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Question Paper Code: 52221

M.E. DEGREE EXAMINATION, MAY 2017

Second Semester

Communication Systems

15PCM201 - SATELLITE COMMUNICATION

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 20 = 100 Marks)

1. (a) (i) Discuss in detail about orbital mechanism of LEO, MEO and GSO. (10)
(ii) Give the spectrum allocation for satellite services. (10)

Or

- (b) (i) List out the six orbital elements and explain them. (10)
(ii) Explain orbital effects in satellite performance. (10)

2. (a) Describe the following:

- (i) Phased arrays for satellite communications. (10)
(ii) Satellite laser communication and features of RF and optical space communication systems. (10)

Or

- (b) (i) Explain the principle of FDMA discuss the interference and distortion caused by FDMA. (10)
(ii) Discuss the calculation of frame efficiency and capacity of TDMA systems. (10)

3. (a) Describe about system noise in a satellite link. (20)

Or

(b) Explain how a down link is designed. (20)

4. (a) Give a brief note on differential GPS in detail. (20)

Or

(b) Explain the receivers and codes with respect to global positioning systems. (20)

5. (a) What are INTELSAT and INSAT series? Mention their special features. How the frequency allotment and regulations are carried out. (20)

Or

(b) Explain with neat diagrams the indoor and outdoor units of DBS home receiver in detail. (20)
