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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.



Question Paper Code: 6019

M.E. / M.Tech.DEGREE END-SEMESTER EXAMINATIONS –DECEMBER 2019

First Semester

Information Technology

P19ITE04 - 3G AND 4G WIRELESS NETWORKS

(Regulation 2019)

Time : Three Hours

Maximum : 100 Marks

Answer ALL the questions

PART – A

(10 x 2 = 20 Marks)

1. What are the main standards of 2G systems?
2. Bandwidth of a WCDMA system is 5 MHz or more. Justify.
3. What is the use of mobile station roaming number?
4. List out the differences between HSUPA and HSDPA
5. What are the features of LTE?
6. What are communication protocols of LTE?
7. List the applications of WiMax.
8. What are the characteristics of MBWA?
9. A company advertisement video having 800x600 resolution with 24-bits per pixel need to be transmitted over a mobile network. Find data rate for the transmission if the refresh rate of video is 30 fps?
10. Write short note on I-mode?

PART – B

(5 x 13 = 65 Marks)

11. a) What are the modes of UTRA according to 3GPP? Explain in detail.

(OR)

- b) Write in detail about 3GPP2 and its salient features.

12. a) Explain the functional architecture of a GSM system with proper diagram.
(OR)
b) Elaborate on the architecture of Rev-C in detail.
13. a) Illustrate in detail about LTE architecture.
(OR)
b) List and explain LTE interfaces and their protocol stacks.
14. a) With a neat diagram, explain in detail about OFDM.
(OR)
b) Discuss on IEEE 802.16 protocol structure.
15. a) Demonstrate the evolution of all-IP network in mobile networks with neat diagrams.
(OR)
b) List and explain with examples the applications of 3G.

PART – C

(1 x 15 = 15 Marks)

16. a) Discuss any four application technologies promoted by telecommunication industry.
(OR)
b) Explain about Frequency hopping spread spectrum.
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