

B.Sc. 6th Semester (Honours) Examination, 2020-21

PHYSICS

Course ID: 62417

Course Code: SH/PHS/604/DSE-4/T-8

Course Title: Communication Electronics

Time: 1 Hour 15 Minutes

Full Marks: 25

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Section-I

1. Answer any *five* of the followings: 1×5=5
- (a) What is C-band?
 - (b) What is multiplexing in communication?
 - (c) Define the term signal to noise ratio.
 - (d) Define modulation index of FM
 - (e) What will be the approximate length of an antenna for transmitting an e-m signal of frequency 1 kHz?
 - (f) Write down the basic difference between AM and ASK?
 - (g) What is TDMA?
 - (h) What is the advantage of SSB modulation over DSB modulation?

Section-II

2. Answer any *two* of the followings: 5×2=10
- (a) What is pulse code modulation? Explain with circuit diagram the generation of FSK signal. [2+3]
 - (b) Explain the function of the pre-emphasis circuit with justification.
 - (c) Draw a simplified block diagram of Earth station for satellite communication. Explain the role of transponder in satellite communication. [2+3]
 - (d) How can we generate a frequency modulated signal using LC circuit? Explain one method of demodulation of FM signal? [2+3]

P.T.O

Section-III

3. Answer any *one* of the followings: 10×1=10

(a) Describe the process of OOK. Briefly explain the principle of modulation and de-modulation of BASK signal. [2+3+5]

(b) What is uplink and downlink frequency? Briefly discuss the GPS navigation system. Explain why reception for High frequency band is better during night time. [2+3+5]
