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## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B. Tech CSE-TI

Subject (Course): Mobile Communication Standards

Course Code : CSIB 344

No. of page/s: 2

Semester – V

Max. Marks : 100

Duration : 3 Hrs

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Attempt all the questions.

### Section-A

[4\*5]

Q 01:- What are the main reasons for using cellular systems? Compare it with traditional wired communication system.

Q 02:- Discuss IEEE 802.3 frame structure in detail.

Q 03:- Looking at the HLR/VLR database approach used in GSM—how does this architecture limit the scalability in terms of users, especially moving users?

Q 04:- Discuss the different types of signaling with the help of an example.

### Section-B

[4\*10]

Q 05:- Name the main elements of the GSM system architecture and describe their functions. What are the advantages of specifying not only the radio interface but also all internal interfaces of the GSM system?

Q 06:- Using a Timing diagram, illustrate how a call to a PSTN initiated by another mobile subscriber is established.

Q 07:- Explain the term interference in the space, time, frequency, and code domain. What are countermeasures in TDM, WDM and CDMA systems?

Q 08:- The TM forum is focused on creating standards for business processes used by telecom service providers to enable them to simplify their IT infrastructure and processes, provide better quality of service to their subscribers, and reduce costs of operations. Justify the statement with suitable example.

### Section-C

[2\*20]

Q 09:- ITIL addresses a number of specific processes associated with each lifecycle phase. Discuss this with a case study and discuss them in terms of their generic three layered structure.

Q 10:- Explain the following in detail:

1. SID
2. Radio Waves
3. GPRS
4. ITU

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### Section-A

[4\*5]

Q 01:- Discuss the need and benefits of standardization in mobile communication.

Q 02:- Compare DWDM and CDMA.

Q 03:- Describe the functions of the MS and SIM. Why does GSM separate the MS and SIM?

Q 04:- Discuss the different types of signaling with the help of an example.

### Section-B

[4\*10]

Q 05:- The TM forum is focused on creating standards for business processes used by telecom service providers to enable them to simplify their IT infrastructure and processes, provide better quality of service to their subscribers, and reduce costs of operations. Justify the statement with suitable example.

Q 06:- Using a Timing diagram, illustrate how a call to a mobile user initiated by PSTN subscriber is established.

Q 07:- Explain the major image and video standards with complete detail.

Q 08:- Explain the major components of the GSM system architecture and describe their functions. What are the advantages of specifying not only the radio interface but also all internal interfaces of the GSM system?

### Section-C

[2\*20]

Q 09:- ITIL addresses a number of specific processes associated with each lifecycle phase. Discuss this with a case study and discuss them in terms of their generic three layered structure.

Q 10:- Explain the following:

1. SID
2. Wi-Max
3. EDGE
4. ITU-T