

**DIPLOMA – VIEP – ELECTRONICS AND
COMMUNICATION ENGINEERING (DECVI)**

00494

Term-End Examination

June, 2017

BIEL-034 : AUDIO AND VIDEO ENGINEERING

Time : 2 hours

Maximum Marks : 70

Note : Attempt any **five** questions. Question no. 1 is **compulsory**. All questions carry equal marks.

1. Select the best alternative : 7×2=14

- (a) When a wave travels through a medium,
- (i) the particles are transferred from one place to another.
 - (ii) the energy is transferred in a periodic manner.
 - (iii) the energy is transferred at a constant speed.
 - (iv) None of the above

- (b) The frequency of a wave travelling at a speed of 500 m/s is 25 Hz. Its time period will be
- (i) 20 sec
 - (ii) 0.05 sec
 - (iii) 25 sec
 - (iv) 0.04 sec
- (c) Which of the following is **not** a characteristic of a musical sound ?
- (i) Pitch
 - (ii) Wavelength
 - (iii) Quality
 - (iv) Loudness
- (d) The frequency which is **not** audible to the human ear is
- (i) 50 Hz
 - (ii) 500 Hz
 - (iii) 5 kHz
 - (iv) 50 kHz
- (e) The unit of wavelength is
- (i) Newton
 - (ii) Erg
 - (iii) Dyne
 - (iv) Angstrom



- (f) The method of detecting the presence, position and direction of motion of distant objects by reflecting a beam of sound waves is known as
- (i) RADAR
 - (ii) SONAR
 - (iii) MIR
 - (iv) CRO
- (g) An ultrasonic wave is sent from a ship towards the bottom of the sea. It is found that the time interval between the sending and receiving of the wave is 1.6 sec. Determine the depth of the sea, if the velocity of sound in sea water is 1400 m/s.
- (i) 1120 m
 - (ii) 560 m
 - (iii) 1400 m
 - (iv) 112 m
2. (a) Explain the working of a Hi-Fi audio amplifier with the help of a block diagram. 7
- (b) What are the various controls available ? Also give their functions. 7
3. Explain the functions of the following components used for CD mechanism : $4 \times 3 \frac{1}{2} = 14$
- (a) CD pick-up assembly
 - (b) Gear system
 - (c) Drive motors
 - (d) CD lens

4. Define the following terms :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Aspect Ratio
- (b) Image Continuity
- (c) Interlace Scanning
- (d) Scanning Period
- (e) Luminance
- (f) Hue
- (g) Saturation

5. Draw the block diagram of a monochrome TV transmitter and briefly give the function of each block.

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6. Give the block diagram of a PAL-D decoder with the circuit diagram of a chroma signal amplifier. Explain its working.

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7. Write short notes on any **four** of the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Graphic Equalizer
- (b) Delta Gun Picture Tube
- (c) EHT Generation
- (d) Yagi-Uda Antenna
- (e) Dish Antenna
- (f) Working of dB Meter