



SEAT No. _____

No. of Printed Pages: 2

[A-12] SARDARPATEL UNIVERSITY V.V.NAGAR

T.Y B.Sc. Sem-VI ELECTRONICS EXAMINATION

ON DEMAND EXAMINATION (old course)

SUB. CODE:-US06CELE06 Analog Communication & Fiber - Optics

DATE:-06/10/2022

TIME:-3:30 pm to 5:30 pm

MARKS-70

Q-1 Choose correct answer

[10]

- 1.. In additive mixing light of different colour are _____.
 (A) Added (C) Multiplied
 (B) Subtractive (D) None of these
2. The refractive index of core is _____ then refractive index of cladding.
 (A) More (C) Less
 (B) Equal (D) None of these
3. The spectral width of laser diode is _____ spectral width of led.
 (A) More then (C) Less then
 (B) Equal to (D) None of these
4. _____ mixing utilizes the reflecting properties of pigment.
 (A) Additive (C) Subtractive
 (B) Multiplicative (D) None of these
5. In fiber optics for total internal reflection angle of incidence should be _____ then critical angle.
 (A) More (C) Less
 (B) Equal (D) None of these
6. Which of the following determines the efficiency of led
 (A) Total internal reflection (C) Quantum efficiency
 (B) Internal absorption (D) None of these
7. The optical detector used in fiber - optic communication system is _____.
 (A) Avalanche Photodiode (C) Light emitting diode
 (B) Light Dependent resistor (D) None of these
8. _____ is the best splicing technique
 (A) Fusion (C) Glass Sleeve
 (B) V Grove (D) None of these
9. Attenuation is _____ in fiber optics
 (A) Highest (C) Higher
 (B) Lowest (D) None of these
10. In fiber optic cable outer part is called cladding and inner part is called _____.
 (A) Core (C) shading
 (B) Resistor. (D) None of these

Q-2 Do as Directed

A Filling the Blanks with appropriate answer (Attempt all)

(04)

- 1 _____ mixing of colours is used in printing.
- 2 Trintron colour picture tube uses _____ gun structure.
- 3 The angle of incidence at which refraction angle becomes _____ is called critical angle
- 4 Attenuation is _____ in fiber optic cable.S

B State whether following statements are true or false

(04)

- 1 Additive mixing of colours is used in colour T.V.
- 2 Dichoric mirror system is used in colour T.V. camera.
- 3 In line picture tube uses in line three gun structure.
- 4 Antenna is not associated with optical communication.

Q-3 Short answer type question. (any ten)

[20]

1. Explain subtractive colour mixing
2. Draw a neat diagram showing construction of optical fiber.
3. Explain multiplication process.
4. What is splicing
5. Explain the need of dynamic convergence in case of shadow mask picture tube
6. Draw the diagram showing how light ray passes through single mode fiber
7. Differentiate between spontaneous and stimulated emission of radiation.
8. Explain fusion of glass fiber briefly.
9. List various types of optical fibre in general
10. Explain need of blue lateral magnet in TV.
11. What is function of repeater in fibre optics system?
12. What is population inversion?

Q.4. Answer the following (Attempt any four).

[32].

- 1 Draw the schematic arrangement of colour TV camera and explain
- 2 Draw the block diagram of PAL encoder and explain its working.
- 3 Explain principle of fibre optic in detail
- 4 Explain in detail step index fiber.
- 5 Give an account of Laser
- 6 Give an account of LED
- 7 Draw the block diagram of fibre optic communication system & Explain its working
- 8 Write a note on splicing of fibers.

— X —

(2)