



2018 III 15

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Seat No. :

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Time : 2 Hours

**APPLIED AND CONSUMER ELECTRONICS (New Pattern)**

**Subject Code**

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Total No. of Questions : 5

(Printed Pages : 3)

Maximum Marks : 50

- INSTRUCTIONS:**
- Answer **each** question on a **fresh** page.
  - Write the number of **each** question and sub-question **clearly**.
  - All** questions are **compulsory**.
  - Figures to the **right** indicate **full** marks.
  - Draw **neat** labelled diagrams **wherever** necessary.

1. A) Fill in the blanks : [2]

- The type of IC which is used to perform linear operation on signals is \_\_\_\_\_.
- Tiny pellet of aluminium is melted upon the surface of an n-type crystal in \_\_\_\_\_ fabrication technique.

B) Answer the following : [6]

- With the help of a block diagram explain Op-amp as a multi-stage amplifier.
- Explain diffusion method for diode fabrication. State one advantage of this method over Alloy method.

C) Answer the following : [2]

Give one point of difference between Analogue IC and Digital IC. Give one example of each.



2. A) Answer the following : [2]  
1) Give one advantage of storing information on a CD.  
2) Name a device of a CD player that reads or writes informations on a CD.
- B) Answer the following : [6]  
1) How is signal processing done in a CD player ?  
2) With the help of a neat labelled diagram explain the working of a dynamic microphone.
- C) Answer the following : [2]  
Two speakers of 8 Ohms are to be connected to a 100 watt amplifier with 4 Ohm output terminals. Draw the wiring diagram to connect these speakers to the amplifier. Why impedance matching necessary in PA system ?
3. A) Fill in the blanks : [2]  
1) The sky waves in radio communication are reflected in the sky by \_\_\_\_\_.  
2) The ability of the radio receiver to receive the weak signals is called \_\_\_\_\_.
- B) Answer the following : [3]  
State one function of a tone control circuit in radio receiver. Define AGC and AVC with respect to radio receivers.
- C) Answer **any one** of the following : [5]  
1) Draw the block diagram of AM superheterodyne radio receiver. What are the properties of radio wave ? Why is a ground wave a weak wave ?  
2) Draw the block diagram of a FM superheterodyne radio receiver. Explain how Limiter on FM receiver eliminates noise in FM reception. State IF value of FM and AM receiver.
4. A) Answer the following : [2]  
1) Name the primary colours of a coloured television.  
2) State the scanning sequence of lines and frames in television communication system.
- B) Answer the following : [3]  
State any two advantages of a DTH system. Name any two types of TFT technologies.



C) Answer **any one** of the following : **[5]**

- 1) Name any two types of camera tubes and state their working principle. Draw a neat block diagram of the video section of a B/W TV. State two stages of a TV tuner.
- 2) What is a composite video signal ? Draw waveform to identify the three components of composite video signal. State field frequency and picture frequency in international standard recommendations.

5. Answer the following : **[10]**

- 1) State the function of a SIM used in Cell phone. What are the advantages of Bluetooth Technology ?
  - 2) State two limitations of Cordless Telephone over a mobile phone.
  - 3) Name different speakers used in a 5.1 home theatre system.
  - 4) Differentiate between DVD's and a CD. (any two points)
  - 5) Give the full form of IMEI and GPRS.
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