



Set-01

ANJUMAN-I-ISLAM'S  
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL  
School of Engineering & Technology

Subject: Television & Video Engineering

Date: 22-02-2014

Marks: 30

Duration: 01 Hr

Class: T.E Sem VI (UT-I)

Branch: EXTC

N.B.:(1) Question No.1 is compulsory.

(2) Answer any two out of remaining four questions.

Q.1.

(a) Why is vestigial sideband transmission used for transmission of TV picture signals? (5)  
What is the need for vestigial sideband correction?

(b) What are the advantages of interlaced scanning? (5)

Q.2

Draw the block diagram of monochrome TV transmitter , receiver & explain the functioning of it. (10)

Q.3

Draw the composite video signal for three horizontal lines & explain the various component in detail. (10)

Q.4

Show that a total channel bandwidth of 7 MHz is necessary for successful transmission of both picture & sound signals in the 625 line TV system. Sketch frequency distribution of the channel and mark the location of picture and sound signal carrier frequencies. why is the sound carrier located 5.5MHz away from the picture carrier? (10)

Q.5

Compare image orthicon, vidico & plumbicon camera tubes .which type of camera tube is best & why? (10)



**ANJUMAN-I-ISLAM'S  
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL  
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Subject: RADAR ENGG.

**TEST-01**

Date: 22/02/14

Marks: 30

Duration: 01 Hrs

Class: T.E (SEM-VI)

UT-I

Branch: EXTC

**Instructions:** Q.1 is compulsory

**Q.1 Solve the following-----2x5 = 10**

- a. A radar transmits the pulse and it returns from target after 10 micro-sec. at what distance target present?
- b. Explain effect of noise in Radar receiver's performance?

**Q.2 Attempt any two out of three-----2x5 = 10**

- a. Derive radar range equation in terms of signal to noise ratio..
- b. Explain different swerling models for RCS fluctuations.
- c. A Radar transmit pulses with a pulse width of 1 microsecond with PRF of 1000HZ. determine maximum and minimum range of radar.

**Q.3 Attempt any two out of three -----2x5=10**

- a. Write short note on Maximum unambiguous range of radar.
- b. What are the different system losses in radar. Explain in brief.
- c. Explain radar frequency and applications



**ANJUMAN-I-ISLAM'S**  
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**School of Engineering & Technology**

Subject: Digital Communication

Duration: 1 Hr

Class: T.E

Branch: Electronics & Telecommunication

*Sem VI (UT-I)*

*Feb. 14*

Instructions: Q1 is compulsory, Attempt any 2 out of 3

1) Consider five messages with probabilities 0.5, 0.25, 0.125, 0.0625, 0.0625, Calculate H, Use **Huffman and Shannon Fano coding** to develop efficient code, for that code calculate efficiency and redundancy 10

2) a) Can there be tradeoff between signal to noise ratio and bandwidth in calculation channel capacity? Prove the upper limit of C is  $C_{\infty} = 1.44 S/\eta$  5

b) Explain Block Diagram of Communication Systems 5

3) a) Explain Shannon-Hartley Theorem 5

b) Discuss the Significance of Eye Pattern 5

4) a) Derive Expression for Entropy and define Information Rate 5

b) Draw the data pattern of 01101001 5

i) Polar RZ

ii) RZ-AMI

iii) UniPolar NRZ

iv) Manchester Coding



**ANJUMAN-I-ISLAM'S**  
**KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**  
**School of Engineering & Technology**

Subject: AWP

Marks: 30

Class: TE

Sem VI

UT-I

Date: 20 - 02 - 2014

Duration: 1 Hr/s

Branch: EXTC

**Q 1) COMPULSARY ..... 10 marks**

**A.** Derive Friis Transmission Formula .

A Radio Link Has A 15 W Transmitter Connected To An Antenna Of  $0.2\text{m}^2$  Effective Aperture Of 5 Ghz . The Receiving Antenna Has An Effective Aperture Of  $0.5\text{M}^2$  And Is Located At An 15km Line Of Sight Distance The Transmitting . Assuming Lossless Matched Antennas . Find The Power Delivered To The Receiver .

**ATTEMPT ANY TWO FROM Q2 , Q3 & Q4**

**Q2) ATTEMPT ANY ONE ..... 10 marks**

**A.** Define

1. Radiation resistance
2. Directivity
3. Antenna resolution
4. Polarization and polarization loss factor

**B.** State and give the reciprocity theorem . Show that the transmitting and receiving radiation patterns of antenna are equal.

**Q3) ATTEMPT ANY ONE. .... 10 marks**

**A.** Short note on The equivalent noise temperature of an antenna .

**B.** Explain the significance of the term " effective area of an antenna " . Derive the relation between effective area and directivity of any antenna.

**Q4) ATTEMPT ANY ONE ..... 10 marks**

**A.** Derive the infinitesimal dipole ( short dipole ) for near field and far field .

**B.** Explain ground interference effect & folded dipole antenna .



**ANJUMAN-I-ISLAM'S**  
**KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**  
**School of Engineering & Technology**

Subject: MPMC-II

Date: Feb-14

Marks: 30

Duration: 1 Hr/s

Class: T.E

Sem VI (UT-I)

Branch: EXTC

Instructions:

Attempt any THREE out of the following question.

Q.1 Design Microprocessor based system with following specifications:- 10 M

- i) 8086 working at 6 MHz.
- ii) 16 KB EPROM using 8 KB chip
- iii) 16 KB RAM using 8 KB chip

Q.2 Draw PSW (Flag Register Format) of 8086 microprocessor and explain setting of different bits with example. 10 M

Q.3 Draw timing diagram for write operation in minimum mode configuration of 8086 and explain. 10 M

Q. 4 Explain Maximum mode of 8086 microprocessor. 10 M

Q.5 a) Explain pipeline concept used in 8086 microprocessor. 5 M

b) Data related Addressing modes of 8086 5 M



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School of Engineering & Technology

Subject: IETR

Marks: 20

Class: T.E.

Sem VI

UT-I

Date: Feb. 14

Duration: 01 Hour

Branch: EXTC

Q. 1. (a) Discuss major functions of management. (05)

(b) Explain the meaning of 4 P's in marketing. (05)

Q.2. (a) Explain Maslow's Theory of Motivation. (05)

(b) Write a note on 'Leadership'. (05)