SHRI RAMSWAROOP MEMORIAL UNIVERSITY
End Semester Examination (2021-22)-Odd Semester

M.Sc (Physics) – II Year (III Sem)

Course Name: Analog Communication	Code: MPH3201
Time: 02 Hours	Max Marks: 60

University Roll No.															

(To be filled by the Student)

Note: Please read instructions carefully:

a) *The question paper has 03 sections and it is compulsory to attempt all sections.*

b) *All questions of Section A are compulsory; questions in Section B and C contain choice.*

Section A: Very Short Answer type Questions Attempt all the questions.	BL	CLO	Marks (10)
1. Define Double Side-band Amplitude Modulation.	BL1	CLO1	02
2. Define Frequency Modulation.	BL1	CLO2	02
3. How Analog signal can be digitized?	BL1	CLO3	02
4. What is ISI?	BL1	CLO4	02
5. What are basic components of PLL?	BL1	CLO2	02
Section B: Short Answer Type Questions **Attempt any 03 out of 06 questions.**	BL	CLO	Marks (30)
1. Explain the generation of Double Side-band suppressed carrier signal.	BL2	CLO1	10
2. Derive and explain the expression of FM signal.	BL3	CLO2	10
3. Explain how PPM signal is generated through PAM signal.	BL2	CLO3	10
4. What is Matched Filter? Why it is named so?	BL1	CLO4	10
5. Explain Pre-emphasis and De-emphasis.	BL2	CLO4	10
6. Explain QAM with block schematic?	BL2	CLO1	10
Section C: Long Answer Type Questions. **Attempt any 01 out of 04 questions.**	BL	CLO	Marks (20)
1. A 400 Watt carrier is modulated to a depth of 75%. Calculate the total power in the modulated wave. A broadcast radio transmitter radiates 10 kW modulated signal with modulation percentage 60%. Calculate the carrier power.	BL3	CLO1	20
2. For an FM wave given by equation: Vfm(t)= 12 Sin (6x108 t + 5 Sin 1250t). Calculate modulation index, maximum deviation.	BL3	CLO2	20
3. For the data 10110101 construct Unipolar, Polar, Bipolar, Manchester line codes.	BL3	CLO3	20
4. Calculate the SNR value for DSB-SC AM signal.	BL3	CLO4	20