## Consumer Electronics (DEL 604)

## 1st Sessional Test

**Time: 1Hr** **MM: 20**

**Q1.Choose the correct option for the following:**

**1) In a piconet, one master device _____.**
(a) cannot be slave (b) can be slave in another piconet
(c) can be slave in the same piconet (d) can be master in another piconet

**2) Wi-Fi does not support roaming. Is that statement is_____.**

(a) TRUE (b) FALSE

**3) Router device sends and receive ____ signals in a Wireless Network.**
(a) Radio (b) digital

**4) For transmitting signals_____ waves are uses in a wireless network.**
(a) Sound (b) Mechanical (c) Radio

**5) Wireless networking, Wi-Fi, can be used to connect computers in a home, and many cities are using the technology to offer free or low-cost internet access to residents. What's another name for Wi-Fi?**

(a) 801.12 networking (b) 802.22 networking (c) 802.11 networking
(d) 802.13 networking

**6) Wireless networks are _____ wired networks.**
(a) Slower than (b) Faster than (c) As fast as (d) None of them

**7) Bluetooth uses _____.**
(a) Frequency hopping spread spectrum (b) Orthogonal frequency division multiplexing
(c) Time division multiplexing (d) Channel division multiplexing

**8) The range of cordless phone is about_____.**

(a)1000m (b) 500m (c) 10m (d) 100m

**9) A digital watch contains _____.**

(a) RC Oscillator (b) Quartz crystal oscillator
(c) LC Oscillator (d) either quartz or RC oscillator

**10) CCTV can be used to_____.**

(a) Study the stars at night. (c) Remotely monitor the temperature of fridges.
(b) Monitor the interior and exterior of a property. (d) Study wildlife at night in the wild.

**11) CCTV is _____.**
(a) A private security camera system where the circuits are closed and all of the elements are connected directly.
(b) An open broadcast security camera system where the signals are broadcast across airwaves.
(c) A satellite camera system.
(d) A cable TV system that members of the public can access.

**12) Which of the following is the main part of DTH network?**
(a) Resolution indicator (b) Transport IC (c) Remote sensor (d) Broadcast Centre

**13) DTH is an encrypted transmission that travels to the consumers directly through a satellite.**
(a) True (b) False

**14) Which broadcast centre broadcast televised programs through satellite to different subscribers in the country in direct to home television?**
(a) Audio encoder (b) Digital TV (c) DBS (d) DTT

**15) Microwave radiations generated in the oven cavity having frequency of _____MHz** **(15)**

(a) 5000 (b) 2400 (c) 900 (d) 1800

**Q2.With the help of a block diagram, explain the working of a fully automatic washing machine.** **(5)**

# 2nd Sessional test

## Consumer electronics (DEL 604)

## 6th sem., Electronics Engg.

**Time: 1 hr 30** **MM: 30**

*Draw a neat and labeled diagram wherever necessary*

**Q1. A) The frequency response of a microphone means** (6)
*6*1*

a) The bandwidth of frequencies having output within +1db of the output at 1 kHz.

b) The bandwidth of frequencies having output within +3db of the output at 1 kHz.

c) The bandwidth of frequencies having output within +1db of the output at 500 Hz.

d) The bandwidth of frequencies having output within +3db of the output at 500 Hz.

**B) A horn loudspeaker is more efficient than a direct radiating cone loud speaker.**

a) True b) false

**C) Which of the microphone have built in amplifier?**

a) Condenser b) ribbon c) carbon d) moving coil

**D) Biasing would not required if B-H curve were linear**

a) True b) false

**E) In a tape recorder the erase head is**

a) Engaged during playback but disengaged during recording.

b) Engaged during recording but disengaged during playback.

c) Disengaged both during recording and playback.

d) Engaged both during recording and playback.

**F) In a tape recorder the output from the RF oscillator is given to**

a) Only erase head coil

b) Only recorded head coil.

c) Coil of both erase and record head.

d) None of the above.

**Q2.** What are the characteristics of sound? **12**

***Or***

What is the principle of Moving coil microphone, explain its working, construction advantages, disadvantages and its application.

***Or***

What is the principle of crossover network? Explain what is tweeter n woofer and their frequency ranges.

**Q3.**What is the advantages of digital magnetic tape recording? Explain the recording system of it. **12**

***Or***

What is the relation between the tape speed, freq. of audio signal and recorded wavelength? Find out the **maximum usable frequency** (fm) if **tape speed** is 9.5 cm/sec and **gap width** is.01mm.

2nd Sessional test

21DEL022

Consumer electronics (DEL 604)

6th sem., Electronics Engg.

MM: 20

Time: 1 hr

*Draw a neat and labeled diagram wherever necessary*

Q1. A) The frequency response of a microphone means 6*1

a) The bandwidth of frequencies having output within +1db of the output at 1 kHz.

b) The bandwidth of frequencies having output within +3db of the output at 1 kHz.

c) The bandwidth of frequencies having output within +1db of the output at 500 Hz.

d) The bandwidth of frequencies having output within +3db of the output at 500 Hz.

B) A horn loudspeaker is more efficient than a direct radiating cone loud speaker.

a) True b) false

C) Which of the microphone have built in amplifier?

a) Condenser b) ribbon c) carbon d) moving coil

D) Biasing would not required if B-H curve were linear

a) True b) false

E) In a tape recorder the erase head is

a) Engaged during playback but disengaged during recording.

b) Engaged during recording but disengaged during playback.

c ) Disengaged both during recording and playback.

d) Engaged both during recording and playback.

F) In a tape recorder the output from the RF oscillator is given to

a) Only erase head coil

b) Only recorded head coil.

c) Coil of both erase and record head.

d) None of the above.

g) What is the equation for the force in newton on the coil due to interaction between current through the coil and magnitude field?

a) $F = Bli \sin \alpha$

b) $F = Bli \tan \alpha$

c) $F = Bli \cos \alpha$

d) $F = Bl \sin \alpha$

h) What is the equation of cut off frequency $f_c$ of the horn type loud speaker?

a) $f_c = CA / 2\pi V$

b) $f_c = DA / 2\pi V$

c) $f_c = CA / 5\pi V$

d) $f_c = CA / 3\pi D$

Q2. What are the characteristics of sound? 6

*Or*

What is the principle of Moving coil microphone, explain its working, construction, advantages, disadvantages and its application.

*Or*

What is the principle of crossover network? Explain what is tweeter n woofer and their frequency ranges.

Q3. What is the advantages of digital magnetic tape recording? Explain the recording system of it. 6

*Or*

What is the relation between the tape speed, freq. of audio signal and recorded wavelength? Find out the maximum usable frequency (fm) if tape speed is 9.5 cm/sec and gap width is.01mm.

Paper code: DEL-604

# University Polytechnic

## Diploma in Electronics Engineering, SEM 6th Examination, 2024

[DAY]

### Consumer electronics (DEL-604)

**TIME: 3 Hrs.** **MM: 60**

**NOTE: Do any two parts from each question.** All questions carry equal marks

Q1. a) Draw and explain the working of a condenser microphone 6

b) Draw and explain the working of a horn loudspeaker. 6

c) Explain a multi speaker system using woofer ,tweeter and squawker. 6

Q2. a) Draw and explain the block diagram of a tape recorder. 6

b) With the help of a block diagram explain the recording process of a CD. 6

c) Derive an expression for maximum useable frequency for a tape recorder. Also, Calculate the maximum usable frequency of a tape recorder, With a gap width of 6 microns and a tape speed of 4.75 cm/s, 6

Q3. a) Explain the generalized digital recording system block diagram. 6

b) Draw and explain the complete block diagram of VCR. 6

c) Draw and explain VHS transport mechanism. 6

Q4. a) Describe direct to home technology (DTH) in detail. 6

b) Draw and explain the block diagram of a video monitor. 6

c) Draw and explain a block diagram of a CCTV. 6

Q5. a) Explain the working calculator with the help of block diagram? 6

b) Explain the working of a fully automatic washing machine. 6

c) Explain Wi-Fi technology and how does it works . 6

45 40-45

Freq ⇒ 3.95 833 KHz

Paper code: DEL-604

Roll No.:

# Diploma in Electronics Engineering, SEM 6th Examination, 2023

## Consumer electronics (DEL-604)

TIME: 3 Hrs. MM: 60

NOTE: Do any two parts from each question.

Q1.a) Explain with the help of a crossover network a multi speaker system. 6

b) Compare the cone loudspeaker and a horn loudspeaker. 6

C) Draw and explain the working of a moving coil microphone. 6

Q2. a) Describe the block diagram of a tape recorder. 6

b) Describe recording and reading process of a CD. 6

c) With a gap width of 4 microns and a tape speed of 4.75 cm/s, calculate the maximum usable frequency tape recorder. 6

Q3) a) Explain the generalized digital recording system block diagram. 6

b) Draw and explain the complete block diagram of VCR. 6

c) Compare VHS and BETAMAX video formats in detail. 6

Q4) a) Describe direct to home technology (DTH) in detail. 6

b) Establish a connection of a three camera tube feeding three video monitor in a CCTV. 6

c) Draw and explain a block diagram of a CCTV. 6

Q5) a) Explain the working digital watch with the help of block diagram? 6

b) Draw and explain the working of a microwave oven. 6

c) Explain any two wireless technologies and state their features. 6