Scheme - G

Sample Question Paper

Course Name : Electronics Engineering group

Course Code : EJ/ET/EX/EN/ED/EI/DE

Semester : Fifth **17537**

Subject Title : Audio Video Engineering

Marks : 100 **Time: 3 Hours**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Preferably, write the answers in sequential order.

Q1. (A) Attempt any Three **12 Marks**

a) Differentiate Woofer ,Tweeter and squawker depending on
   i) Frequency range
   ii) size and physical structure
   iii) Weight
   iv) attenuation
b) State working principle of multiplexer. Give its types.
c) List TV channel allocation for band I &band III.
d) State the advantages and disadvantages of fluorescent display system.

Q1. (B) Attempt any one. **06 Marks**

a) Distinguish between positive and negative modulation.
b) Draw the block diagram of PAL-D decoder and writefunction of each block.

Q.2 Attempt any four. **16 Marks**

a) State working principle of LCD TV with appropriate diagram.
b) Describe the interlace scanning in T.V systems. Mention its advantages.
c) Describe the operation of Yagi Vda Antenna and state its applications.
d) Illustrate the working of CD player with neat block diagram.
e) Describe NHK MUSE system for HDTV.
f) Draw the three way crossover network and Illustrate distribution of frequencies at respective speakers.

Q3. Attempt any four. **16 Marks**

a) Draw block diagram of dB meter and describe its operation.
b) With suitable diagram describe how separation of U and V signals is achieved in colour TV.
c) What is graphic equalizer? Write its necessity.
d) Write functions of following components used for CD mechanism
   i).CD Lens and ii) Drive motors-

e) Define the following terms related to T.V systems.
   i. Aspect ratio
   ii. hue
   iii. brightness
   iv. saturation

Q4. (A)Attempt any three. 12 Marks

a) Illustrate operation of horizontal resolution with relevant diagram.
b) Draw constructional details of vidicon camera tube and describe its working
c) Draw block diagram of transmitter and receiver section of remote control for CD Player and write function of each block.
d) Distinguish between CATV and CCTV.(any four)

Q4. (B) Attempt any one. 06 Marks

a) Identify the component giving colour killer effect in colour killer circuit and describe operation of the circuit
b) Why VSB is used in TV transmission? Draw its frequency response.

Q5. Attempt any TWO. 16 Marks

a) Draw the block diagram of PAL-D receiver. How signal is processed in each block?
b) Draw neat block schematic of MATV system. Give function of each block.
c) Draw the block diagram of colour T.V transmitter. Write function of each block. Write values of picture carrier and sound carrier IF frequency.

Q6. Attempt any four. 16 Marks

a) Define compatibility and reverse compatibility of colour TV signal.
b) Why AM is preferred for picture signal transmission and FM for sound signal transmission in T.V system?
c) Illustrate DTH system with block diagram.
d) List characteristics of HI-FI amplifier.(any four)
e) Describe composite video signal with its waveform. Give its salient features. (any two)

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Sample Test Paper-I

Course Name : Electronics Engineering group

Course Code : EJ/ET/EX/EN/ED/EI/DE

Semester : Fifth **17537**

Subject Title : Audio Video Engineering

Marks : 25 **Time: 1 Hour**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Preferably, write the answers in sequential order.
5. Preferably, write the answers in sequential order

Q1. Attempt any three **12 Marks**

a) State the advantages and disadvantages of fluorescent display system.
b) Define the following terms related to T.V systems
   i. Aspect ratio
   ii. Hue
   iii. Saturation
c) Differentiate between stereo amplifier and mono amplifier.(Any three)
d) List CCIR-B standards for colour signal transmission in PAL system.(Any six)

Q2. Attempt any two **08 Marks**

a) Describe the working of Dolby NR recording system.
b) Draw & explain VSB transmission in TV system. State its merits.(Any four)
c) What is interlace scanning? State its merits.(Any two)

Q3. Attempt any two **08 Marks**

a) Write the function of following in Hi-fi amplifier.
   i. Balance control
   ii. Loudness control
   iii. Bass control
   iv. Treble control
b) Describe the block diagram of CD player and state the function of each block
c) 'Serrated V-sync pulses are used in T.V transmission system.' Justify.

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Sample Test Paper-II

Course Name : Electronics Engineering group

Course Code : EJ/ET/EX/EN/ED/EI/DE

Semester : Fifth **17537**

Subject Title : Audio Video Engineering

Marks : 25 **Time: 1 Hour**

Instructions:

1. All questions are compulsory.
2. Illustrate your answers with neat sketches wherever necessary.
3. Figures to the right indicate full marks.
4. Preferably, write the answers in sequential order.
5. Preferably, write the answers in sequential order.

Q1. Attempt any three **12 Marks**

a) What is negative modulation? State its advantages and disadvantages.
b) Illustrate the circuit diagram of RGB drive amplifier used in colour TV.
c) Draw the block diagram of PAL-D decoder.
d) What is need of terminating resistance in MATV?

Q2. Attempt any two **08 Marks**

a) Draw constructional diagram of PIL colour picture tube & explain the basic principle used in it.
b) Illustrate three way connector used in cable TV for division of transmission line.
c) Describe NHK MUSE system for HDTV.

Q3. Attempt any two **08 Marks**

a) Why AM is preferred for picture signal transmission and FM for sound signal transmission in T.V system?
b) Illustrate Yag-Uda antenna with constructional details and radiation pattern.
c) Why dish antenna is parabolic in shape and has meshy surface?