Indian Maritime University

(A Central University, Govt of India)

May-June 2018 End Semester Examinations

B Sc (Nautical Science)

Semester-IV

Nautical Electronics-III (UG21T2404)

Duration:3 Hrs | Max Marks:70 Marks

Date: 11.06.2018 | Pass Marks:35 Marks

Note:[i]Answer any SEVEN from the following 9 Questions.

[ii]All questions carry equal marks.

[iii]Use of Non Programmable Scientific Calculator is permitted

(7 ×10 =70)

1.a)Define PCM.Describe generation and demodulation of PCM. (5)

b) What are the advantages of digital communication over analog communication. (5)

2. a)Explain with block diagram, the working of FM receiver. (5)

b)For a minimum line speed with 8 bit PCM for speech signal of 1V,calculate resolution and quantisation error. (5)

3. a)Explain the terms antenna gain and radiation resistance. (5)

b)Define signal to noise ratio. (5)

4. a)Explain pulse amplitude modulation in detail. (5)

b) Explain with block diagram, the working of tuned radio frequency receiver. (5)

5.a)With the aid of appropriate diagram, explain the operation of Yagi uda antenna. (5)

b)Explain instrument landing system of RADAR. (5)

6.a)Explain the terms sampling and quantisation. (5)

b)Define standing wave ratio(SWR). (5)

7.a)With the help of block diagram, explain the working of a super heterodyne receiver. (5)

b)A message signal made of multiple frequency components has a maximum frequency value of 4 kHz.find out the minimum sampling frequency. (5)

8. a)Explain the use of Radar altimeters. (5)

b)if an antenna with a total loss of 25% is fed with a signal of 800 watts.how much of it is actually radiated. (5)

9. a)Draw the block diagram of Radar and explain the function of each component. (5)

b) Compare resonant and non-resonant line. (5)

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