

International Islamic University Chittagong (IIUC)

Department of Electronic and Telecommunication Engineering

Final Examination

Program: B.Sc (Engg.)
 Course Code: ETE-2421
 Total Marks: 50

Semester: Spring 2018
 Course Title: Analog Communication
 Time: 2.5Hours

Group A

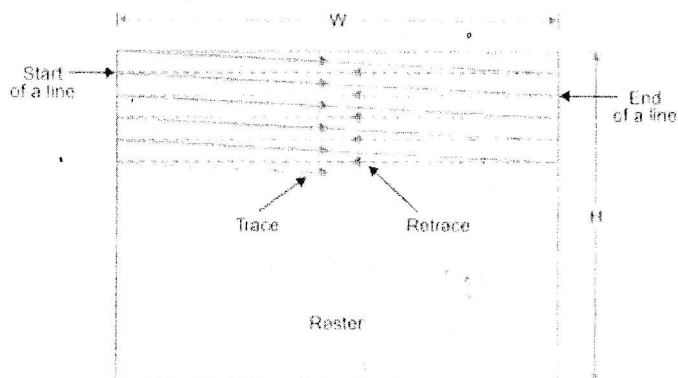
[Answer any two sets from the following questions]

- | | | |
|----|--|----|
| 1. | (a) Can you make the distinction between radio signal and television signal? | 03 |
| | (b) Show that for the fourth order harmonic the impedance of the tuned circuit is | 05 |
| | $Z_t = \frac{2}{75} R_t.$ | |
| | (c) Describe the causes of frequency drift in FM transmitter. | 02 |
| 2. | (a) Sketch the circuit diagram of RF amplifier stage and describe how its work? | 05 |
| | (b) Describe the operation of basic two stage IF amplifier circuit using PNP transistor. | 05 |
| 3. | (a) Justify the roles of mixer in receiver circuit. | 03 |
| | (b) Explain the operation of Foster-seeley discrimination with proper diagram. | 05 |
| | (c) Distinguish between Foster-seeley and ratio detector. | 02 |

Group B

[Answer any three sets from the following questions]

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|----|--|----|
| 4. | (a) Distinguish between internal and external noise. | 02 |
| | (b) If two noisy resistances are connected with parallel resistance, then deduce the equivalent noise voltage for that parallel combination. | 03 |
| | (c) Show that for DSB-SC, AM $\left(\frac{S}{N}\right)_{0,DSB} = \left(\frac{S}{N}\right)_b.$ | 05 |
| 5. | (a) Design a picture tube circuit with associated controls. | 03 |
| | (b) Criticize on vestigial side band transmission. | 03 |
| | (c) Comment on the horizontal scanning according to following figure in your own words. | 04 |



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|----|-----|---|----|
| 6. | (a) | Construct the electron gun and identify the various elements of this gun. | 04 |
| | (b) | Describe the composite video signal. | 03 |
| | (c) | Explain the transfer characteristic curve of a picture tube. | 03 |
| 7. | (a) | Describe the vidicon camera tube with proper diagram. | 05 |
| | (b) | Describe the plumbicon camera tube with proper diagram. | 05 |