

Reg. No. :

Name :

**VI Semester B.Tech. Degree (Reg./Sup./Imp. – Including Part Time)
Examination, May 2013
(2007 Admn. Onwards)
PT 2K6/2K6 EC 605 : DIGITAL COMMUNICATIONS**

Time: 3 Hours

Max. Marks : 100

Instruction : All questions are compulsory.

PART – A

(5×8)

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| 1. 1) State and explain sampling theorem. | 5 |
| 2) What is quantization ? | 5 |
| 3) State Nyquist criterion for zero ISI. | 5 |
| 4) Explain eye diagram. | 5 |
| 5) Explain MAP detector. | 5 |
| 6) Explain bit error rate. | 5 |
| 7) Explain the generation of FSK. | 5 |
| 8) Compare M-ary digital modulation schemes. | 5 |

PART – B

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|--|----|
| 2. a) With block diagram explain PCM. | 15 |
| OR | |
| b) i) Explain delta modulation with an example. | 8 |
| ii) Explain the two types of quantization noise in Delta modulation. | 7 |

P.T.O.



3. a) i) Discuss the merits and demerits of duobinary signalling scheme. **6**
- ii) For the data sequence 0010110, construct the duobinary code output and also the receiver output with a precoder. **9**
- OR
- b) Explain Nyquist criteria for distortionless base band transmission. **15**
4. a) Explain threshold detection with an example. **15**
- OR
- b) Derive the transfer function of matched filter for coloured noise. **15**
5. a) Derive the expression for the bit error rate of BPSK detector. **15**
- OR
- b) Obtain the expression for probability of error of MSK detector. Also explain the type and working of the detector used. **15**
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