

2019 III 12

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Seat No.

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Time : 2 Hours

Applied & Consumer Electronics

Subject Code

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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]  
1) The IC package used in PCB applications is .....  
2) The international TV standard adopted in India is .....  
B) Answer the following : [6]  
1) Define the three characteristics of Radio Receiver.  
2) Define CMRR, closed loop gain and input resistance w.r.t. IC 741.  
C) Answer the following : [2]  
1) State two mechanical adjustments that can be done while servicing a CD system.
2. A) Answer the following : [2]  
1) ICs are reliable. Give one reason.  
2) The Op-amp has two inputs. Give one reason.

B) Answer the following : [6]

- 1) Explain in brief the three paths of radio wave propagation.
- 2) State three differences between cellular and cordless phones.

C) Answer the following : [2]

- 1) State four factors affecting loudness of sound.

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

- 1) The full form of TFT -LCD is \_\_\_\_\_.
- 2) Interlaced scanning reduces the effect of \_\_\_\_\_.

B) Answer the following : [3]

- 1) Explain in brief the AM diode detector circuit.

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

- 1) Draw the graphical representation of the composite video signal for two horizontal lines. Also state the function of
  - a) LNB
  - b) Satellite receiver
  - c) Dish antenna.
- 2) With the help of a neat block diagram, explain the working of the video section of a TV receiver.

4. A) Answer the following : [2]

- 1) What is GPRS ?
- 2) What is AFC ?

B) Answer the following : [3]

- 1) State the 3 main units of a CD servo system. Also state the three different operations controlled by it.

C) Answer **any one** of the following :

[5]

- 1) Draw a neat labelled diagram of a crystal microphone and state its application. Also state why impedance matching is needed and how it is done ?
- 2) With the help of a neat diagram, explain the working and function of the moving coil loudspeaker.

5. Answer the following :

[10]

- 1) Why is the quality of sound superior in a FM Receiver ? What is frequency re-use ?
- 2) Compare musical sound and Noise giving at least two points of difference.
- 3) Draw the symbol of bluetooth. Give one advantage of the SIM card.
- 4) State four functions of the IC package.
- 5) Calculate the output voltage of an inverting amplifier, having feedback resistance of  $12\text{ K}\Omega$  and input resistance of  $10\text{ K}\Omega$ , when the input voltage applied is 2 volts.