RGPV (DIPLOMA WING) BHOPAL	OBE CURRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 1

Branch	Computer Science and Engineering	Semester	Sixth

Course Code	C04	Course Name	Mobile Computing

		Teach Hrs	Marks
Course Outcome 1	**Interpret the basic concepts of mobile computing**	20	30
Learning Outcome 1	**Define basic concepts of mobile computing**	8	10
Contents	● Introduction to mobile computing (Mobile Communication, Mobile Hardware , Mobile Software) ● Application of mobile computing ● Mobile and wireless devices ● History of wireless communication ● Basic reference model for Mobile Communication.		
Method of Assessment	End Term Theory Examination		
Learning Outcome 2	**Discuss multiplexing and modulation techniques used in mobile communication**	5	10
Contents	● Multiplexing (Space Division Multiplexing, Frequency Division Multiplexing , Time Division Multiplexing ,Code Division Multiplexing) ● Modulation (Aptitude Shift Key, Frequency Shift Key, Phase Shift Key)		

Method of Assessment	Mid Term Examination - 1		
Learning Outcome 3	**Explain Media access control and its protocol**	7	10
Contents	● Cellular Systems and its advantages ● Motivation for a specialized MAC: Hidden and Exposed Terminals ● Near and far Terminals ● Basic introduction of Space Division Media Access, Frequency Division Media Access, Time Division Media Access ,Code Division Media Access		
Method of Assessment	End Term Theory Examination		
Course Outcome 2	**Illustrate telecommunication system, mobile IP and mobile adhoc network**	19	30
Learning Outcome 4	**Describe Telecommunication System with GSM architecture**	6	10
Contents	● Introduction to Telecommunication System ● GSM: Mobile Services, System architecture		
Method of Assessment	End Term Theory Examination		
Learning Outcome 5	**Describe Mobile Internet Protocol (Mobile IP) and key mechanism in Mobile IP**	5	
Contents	● Mobile Internet Protocol (Mobile IP) ● Key Mechanisms in Mobile IP ○ Agent Discovery ○ Agent Registration ○ Tunneling		
Method of Assessment	Term Work		

Learning Outcome 6	**Describe Mobile Adhoc Network and its application**	8	
Contents	● Mobile Adhoc Network: Introduction, Properties, Applications, ● WSN (Wireless Sensor Networks)		
Method of Assessment	End Term Theory Examination		
Course Outcome 3	**Discuss Android architecture framework and Install/ Configure Android application development tools.**	20	30
Learning Outcome 7	**Discuss the History and Architecture of Android operating system.**	7	10
Contents	● A brief history of Mobile, Types of mobile phone generations, The Mobile Ecosystem, Types of Mobile Applications, Mobile Information Architecture, Android Versions, Features of Android, Android Architecture.		
Method of Assessment	End Term Theory Examination		
Learning Outcome 8	**Install and configure Android application development tools and Create first android application.**	5	10
Contents	● Installing Android SDK Tools, Configuring Android in Eclipse IDE/Configuring Android Studio, Android Development Tools (ADT), Creating Android Virtual Devices (AVD) ● Creating first android application, Anatomy of android application ● Deploying Android app on USB connected Android device		
Method of Assessment	Internal: Laboratory observation/Assignment, Internal viva		

Learning Outcome 9	Recall Java programming and OOPS concepts	8	10
Contents	● Classes and Objects ● Constructors ● Methods and Interfaces ● Inheritance		
Method of Assessment	Mid Term Examination - 2		
Course Outcome 4	**Describe the life cycle of Activities, Intent and Fragments and Create a simple android application using Design layouts and various User Interface Widgets.**	25	30
Learning Outcome 10	**Discuss User Interface (UI) Layouts, UI Controls, UI Widgets and their Attributes**	7	10
Contents	● Android - UI Layouts: Android Layout Types such as Linear Layout, Table Layout, List View, Grid View ● Layout Attributes: id, width, hight, margin, gravity, padding ● Action Bar, Views(UI Widgets)- Button, Toast, ToggleButton, CheckBox, RadioButton, Spinner, WebView, EditText, DatePicker, TimePicker, ListView, ProgressBar, Analog and Digital clock, List fragment, Dialog fragment		
Method of Assessment	End Term Theory Examination		
Learning Outcome 11	**Create a simple android application using UI Widgets and Manipulate the contents using Event Handling**	10	10
Contents	● Adapting to display orientation, Action Bar, Views(UI Widgets)-Button, Toast, ToggleButton, CheckBox, RadioButton, Spinner, WebView, EditText, DatePicker, TimePicker, ListView, ProgressBar, Analog and Digital clock, List fragment, Dialog fragment ● Android - Event Handling, Handling UI events, Experiment with various event handlers such as onClick(), onLongClick(), onFocusChange()		

	• Apply themes and styles programmatically using styles.xml, color.xml, strings.xml		
Method of Assessment	External: Practical Exam, External viva		
Learning Outcome 12	**Describe Activity life cycle, Fragments and Intent Objects**	8	10
Contents	• Android application components, Manifest file, Activity life cycle, Understanding activities, Switching between activities • Intent objects, Intent Types, Linking activities using intents • Fragments life cycle, Interaction between fragments		
Method of Assessment	End Term Theory Examination		
Course Outcome 5	**Build an android application with connectivity to the database and Publish the app on Google play store.**	21	30
Learning Outcome 13	**Create an android application using Menus-Option, Popup, ImageView, AlertDialog**	5	10
Contents	• Menus-Option, Context, Popup, Images-ImageView, ImageSwitcher, AlertDialog, Alarm manager		
Method of Assessment	External: Practical Exam, External viva		
Learning Outcome 14	**Build an application which can store/ fetch the data to/from the server using network api calls and AsyncTask.**	8	10
Contents	• Storing the data persistently-Data Storage Options: preferences, Internal Storage, External Storage, Content Provider, Shared Preferences, Session Management • Web APIs to store/fetch data to/from the server.		

	● Network API calls and AsyncTask.		
Method of Assessment	External: Practical Exam, External viva		
Learning Outcome 15	**Build an application which can connect with SQLite database and perform Insert, Delete, Update, Fetch operation on SQLite database.**	8	10
Contents	● The SQLite database, Connecting with SQLite database and operations-Insert, Delete, Update, Fetch ● Deploying APK files, Publishing android applications to Google play store.		
Method of Assessment	Internal: Laboratory observation/Assignment, Internal viva		