

0538

Code : 9EC-44

Register
Number

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IV Semester Diploma Examination, May 2012

E & C BOARD

AUDIO & VIDEO SYSTEMS

Time : 3 Hours]

[Max. Marks : 100

- Instructions :** (1) Section – I is compulsory.
(2) Answer any *two* questions from each of the remaining sections.

SECTION – I

1. (a) Fill in the blanks : 5 × 1 = 5
- (i) The co-efficient of absorption of a window is taken as _____.
 - (ii) If colour signal is transmitted from the transmitter, black & white TV works on with _____ signal.
 - (iii) In TRD _____ of the pulses is taken for identification of binary notation.
 - (iv) The line frequency of TV system in India is _____.
 - (v) The 38 kHz carrier in stereo multiplexing is out of the range of _____.
- (b) Explain with diagram composite video signal. 5

SECTION – II

2. (a) Explain listening room characteristics. 5
- (b) Explain sound absorbent materials. 5
- (c) Explain cross-over networks in loudspeakers. 5
3. (a) Explain the constructional details of crystal microphone with diagram. 6
- (b) Explain with diagram dynamic loudspeaker. 6
- (c) Explain characteristics of microphones. 3
4. (a) Explain noise reduction system using Dolby. 5
- (b) Explain the principle of magnetic recording in reproduction.
- (c) Differentiate between sync & non-sync recording system.



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SECTION - III

5. (a) Explain Videodisc recording and replication with block diagram. 10
 (b) Explain laser vision disc format with diagram. 5
6. (a) Explain frequency signal encoding and transmission using ultrasonic transmitter. 7
 (b) Explain encoding of signal by time-ratio-discriminator. 3
 (c) Explain elements of TV system. 5
7. (a) Explain monochrome TV transmitter with block diagram. 6
 (b) Explain vestigial transmission. 6
 (c) Explain : 3
 (i) Aspect ratio
 (ii) Persistence of vision
 (iii) Flicker

SECTION - IV

8. (a) What are the objectives of stereo multiplexing ? 5
 (b) Explain discrete cosine transform coding. 5
 (c) Write the HDTV standards. 5
9. (a) Explain with diagram Image Orthicon Camera Tube. 6
 (b) Explain : 6
 (i) Hue
 (ii) Brightness
 (iii) Saturation
 (c) Explain with diagram primary and complimentary colours. 3
10. (a) Explain with diagram shadow mask picture tube. 6
 (b) Explain CCIR-IB PAL Standards. 5
 (c) Write short notes on interactive TV. 4

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IV Semester Diploma Examination, November 2011

E & C BOARD

AUDIO & VIDEO SYSTEMS

Time : 3 Hours]

[Max. Marks : 100

- Instructions :** (1) Section – I is compulsory.
(2) Answer any two questions from each of the remaining Sections.

SECTION – I

1. (a) Fill in the blanks : 5
- (i) Porous materials are good sound _____.
 - (ii) _____ magnets have several advantages over other made of metal.
 - (iii) In remote control each frequency combination represents a specific _____.
 - (iv) The Delta gun picture tube has a _____ mask.
 - (v) In interlaced scanning the time during which the spot travels back to the top of screen is called _____.
- (b) What are objectives of stereo multiplexing ? 5

SECTION – II

2. (a) Briefly explain any five sound absorbment materials. 5
- (b) Explain listening room characteristics. 6
- (c) Write a short notes on Dolby-B system. 4
3. (a) Explain working of crystal microphone. 6
- (b) Explain characteristics of microphones. 5
- (c) What are the requirements of loud speaker ? 4
4. (a) Explain dynamic loud speaker. 6
- (b) Briefly explain the different optical recording. 5
- (c) Explain video disc formats. 4



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SECTION – III

5. (a) Explain USB transmission. 6
(b) Explain interlaced scanning. 6
(c) Define : (i) Frame 3
(ii) Aspect ratio
(iii) Flicker
6. (a) Explain the block diagram of monochrome TV Receiver. 10
(b) Write the difference between PPM & TRD methods. 5
7. (a) Explain the ultrasonic Transducer. 6
(b) Explain primary and complimentary colours. 6
(c) What are the constituents of white colour ? 3

SECTION – IV

8. (a) Explain colour picture tube. 6
(b) Explain (i) Hue (ii) Brightness (iii) Saturation 6
(c) Explain Chrominance signal. 3
9. (a) Explain image orthicon camera. 6
(b) Explain record head and erase head. 6
(c) Write a note on sum and difference signals. 3
10. (a) Explain the main features of HDTV. 6
(b) Explain HDTV signal coding and compression. 6
(c) What is an interactive TV ? 3
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IV Semester Diploma Examination, May 2011

ELECTRONICS & COMMUNICATION ENGG. BOARD

AUDIO & VIDEO SYSTEMS

Time : 3 Hours]

[Max. Marks : 100

- Note :** (1) Section - I is compulsory.
(2) Answer any *two* questions from each of the remaining Sections.

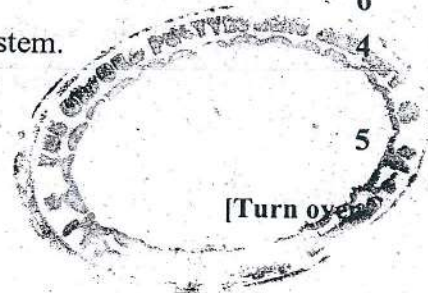
SECTION - I

1. (a) Fill in the blanks : 5 × 1 = 5
- (i) The device used to convert acoustic energy into electrical signals is _____.
 - (ii) The aspect ratio in HD-TV is _____.
 - (iii) _____ system is used in FM stereo and disc recording to reduce noise.
 - (iv) In TV systems _____ modulation is used for picture transmission.
 - (v) _____ beam is used in read or write process of optical disc.
- (b) Mention the drawbacks of analog TV. 5

SECTION - II

2. (a) Explain the constructional details of crystal microphone with a neat sketch. 6
(b) Write a note on high fidelity system. 5
(c) Explain permanent magnet loud speaker with a neat diagram. 4
3. (a) Write a note on Dolby system. 5
(b) Explain importance of erase head, record head and playback head used in Magnetic recording. 6
(c) Differentiate between sync and non-sync recording system. 4
4. (a) Define Sound. Mention its properties. 5

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- (b) Define the following : 6
- (i) Reflection of sound.
- (ii) Reverberation
- (iii) Absorption of sound.
- (c) Briefly explain the characteristics of Listening room. 4

SECTION – III

5. (a) Describe the operation of monochrome TV transmitter with a neat block diagram. 6
- (b) Explain composite video signal w.r.t. television. 6
- (c) What is the importance of interlaced scanning ? 3
6. (a) Define the following : 6
- (i) Aspect Ratio
- (ii) Flicker
- (iii) Selecta vision
- (b) Explain video disc recording system with neat block diagram. 6
- (c) Mention different video disc formats. 3
7. (a) Explain Remote control transmitter with a block diagram. 6
- (b) Describe briefly troubleshooting of remote control system. 5
- (c) Define Resolution and Bandwidth w.r.t. television system. 4

SECTION – IV

8. (a) What are the attributes of colour ? 3
- (b) Explain image orthicon camera tube with a neat diagram. 6
- (c) Briefly explain different colour TV standards. 6
9. (a) List the important features of HD TV. 6
- (b) Write a note on Interactive TV. 5
- (c) What is meant by stereo transmission ? What are sum and difference of signals ? 4
10. (a) Explain colour TV transmitter with a block diagram. 8
- (b) How the colour TV transmission is compatible with the monochrome TV ? 5
- (c) What are primary and secondary colour w.r.t. colour TV ? 2