

Branch Name:	(BCA) Bachelor of Computer Application
Program Code:	CS101
Course Title:	Basics of Android Framework
Course Code:	2CS1010602
Pre-requisite:	Understanding the most useful concept of network, system, techniques and Applications in Mobile Application Development.

Course Objective:

- This course introduces students to new programming technologies, design and development related to mobile applications.
- Topics include accessing device capabilities, industry standards, operating systems, Banking, Education.
- To understand various types of protocol for network communication.
- To learn about detailed knowledge of OSI reference model's protocol.
- To make the students aware of IP based diagnostic commands.
- To support troubleshooting in IP networks.

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)								
Lecture	Tutorial	Practical	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
4	0	-	4	28	70	12	30	--	--	--	--	100

Subject Contents			
Sr. No.	Topics	Total Hours	Weight (%)
1	Mobile Computing & Development Framework and Wireless Transmission Mobile Computing: Introduction to Mobile Communications and Computing, Characteristics, Mobile Communication Generations, Applications. Mobile Development Frameworks: C/S Architecture, N-Tier Architecture, N-Tier Architecture and WWW, Peer-To-Peer Architecture, Mobile Agent Architecture.	9	20
2	Wireless Transmission Terminologies: Signals, Frequency and Bandwidth, Antennas, Signal Propagation, Multiplexing, Modulation, Spread Spectrum, Cellular System. Wireless LANS , Mobile IP WAP and WEB Services Wireless LANS: Wireless LAN and Communication using Infrared, Radio Frequency. Mobile IP: Introduction, Entities, Agents, Address Types.	9	20
3	WAP: Introduction, Need of WAP, WAP Architecture, Benefits of WAP, Examples of WAP. Web Services: Introduction, SOAP, UDDI, WSDL, EDGE, Wi-Fi, WiMax. Wireless Telecom Networks, Messaging Services & Smart Phone Wireless Telecom Networks Terminologies: GSM, GPRS, CDMA, Wireless Sensor Network.	10	20

4	Messaging Services: SMS: Architecture and Applications. MMS: Architecture Applications. Smart Phone: Introduction, History, Hardware, Operating System, Applications.	10	20
5	Mobile Application Development Case Studies Case Study based discussion on Requirement gathering and analysis; Designing; Implementation or coding; Testing; Deployment and Maintenance of various types of Mobile Apps: Educational Apps E-Commerce Apps Healthcare Apps Entertainment Apps Banking Apps	10	20

Course Learning Outcomes:

At the end of this course, the student would be able

CLO.1 Students will be able to understand all features of Mobile as well as wireless transmission.

CLO.2 Students will be able to handle Mobile framework as well as WAP and Web Services.

CLO.3 Students will be able to solve problems related to Mobile IP address and its process.

CLO.4 Students will be able to perform analysis of various Mobile Apps for Mobile Application Development.

Mapping of CLO , PO And PSO

	PO. 1	PO. 2	PO. 3	PO. 4	PO. 5	PO. 6	PO. 7	PO. 8	PO. 9	PO. 10	PO. 11	PO. 12	PSO. 1	PSO. 2	PSO. 3
CLO.1	M	L	L	M		M	L		M	H		M		M	L
CLO.2		L			M			H			L			L	
CLO.3	M		H			L	M			L		L			L
CLO.4			M	L				L	L		M		M		

List of References:

1. Mobile Computing (Technologies and Applications) by Dr. N. N. Jani.
2. Wireless Communication and Networking by William Stallings.
3. Lauren Darcey and Shane Conder, "Android Wireless Application Development ", Pearson Edition, 2nd edition (2011)

E-Resources / Web Links:

1. Principles of Mobile Computing by Uwe Hansmann, Lothar Merk, Martin S. Nicklons and Thomas Stober.
2. Principles of Wireless Networks by Kaveh Pahlavan, Prasanth Krishnamoorthy.
3. <https://www.dmoz.org/Computers/Internet/Protocols/SNMP>
4. https://www.tutorialspoint.com/data_communication_computer_network/index.htm
5. https://www.w3schools.sinsixx.com/tcpip/tcpip_intro.asp.htm
6. https://www.tutorialspoint.com/data_communication.../data_communication_compute...