

Hall Ticket Number :

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**R-15**

**Code: 5G482**

IV B.Tech. II Semester Regular Examinations March 2019

**Mobile Communications**

( Information Technology )

Max. Marks: 70

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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**UNIT-I**

1. a) Explain about handover techniques with suitable diagram? Also discuss various GSM services. 10M
- b) Explain Um interface of GSM 4M

**OR**

2. a) Explain in detail about GSM architecture with suitable diagram. 9M
- b) How Mobile Originated Call (MOC) work 5M

**UNIT-II**

3. a) When does the exposed terminal problem arise? Compose a role which is played by Radio/Infrared signals play in Mobile Communication? Also explain the role of RTS and CTS in implementing MAC. 7M
- b) Draw the registration of mobile node and explain briefly. 7M

**OR**

4. a) Explain mechanism for IP packet delivery using mobile IP. 7M
- b) With the diagram explain DHCP and its protocol architecture. 7M

**UNIT-III**

5. a) What happens in the case of I-TCP, if the mobile is disconnected? Discuss 7M
- b) Describe in detail about transmission/time-out freezing? 7M

**OR**

6. a) List out various routing algorithms in MANETs? Also describe any one routing algorithm in detail. 7M
- b) Describe how to maintain the security in MANETs 7M

**UNIT-IV**

7. Describe WAP model and WAP gateway in detail. 14M

**OR**

8. Describe Wireless LAN IEEE 802.11 system architecture and protocol architecture. 14M

**UNIT-V**

9. a) What are Hoarding techniques? Explain in detail. 7M
- b) Differentiate between power-aware and context-aware computing? 7M

**OR**

10. Write short note on
  - a) push-based mechanisms, 5M
  - b) pull-based mechanisms, 5M
  - c) hybrid mechanisms 4M

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<b>R-15</b>
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**Code: 5G68A**

IV B.Tech. II Semester Regular Examinations March 2019

**Disaster Management**

( Common to All Branches )

Max. Marks: 70

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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<b>UNIT-I</b>
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1. a) Discuss about the statement 'Disasters occurs when Hazard meets the Vulnerability' with the help of any flow chart. 10M  
b) Differentiate the terms 'prevention' and 'mitigation' giving suitable examples. 4M

**OR**

2. a) Define the terminology 'Disaster, Hazard and Risk', differentiate them and relate them. 10M  
b) Define Impact and give classification. 4M

<b>UNIT-II</b>
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3. a) Describe the earthquake about its characteristics and principle mechanism. 6M  
b) Write about the types of floods. 5M  
c) Differentiate manmade disasters vs natural disasters. 3M

**OR**

4. a) Discuss in detail about the vulnerable profile of India. 5M  
b) Write about the Nuclear Hazards in India. 4M  
c) Write about the ecological fragility of major rivers in India. 5M

<b>UNIT-III</b>
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5. a) Discuss the environmental, physical, social, economical impacts due to earthquake and tsunami taking suitable examples. 10M  
b) Enlist the causes of urban disasters taking an example of any city in India. 4M

**OR**

6. a) Discuss the environmental, health, psycho-social impacts due to nuclear radiation and volcanoes taking suitable examples. 10M  
b) Discuss the global disaster trends of earthquakes and tsunamis. 4M

<b>UNIT-IV</b>
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7. a) Discuss about the early warning systems available in India to avoid major loss due to tsunamis. 6M  
b) Explain the importance of Community Based Participation towards achieving DRR. 5M  
c) Write the policies available in India for DRR. 3M

**OR**

8. a) Draw the 'Disaster management' cycle and explain any two phases in detail. 6M  
b) Differentiate structural and non-structural measures in DRR. 4M  
c) Discuss the roles of NDMA. 4M

<b>UNIT-V</b>
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9. a) Enlist the positive impacts on upstream side and downstream side of a dam. 5M  
b) Discuss some of the impacts on surrounding areas due to mining. 5M  
c) Enlist the recovery and reconstruction activities required after earthquake. 4M

**OR**

10. a) Discuss the causes of urbanization and impacts on the existing urban area. 8M  
b) Discuss any one developmental project that you like mentioning the causes of it and its immediate and long term impacts. 6M

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**R-15**

**Code: 5G481**

IV B.Tech. II Semester Regular Examinations March 2019

**Design Patterns**

( Information Technology )

Max. Marks: 70

Time: 3 Hours

Answer all five units by choosing one question from each unit ( 5 x 14 = 70 Marks )

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**UNIT-I**

- 1. a) Write the general template used for describing the design patterns 7M
- b) What are some common causes of redesign? Explain. 7M

**OR**

- 2. a) Draw a diagram to describe design pattern relationships. 7M
- b) Explain about selection of a design pattern. 7M

**UNIT-II**

- 3. a) Explain the Spelling Checking and Hyphenation design problem in detail. 7M
- b) Why the Singleton uses a special method to instantiate objects? Discuss. 7M

**OR**

- 4. a) Discuss about the supporting multiple window systems design problem. 7M
- b) Can we use an abstract factory for supporting multiple window system in Lexi's design? Explain. 7M

**UNIT-III**

- 5. Discuss the Motivation, Structure, Collaborations and Implementation of the following Patterns:  
a) Abstract Factory                      b) Prototype. 14M

**OR**

- 6. a) What are consequences of Builder pattern? Explain Builder pattern implementation. 8M
- b) Write sample code of Prototype pattern. 6M

**UNIT-IV**

- 7. a) Discuss about the participants of Adapter pattern and explain the functions of each. 7M
- b) Explain about the intent, uses and related patterns of Decorator and Proxy patterns. 7M

**OR**

- 8. a) Write about motivation and consequences of Façade pattern. 9M
- b) Write sample code of Composite pattern. 5M

**UNIT-V**

- 9. Explain the following:  
a) Discussion of behavioral patterns                      b) Template method pattern. 14M

**OR**

- 10. a) Discuss about consequences and implementation issues of State design pattern. 7M
- b) Explain the participants, collaborations and sample code of Template method. 7M

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