

# 17668

**21415**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Mobile Phone, Pager and any other Electronic Pocket Calculator is permissible.

**Marks**

1. a) **Attempt any THREE of the following:** **12**
- (i) State commonly used file formats for video signals.
  - (ii) State any eight applications of CATV.
  - (iii) List four components of basic servo system used in CD player.
  - (iv) Compare DVD and BD. (Any four points)
- b) **Attempt any ONE of the following:** **6**
- (i) Describe the function of conditional access built in scrambling system in CATV.
  - (ii) With the help of suitable diagram show how optical arrangement in three beam linear tracking pick-up assembly is used in CD player.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) List different equipments used in production studio and state the function of each.
  - b) Draw the block diagram of DVD player. State the function of each block. State any four advantages of DVD.
  - c) Draw the block diagram of HDTV and state the function of each block.
- 3. Attempt any FOUR of the following:** **16**
- a) State any four applications of CCTV.
  - b) State any four applications of projection TV.
  - c) Describe the role of computer system and power control system in plasma TV.
  - d) Compare LED and LCD monitor. (Any four points)
  - e) State working principle of interactive TV.

4. a) Attempt any THREE of the following:

12

- (i) Describe the functions of MAC coder in HDTV.
- (ii) Describe the concept of Jumbo TV screen size and brightness.
- (iii) State the working principle of VHS video recording format.
- (iv) Describe how bandwidth reduction is achieved in HDTV.

b) Attempt any ONE of the following:

6

- (i) Draw constructional details of CD. Name the material used for construction of CD. Describe, how digital signal is stored on tracks of CD.
- (ii) 1) Identify Figure No. 1 diagram.  
2) Draw waveforms at A, B and C points when S is open and S is closed. (Refer Figure No. 1)

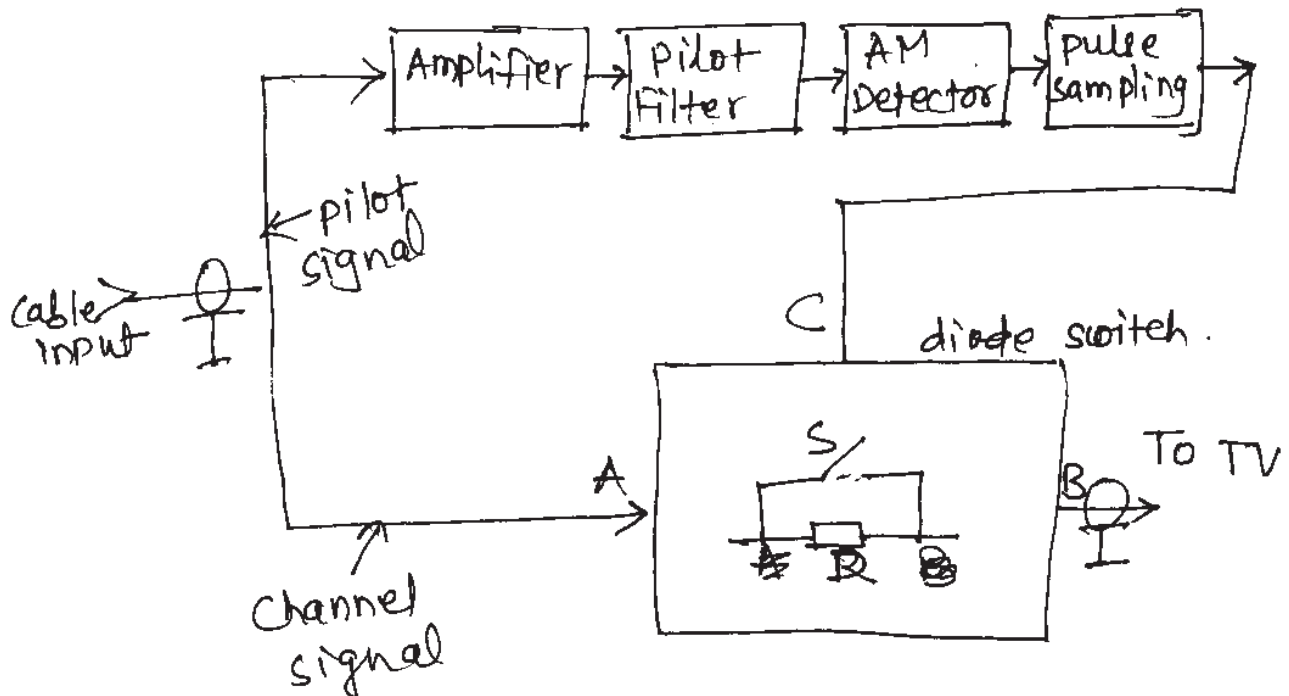


Fig. No. 1

**5. Attempt any FOUR of the following:****16**

- a) Draw well labeled block diagram of Blue ray disc player; State its two advantages.
- b) Describe the working principle of multi - sync monitors.
- c) Illustrate with block diagram how projection TV is used to get large screen pictures.
- d) Describe why
  - (i) CCTV is wired system and
  - (ii) Audio signal is not transmitted in CCTV.
- e) Draw block diagram of DTH receiver and state function of each block.

**6. Attempt any FOUR of the following:****16**

- a) Describe video compression technique of JPEG 2000 with suitable diagram.
  - b) Draw planning diagram for CATV system installation and state the function of each block.
  - c) Describe the working of CD encoder with the help of suitable diagram.
  - d) List specifications of monitor.
  - e) State two advantages and 2 disadvantages of plasma display.
  - f) Describe the function of Transponder in DTH system with suitable diagram.
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