

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY-JUNE 2012

Paper Code: BCA304

Subject: Mobile Computing

Time : 3 Hours

Maximum Marks :75

Note: Attempt any five questions including Q.no.1 which is compulsory.

- Q1 Answer the following:-
- (a) Explain the features of mobile internet. (2)
 - (b) Mention the role of datagram in WAP. (2)
 - (c) Write a WML script to illustrate anchor link. (2)
 - (d) Mention the role of timer and bookmarks in WML script. (2)
 - (e) Explain event handling in WTA environment. (2)
 - (f) Mention various types of transaction services in WAP transport layer. (2)
 - (g) Mention any three features of WML script. (3)
- Q2
- (a) Explain the features of mobile computing. (5)
 - (b) Mention any five applications of mobile computing. (5)
 - (c) Mention the architectural difference between mobile internet and internet. (5)
- Q3
- (a) Draw architecture of Wireless Application Protocol. Explain the functionality of each layer. (8)
 - (b) Explain the working of WAP Proxy and WAP gateway. Give an illustration. (7)
- Q4
- (a) Explain the following:- (9)
 - (i) WAP Device (ii) WAP Client (iii) WAP Application Server
 - (b) How does WAP support wireless network and fixed network? Mention the corresponding WAP interface components to support the above. (6)
- Q5
- (a) Explain in detail wireless session protocol. (6)
 - (b) Write a WAP script to implement the deck of cards to store the name and address ten persons. (6)
 - (c) Mention the role of bearer services in WAP Stack. (3)
- Q6
- (a) Explain the working of Wireless Telephony Applications (WTA). (4)
 - (b) Explain various Push Services in WAP environment. (6)
 - (c) Give an example to illustrate WTA using WML script. (5)
- Q7 Write short notes on **any three** of the following:- (5x3=15)
- (a) Issues and challenges in mobile internet.
 - (b) WTA Interface
 - (c) Deployment of end-to-end WAP Services
 - (d) Security in WAP
 - (e) Limitations of WAP

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY-JUNE-2013

Paper Code: BCA304

Subject: Mobile Computing

Time : 3 Hours

Maximum Marks :75

Note: Attempt any five questions including Q.no.1 which is compulsory.
Select one question from each unit.

- Q.1 (a) What is WAP proxy?
(b) Explain the attributes of <template> tag.
(c) Explain PIM application for the Mobile Internet.
(d) What are different libraries in WMLScript?
(e) How is absolute URL different from relative URL?
(f) What is the contribution of Content Aggregator in WAP value chain?
(g) What are Wireless network constraints?
(h) What is unified messaging?
(i) What are the applications of Bluetooth?
(j) Which protocols are used to tailor the content before delivering to client?

(10X 2.5 = 25)

Unit I

- Q.2 (a) What do you mean by WAP Value Chain? Explain with the help of a diagram. (6.5)
(b) Explain the entertainment applications for the Mobile Internet. (6)

Or

- Q.3 (a) What are the Information and transactional services provided by Mobile Internet? (6.5)
(b) What are the factors that enable the Convergence of Wired with Wireless media? Explain each of them. (6)

Unit II

- Q.4 (a) What are the challenges and pitfalls in making the Internet mobile? (6.5)
(b) Draw WAP architecture. Explain the WSP and WTP layers. (6)

Or

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END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY-JUNE 2014

Paper Code: BCA-304

Subject: Mobile Computing
(Batch 2011 Onward)

Time : 3 Hours

Maximum Marks: 75

Note: Attempt any five question, including Q.no.1 which is compulsory.
Select one question from each Unit.

Q1 Answer all the following questions briefly:- (2.5x10=25)

- (a) What is the difference between synchronous and statistical TDM?
- (b) Calculate the bit rate for the 2000 baud rate and FSK modulation.
- (c) Define the digital hierarchy used by telephone companies.
- (d) List three protocols used for channelization.
- (e) What is binary exponential back-off formula in pure ALOHA?
- (f) What is unified messaging?
- (g) Show the attributes of image tag.
- (h) Differentiate between access pragma and meta pragma.
- (i) What is the role of WTP?
- (j) What are the two steps in handoff?

Unit-I

- Q2 (a) What are three important radio propagation phenomena at high frequencies? Discuss various path-loss models. (6.5)
- (b) Discuss FDM and WDM. (6)

- Q3 (a) What is the coverage of a base station that transmits a signal at 2kW given that the receiver sensitivity is -100dBm, the path loss at the first meter is 32 dB, and the path loss gradient is $\alpha=4$? (4.5)
- (b) Differentiate the following:- (8)
- (i) QAM & QPSK
 - (ii) DHSS & FHSS.

Unit-II

- Q4 Discuss the following:- (12.5)
- (a) Hidden & Exposed terminal problem in WLAN.
 - (b) Pure ALOHA & slotted ALOHA
 - (c) CDMA
- Q5 (a) Discuss the importance of DECT Protocol Layers. (6.5)
- (b) What are the different types of satellite systems and their ranges? Give examples of few important names of satellites in each system. (6)

Unit-III

- Q6 (a) What is WML script? Write a suitable code how a script is invoked from a WML card. (6.5)
- (b) Discuss the component of WAP architecture and its application environment. (6)
- Q7 (a) What are the information and transactional services provided by mobile internet? (6.5)
- (b) Write a WML script that involves anchor tag, hyperlink tag, and option tag? (6)

Unit-IV

- Q8 (a) Discuss the role of WWW in mobile internet. (6.5)
- (b) What are the major difference between WAP 2.0 and WAP 1.x? What influenced the WAP 2.0 development? (6)
- Q9 (a) What are pragmas in WML script? Explain url pragma and access pragma with suitable code. (6.5)
- (b) Discuss WAP push architecture with its goals and applications. (6)

(Please write your Exam Roll No.)

Exam Roll No. 01914902012

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY- JUNE 2015

Paper Code: BCA-304

Subject: Mobile Computing
(Batch 2011 onwards)

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q.No 1 which is compulsory.
Select one question from each unit.

Q1 Answer the following questions:-

(10x2.5=25)

- (a) List four limitations of mobile computing.
- (b) Discuss how roaming is facilitated in a mobile phone.
- (c) What is Wireless Session Protocol?
- (d) What is the role of UDP in WAP?
- (e) List four features of a WML card.
- (f) What is the role of standard library functions in any programming language?
- (g) Compare html and xhtml.
- (h) What is the difference between datagram and Packet?
- (i) What is IEEE 802.15.1?
- (j) What is the function of URL & http?

UNIT I

- Q.2 (a) What is the role of DBMS & ROBMS in mobile data management? List three examples of database systems for mobile computing. (7.5)
- (b) List five functions of Middleware for mobile systems. (5)
- Q.3 (a) Describe how implicit and explicit business logic is implemented in mobile computing. (5)
- (b) Compare and contrast client server, distributed and mobile computing architecture. (7.5)

UNIT II

- Q.4 (a) Explain in detail the WAP Architecture with special emphasis on WDP & WTLS. (8)
- (b) Discuss Wireless transaction Protocol (WTP). (4.5)
- Q.5 (a) Explain the physical and networking layers of WAP. (4.5)
- (b) Define the following terms:- (4x2=8)
- (i) CGI script
 - (ii) Micro browser
 - (iii) https
 - (iv) Directory service

UNIT III

- Q6 (a) W.r.t. WML define the following:- (12.5)
- (i) WML document Prolog
 - (ii) WML document Body
 - (iii) Deck and Card Elements
 - (iv) Text Formatting Tags
 - (v) Event elements
- Q7 What is WML Script? Define the following terms & its role. (12.5)
- (i) Bytecode
 - (ii) Functions
 - (iii) Data types
 - (iv) Strings

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UNIT IV

- Q8 W.r.t. Wireless Telephony Application (WTA) explain the following:- (12.5)
(i) WTA application
(ii) WTA Logical Architecture
(iii) WTA security requirements
- Q9 Compare pull and push technology of WAP push framework with the help of real world examples. Explain PPG architecture & PAP architecture. (12.5)



END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY-JUNE 2016

Paper Code: BCA 304

Subject: Mobile Computing

Time : 3 Hours

Maximum Marks : 75

Note: Attempt any five questions including Q.No1 which is compulsory.

Q1. Answer the following:

- a) Explain any two types of antenna used in wireless transmission. (2)
- b) Explain the path loss of radio signals. (2)
- c) Explain how spread spectrum avoids narrow band interference. (2)
- d) Define the terms: hidden terminal and exposed terminal. (2)
- e) Explain the process of inter-cell handover and intra-cell handover. (2)
- f) Mention the features of mobile internet. (2)
- g) Explain the features of WML cards and WML deck. (2)
- h) Mention the role of timer and bookmarks in WML script. (1)

- Q2. a) Define the terms related to signal propagation: transmission range, detection range and interference range. (6)
- b) Explain the occurrence of long term fading and short term fading in multi-path propagation. (4)
- c) Draw the waveforms of AFSK and APSK, and explain them. (5)

- Q3. a) Compare Space Division Multiplexing, Frequency Division Multiplexing and Time Division Multiplexing. Give their respective applications. (4+2=6)
- b) Explain how MACA avoids hidden terminals and exposed terminals. Give an illustration for each. (4)
- c) Explain Reservation TDMA access scheme and Polling TDMA access scheme. Give an example for each. (5)

- Q4. a) Compare the following: (6)
- i) SDMA
 - ii) FDMA
 - iii) TDMA
- b) Draw the system architecture of GSM. Explain its working. (4)
- c) Explain the process of mobile originated call and mobile terminated call GSM. (5)

- Q5. a) Explain the following features in WML: (6)
- i) Tasks
 - ii) Events
 - iii) Bindings
- b) Mention any four types of input used in WML. (4)
- c) Give an example to illustrate table tags and image tags in WML. (5)

- Q6. a) Explain WAP architecture. (5)
- b) Using WML illustrate loop statement and conditional statement. (5)
- c) Write WML script function to check a valid 10 digit mobile number. For a valid 10 digit number, display the message "correct number", and for invalid number, display the message "wrong number". (5)

- Q7. a) Explain WML script Programs. (5)
- b) Mention any five features of WML Script standard library reference. (5)
- c) Explain the security and limitations in WAP services. (5)

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END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY 2017

Paper Code: BCA-304**Subject: Mobile Computing****Time: 3 Hours****Maximum Marks: 75**

**Note: Attempt any five questions including Q no.1 which is compulsory.
Select one question from each unit.**

Q1 Answer **any five** of the following questions briefly:- (2.5x5=12.5)

- (a) What is WAP push protocol?
- (b) What do you mean by CDMA?
- (c) Write the attributes of <template> tag in WML.
- (d) What is unified messaging?
- (e) Define the term Bluetooth.
- (f) What is rendering?
- (g) Write logical operators in WML script.

UNIT-I

- Q2 (a) Describe the multiplexing techniques with suitable diagrams. (8)
 (b) What are the factors that enable the Convergence of Wired with Wireless media? Explain each of them. (4.5)
- Q3 (a) Discuss FSK, PSK, AFSK and APSK. (8)
 (b) With an example, explain the direct sequence spread spectrum. (4.5)

UNIT-II

- Q4 (a) Explain the MAC mechanism used in WLAN. (4.5)
 (b) Explain the term and their functionalities of GSM architecture. (8)
- Q5 (a) Differentiate between FDMA, TDMA and CDMA. (6)
 (b) Discuss in detail location management in mobile networks. (6.5)

UNIT-III

- Q6 (a) What are the various types of WML tasks? Discuss their attributes and usage with the help of a program. (7.5)
 (b) What are all services available for mobile internet? (5)
- Q7 (a) Write a program to add, subtract and multiply in WML. (6)
 (b) What are WML decks? Explain. (6.5)

UNIT-IV

- Q8 (a) Create a function to check whether a number is prime or not using WML script. (5)
 (b) Explain all WML script operators with example. (7.5)
- Q9 (a) Explain the access pragma and meta pragma with the help of example. (6)
 (b) Explain the structure of Wireless Application Protocol. (6.5)

(Please write your Exam Roll No.)

Exam Roll No.

END TERM EXAMINATION

SIXTH SEMESTER [BCA] MAY 2018

Paper Code: BCA-304

Subject: Mobile Computing

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.no.1 which is compulsory.
Select one question from each unit.

- Q1 Answer the following: (2.5x10=25)
- (a) "Antenna is an isotropic radiator." Explain. Name different types of antenna.
 - (b) What is delay spread? What are its consequences?
 - (c) What is meant by MEO? What are the advantages of it?
 - (d) What is Handover? Explain in brief.
 - (e) What is WAP Gateway? Explain.
 - (f) What are the capabilities of WML Script?
 - (g) Write the attributes of "Template" Tag in WML.
 - (h) Explain in brief the key services of mobile Internet.
 - (i) Explain the concept of attenuation and shadowing of radio signals.
 - (j) Explain in brief the applications of wireless communications.

Unit-I

- Q2 What is Multiplexing? Explain various types of multiplexing in detail.(12.5)
- Q3 Explain the mechanism of spread spectrum. What is its importance? Explain its types in detail. (12.5)

Unit-II

- Q4 (a) What do you mean by authentication in GSM? (6.5)
(b) Explain how a mobile terminated call is routed in GSM with diagram.(6)
- Q5 (a) Explain hidden and exposed terminal problem in WLAN. (6.5)
(b) Explain DAMA and PRMA. (6)

Unit-III

- Q6 Explain WML events with the help of suitable examples. (12.5)
- Q7 (a) Write WML Script to check a date. (6.5)
(b) Write a WML Script function to calculate the factorial of a number and show its usage in WML Program. (6)

Unit-IV

- Q8 (a) What are the challenges and pitfalls in making the internet mobile?(6.5)
(b) Draw WAP architecture. Explain the WSP and WTP layers. (6)
- Q9 (a) What are pragmas in WMLScript? Explain meta pragma and access pragma with suitable example. (6.5)
(b) Explain WML Document Prologue and Text Formatting Tags with suitable examples. (6)

END TERM EXAMINATION

SIXTH SEMESTER [BCA] APRIL - MAY 2019

Paper Code: BCA-304

Subject: Mobile Computing

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q no. 1 which is compulsory. Select one question from each unit.

Q1 Answer the following:- (2.5x10=25)

- (a) Explain Radio Transmission.
- (b) Explain Signal and Multipath Propagation.
- (c) What is Cellular System?
- (d) What is Spread Spectrum?
- (e) Explain near and far terminals.
- (f) What is GSM & CDMA?
- (g) How is Data Routing done in GPRS? Explain.
- (h) Difference between WAP & WML.
- (i) Difference between meta pragma and access pragma.

(j) What is multi-carrier modulation explain in brief.

UNIT-I

Q2 What is Multiplexing? Explain various types of Multiplexing technique used in Mobile Computing. (12.5)

Q3 What is modulation? Explain various types of Modulation and Shifting Keying which is used in Modulation. (12.5)

UNIT-II

Q4 (a) What is Aloha? Explain various types of Aloha with suitable diagram. (6)

(b) What is GSM? Explain GSM architecture with suitable diagram. (6.5)

Q5 (a) What is Satellite Communication? Explain satellite orbits. (6)

(b) Explain ISMA, PRMA and FDMA. (6.5)

UNIT-III

Q6 (a) Explain WML task and its types with suitable example. (6)

(b) Write a program to set image and hyperlink using WML script. (6.5)

Q7 (a) What is Deck and Card? How to use card explain with suitable example? (6.5)

(b) Create a page using WML Script: (6)

Input Fields	
Enter Following Information:	
Name:	<input type="text"/>
Age:	<input type="text"/>
Sex:	<input type="text"/>

UNIT-IV

Q8 How many types of operator used in WML Script? Explain all with suitable example. (12.5)

Q9 (a) Write a program for addition of two number using function in WML Script. (6.5)

(b) What are the challenges and pitfalls in making the internet mobile? (6)
