

**M. TECH IT (COURSEWARE ENGG) EXAMINATION-2018**  
**(Second Semester)**

**MULTIMEDIA COMMUNICATION IN MOBILE ENVIRONMENT**

TIME: 3 Hours

Full Marks: 100

Answer any *five* questions  
 [All question part must be answered together]

1.    a) What's the difference between onCreate() and onStart() in Android? 5+5+10  
       b) Explain briefly why Java byte code cannot be executed on Android.  
       c) Write a code snippet to display a Toast message "Simple Toast Message" on the screen when the user clicks on a button in Android.  
           *(Hints: State clearly all the object variables and ids used in the code)*
  
2.    Write an Android application to switch between two Activities 20  
       **'MainActivity'** and **'SecondActivity'**.  
       a) Add a Button on the screen of the first Activity **'MainActivity'** and provide the button id as **'button'** and label the button as **'Goto Second Activity'**.  
       b) Create the second Activity **'SecondActivity'** and add some text to the screen of the second Activity. Add a **TextView** on the screen of the second Activity which displays the text **"Hello User"**. Add a Button on the screen of the second Activity **'SecondActivity'** and provide the button id as **'button2'** and label the button as **'Goto Main Activity'**.  
       c) When the user clicks on the button **'Goto Second Activity'**, the application will launch the second Activity **'SecondActivity'**.  
       d) When the user clicks on the button **'Goto Main Activity'**, the application will launch the first Activity **'MainActivity'**
  
3.    a) What is the difference between SCCP and MTP3 in SS7 network? 5+5+5+5  
       b) Describe the functionality of SSP (Service Switching Point) in SS7.  
       c) Enumerate the functions of TCAP protocol layer in SS7 network.  
       d) Briefly explain the addressing structure of Signal Unit (SU) in MTP layer.

4.    a) Explain the structure of a Traffic Multi-frame in GSM frame organization. 5+5+5+5  
       b) Why do we need SACCH and Idle bursts in a traffic multi-frame?  
       c) How authentication is performed in GSM network?  
       d) What are bursts? Explain various types of bursts in GSM?
  
5.    a) Briefly describe the various protocols in WAP protocol suite? 10+5+5  
       b) What are the types of MIME that are used in WAP application?  
       c) Explain with an example which event does not require user explicit control to get triggered in WML.
  
6.    a) State the reasons why SIP is better than H.323 protocol. 10+5+5  
       b) How H.245 control signaling conserves resources and allows faster call setup?  
       c) Draw the sequence diagram of call set up and signaling between two H.323 Gateways.
  
7.    a) Justify the statement – ‘RTP does not ensure real-time delivery but still it is called a real-time protocol’. 5+5+10  
       b) What are the roles of RTP timestamp and sequence numbers?  
       c) Explain the DESCRIBE, SETUP and PLAY requests and their possible replies in RTSP.
  
8.    Write short notes on (**ANY FOUR**) 5x4
  - a) Frequency Allocation in GSM
  - b) Mobile Originated Call Flow
  - c) Android Manifest File
  - d) Hardware Abstraction Layer
  - e) Gatekeeper Discovery in H.323