



2018 VI 12

1430

Seat No. :

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Time : 2 Hours

APPLIED AND CONSUMER ELECTRONICS

Subject Code

V	3	3	3
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Total No. of Questions : 5

(Printed Pages : 3)

Maximum Marks : 50

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

1. A) Fill in the blanks : [2]
  - i) An op-amp is used as summing amplifier most commonly in the \_\_\_\_\_ mode.
  - ii) The full form of TFT used in LCD monitor is \_\_\_\_\_.
- B) Answer the following : [6]
  - i) Briefly explain a “Zener diode”. Give an application of it.
  - ii) What is TDMA ? State two of its applications.
- C) Answer the following : [2]
  - i) State the application of Audio amplifier and memory in a MP3 player.
2. A) Answer the following : [2]
  - i) Write the full form of SIM.
  - ii) Why are IC’s lighter in weight ?



B) Answer the following : [6]

- i) Draw a neat block diagram to explain the principle of radio transmission and reception. State the use of oscillator.
- ii) Give three points of differentiation between monochrome and colour television.

C) Answer the following : [2]

- i) State the application of surround speakers and sub-woofer in a digital home theatre system.

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

- i) The rotational system used in a CD player is \_\_\_\_\_
- ii) The IF value of FM receiver is \_\_\_\_\_.

B) Answer the following : [3]

- i) Draw a neat labelled diagram of a crystal microphone and explain its working principle.

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

- i) With a neat circuit diagram explain the demodulation of AM waves. State the function of a transmitting antenna.
- ii) Explain with a neat block diagram FM superhetrodyne radio receiver. State the main objective of pre-emphasis and de-emphasis in a FM system.

4. A) Answer the following : [2]

- i) State two uses of a cell phone.
- ii) Define “ Frequency modulation”.

B) Answer the following : [3]

- i) What is a Composite video signal ? Draw its graphical representation. State the standard output level of a composite video signal.



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

- i) a) Draw a neat labelled diagram to show the working of an op-amp as an inverting amplifier.
- b) Define closed loop gain for an op-amp.
- c) State one disadvantage of IC over discrete components.
- d) State one function of an IC package.
- ii) a) Draw the block diagram of an op-amp.
- b) Define open loop gain for an op-amp.
- c) Name any two types of IC packages.
- d) State the function of any one IC package.

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

- i) Explain how signal processing takes place in a CD player.
  - ii) State any two factors that affect the loudness of sound.
  - iii) State two advantages of GPRS technology used in cell phones.
  - iv) Why is impedance matching of microphones and loudspeakers necessary ?  
Name the moving coil loudspeaker used to reproduce high frequency sound.
  - v) State the function of LNB and Dish antenna in DTH transmission.
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