

MID-II Objective Paper

SET-1

Sub: Optical Fiber Communication (13A04702) Branch: IV ECE & I SEM
Time: 20 min Date: 08/11/2017 Max. Marks: 10
Roll No: Invigilator signature:

- 1) $np=n_i^2$ is the condition valid for _____ under equilibrium condition.
 A) Intrinsic material B) Extrinsic material C) both A&B D) None []
- 2) For optical fiber systems the laser sources used almost exclusively are _____ laser diodes. []
 A) gas B) semiconductor C) crystal D) All
- 3) The material containing impurities called as _____ []
 A) Intrinsic material B) Extrinsic material C) both A&B D) None
- 4) The isotropic pattern from a surface emitter is called []
 A) Lambertian B) Longitudinal C) Lateral D) None
- 5) The reach through avalanche photodiode is composed of _____ resistivity p-type material. []
 A) Zero B) low C) high D) None
- 6) The transit time is given by []
 A) $t_d = \frac{v_d}{w}$ B) $t_d = \frac{w}{v_d}$ C) $t_d = wv_d$ D) None
- 7) Response time of photodiode with its output circuit depends on []
 A) transit time B) RC time constant C) diffusion time D) All
- 8) Which of the following is not a key system requirement []
 A) BER B) attenuation
 C) transmission distance D) channel bandwidth
- 9) Units for responsivity of a photo diode []
 A) A/W B) W/A C) nm D) nSec
- 10) When number of optical sources operating at different wavelengths are to be sent on single fiber link by using _____ division multiplexing
 A) time B) space C) frequency D) wavelength []

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FILL IN THE BLANKS:

11) In LEDs, the excess carrier density decays exponentially with time

according to the relation _____.

12) The internal quantum efficiency is given by (equation)

13) Error sources of photodetector are

14) The noise equivalent power is given by (relation) _____.

15) pin or APD associated characteristics are _____

16) System rise time of OFC is expressed as _____.

STATE TRUE OR FALSE:

17) The power at transmitter is the received power minus link loss.[T/F]

18) The operating wavelength selection depends on the distance and
attenuation. [T/F]

19) High quantum efficiency is required to achieve high SNR. [T/F]

20) A fiber splice is a temporary joint between two fibers. [T/F]

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- 18) The power at receiver is the transmitted power minus link loss.[T/F]
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