e) What are blank imports?

P.T.O.

Q2) Attempt the following (Any Five). **[5×3=15]**

- a) Give any three advantages of Go programming language.
- b) Briefly explain the concept of function returning multiple values.
- c) Which are the different types of arrays in Go language?
- d) Describe an Interface in Go?
- e) Compare concurrency and parallelism.
- f) Briefly explain how package names are imported.

Q3) Answer the following (Any Five). **[5×4=20]**

- a) Write a note on the use of 'defer' statement with an example program.
- b) What are filtering array values? Which are its three cases?
- c) What is a Method and Function? Give any three points of difference.
- d) Write a note on Regular expressions and pattern matching.
- e) Discuss the concept of type assertions.
- f) Write a program in Go language to swap a number without using temporary variable.
- g) Write a program in Go language to accept 'n' records of employee information (eno, ename, salary) and display record of employees having maximum salary.

Q4) Answer the following (Any Five). **[5×5=25]**

- a) Write a note on Goroutine functions and lambdas.
- b) Explain buffered and unbuffered channels.
- c) Explain Timer with an example.
- d) Write a note on Embedded Interfaces.
- e) Write a note on Table Tests and Random Tests.
- f) Write a program in Go language to sort array elements in ascending order.
- g) Write a program in Go language to create a channel and close a channel.



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P5264

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T.Y. B.C.A. (Science)

**BCA, DSE - VI - 363 : SOFTWARE PROJECT MANAGEMENT
(2019 Pattern) (Semester - VI)**

Time : 3 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Figures to the right indicate full marks.*
- 2) Draw diagrams wherever necessary.*

Q1) Attempt the following :

[5×1=5]

A) Choose correct option

- a) Which of the following is not a project management goal?
 - i) keeping overall cost within budget.
 - ii) Delivering the software to the customer at agreed time.
 - iii) Maintaining a happy and well-functioning development team.
 - iv) Avoiding customer complaints.
- b) Activity in the network diagram is represented by
 - i) Rectangles
 - ii) Arrows
 - iii) Squares
 - iv) Circles

P.T.O.

- c) CPM stands for _____.
 - i) Control path method
 - ii) Critical path method
 - iii) Critical path management
 - iv) Control path management
- d) Configuration management is best described as -
 - i) Control in the implementation of changes to project schedules.
 - ii) An organization to review proposed changes to the project deliverables.
 - iii) Quality control of project deliverables and documentation.
 - iv) Creation, maintenance and controlled change of the project deliverables.
- e) Agile _____ is based on simple, easily determined measures that are iterated and refined throughout the software development life cycle.
 - i) Management
 - ii) tracking
 - iii) estimation
 - iv) scheduling

B) Attempt the following : **[5×1=5]**

- a) Define activity scheduling.
- b) List the attributes of the project.
- c) What are the types of Network diagram?
- d) What is cost estimation?
- e) What is staffing in project management?

Q2) Attempt the following (Any five)

[5×3=15]

- a) Discuss the organizational behaviour with example.
- b) Differentiate between predictive process and empirical process.
- c) Explain cost control in project management.
- d) Describe the importance of activity scheduling.
- e) What is PERT? Explain with example.
- f) Write a note on PMBOK.

Q3) Attempt the following (Any five)

[5×4=20]

- a) Discuss the project life cycle.
- b) Define the terms
 - i) Critical path
 - ii) Start to finish Dependency.
- c) Write a note on ADM network diagram.
- d) What do you understand by change control. How to use it?
- e) Discuss the roles and responsibilities of an Agile team.
- f) What is stress, health and safety in software project management?
- g) Write a note on synchronous communication.

Q4) Attempt the following

[5×5=25]

- a) Write a note on portfolio management.
- b) List and explain different activity relationships in detail.
- c) What is Gantt chart? Explain with example.
- d) Discuss the types of contracts.
- e) Write a note on Agile and non-agile project.
- f) Write in detail about causes of stress in project management.
- g) Discuss backward pass technique in detail.

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Total No. of Questions : 5]

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T.Y.B.C.A. (Science)

**BCA364 : SEC-III : MANAGEMENT INFORMATION SYSTEMS
(2019 Pattern) (Semester - VI)**

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) *Figures to the right indicate full marks.*
- 2) *Draw diagram wherever necessary.*

Q1) Attempt any Eight of the following.

[8×1=8]

- a) Information systems that monitor the elementary activities and transactions of the organizations are _____.
 - i) management level system
 - ii) operational level system
 - iii) knowledge level system
 - iv) strategic level system
- b) _____ is a combination of interviewing, surveying and observing.
 - i) Focus groups
 - ii) Interviews
 - iii) Documents
 - iv) Records
- c) In VSM → symbol is used for
 - i) Computerized information flow
 - ii) Manual information flow
 - iii) Safety stock
 - iv) Shipment
- d) Which of the following is not true of BPR?
 - i) Sometimes BPR is needed to lower costs.
 - ii) Sometimes BPR is needed to increase quality
 - iii) Sometimes BPR is needed for change
 - iv) BPR tends to focus on incremental and gradual improvement.

P.T.O.

- e) _____ is the first phase of CRM.
- i) Acquire
 - ii) Enhance
 - iii) Retain
 - iv) Vanish
- f) CMS stands for _____.
- i) Critical Management System
 - ii) Call Management System
 - iii) Caution Management System
 - iv) Communication Management System
- g) What is the heart of any ERP system?
- i) Information
 - ii) Employees
 - iii) Customers
 - iv) Database
- h) Which of the following is/are some of the main areas of operation of DSS?
- i) Transaction Processing
 - ii) Production, finance and marketing
 - iii) Executive support system
 - iv) Sales
- i) Expertise and experience of organizational members that has not been formally documented is known as-
- i) knowledge sharing
 - ii) tacit knowledge
 - iii) organizational learning
 - iv) organizational memory
- j) Critical information for top management is provided by _____ information system.
- i) expert
 - ii) executive
 - iii) decision
 - iv) managerial

Q2) Attempt any Four of the following. **[4×2=8]**

- a) State any two characteristics of MIS.
- b) State the phases of decision making process.
- c) Define CRM.
- d) Define DSS.
- e) How service is distinct from product?

Q3) Attempt any Two of the following. **[2×4=8]**

- a) State and explain any two methods of data collection.
- b) Explain business organization model of ERP with neat diagram.
- c) Define knowledge. Explain various types of knowledge.

Q4) Attempt any Two of the following. **[2×4=8]**

- a) Briefly explain information management.
- b) Explain various phases of Business process reengineering.
- c) What do you mean by requirement definition and description? State any two advantages of it.

Q5) Attempt any ONE of the following. **[1×3=3]**

- a) Explain the various applications of value stream model of organization.
- b) Differentiate between Business Intelligence and Business Analytics.



Total No. of Questions : 5]

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T.Y. B.C.A. (Science)

**BCA 365 : SEC - IV : INTERNET OF THINGS (IOT)
(2019 Pattern) (Semester - VI)**

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:

- 1) Figures to the right indicate full marks.*
- 2) Draw Diagram wherever necessary.*

Q1) Attempt any EIGHT of the following (out of TEN)

[8×1=8]

- a) Which of the following offers external chips for memory & peripheral interface circuits?
 - i) Embedded System
 - ii) Peripheral system
 - iii) Microcontroller
 - iv) Microprocesor
- b) In real time operating system _____.
 - i) All processes have the same priority
 - ii) A task must serviced by its deadline
 - iii) Process scheduling can done
 - iv) Kernel is not required
- c) _____ is not application of IoT?
 - i) BMP 280
 - ii) Smart home
 - iii) Smart city
 - iv) Self driven cars
- d) _____ is IoT?
 - i) Network of physical objects embedded
 - ii) Network of virtual objects
 - iii) Network of objects in the ring
 - iv) Network of sensors

P.T.O.

- e) "Internet of things" coined in year _____.
 - i) 1998
 - ii) 1999
 - iii) 2000
 - iv) 2002
- f) Using _____ an embedded system communicate with outside world.
 - i) Memory
 - ii) Output
 - iii) Peripherals
 - iv) Input
- g) _____ of the following IoT networks has a very short range.
 - i) Short network
 - ii) LPWAN
 - iii) Sigfox
 - iv) Short range WN
- h) _____ of the following is the way in which an IoT device is associated with data.
 - i) Internet
 - ii) Cloud
 - iii) Automata
 - iv) Network
- i) The protection and security for an embedded system made by _____.
 - i) Security chip
 - ii) Memory disk
 - iii) IPR
 - iv) OTP
- j) _____ numbers of element in the open IoT architecture?
 - i) Two
 - ii) Three
 - iii) Four
 - iv) Seven

Q2) Attempt any FOUR of the following (out of FIVE):

[4×2=8]

- Enlist the characteristics of Embedded system.
- Explain any two pillars of IoT.
- Write Need of Analog/Digital conversion.
- What is RFID protocol?
- What are the challenges for secure IoT?

Q3) Attempt any TWO of the following. (out of THREE) **[2×4=8]**

- a) Define IoT? Write a trends in Adoption of IoT.
- b) Difference between General processors in computer and Embedded processors.
- c) M2M and WSN protocols with example.

Q4) Attempt any TWO of the following. (out of THREE) **[2×4=8]**

- a) Difference between Real time system and Embedded system.
- b) Write a basic building Block of IoT.
- c) Explain key elements of IoT security.

Q5) Attempt any ONE of the following. (out of TWO) **[1×3=3]**

- a) Explain the zigbee Architecture with Modbus protocol.
- b) What is RESTful web services? GRPC or SOAP explain.

