UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Eighth Semester – 2019

Paper: Advanced Electronics-III (Theory)
Course Code: PHY-431 Part – I (Compulsory) **Time: 15 Min. Marks: 10**

Roll No. in Fig. .....
Roll No. in Words. .....
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Signature of Supdt.:

ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.
Division of marks is given in front of each question.
This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the correct option. **(10x1=10)**

I. In PN junction device that exhibits negative resistance is called;

(a) IMPATT diode (b) Zener diode

(c) Tunnel diode (d) LED

II. In MESFET transistor consists of;

(a) Unipolar device (b) Bipolar device

(c) Majority carrier device (d) Minority Carrier device

III. In LED the major phenomena occur due to;

(a) Diffusion (b) Drift

(c) Thermal (d) Generation-Recombination

IV. MODFET is device having;

(a) Element semiconductor (b) Compound Semiconductor

(c) Silicon (d) GaAs

V. Most common transistor used for trigger sweep is;

(a) IMPATT diode (b) Zener diode
(b) Tunnel diode (d) UJT

VI. Radio-waves frequency varies from;

(a) 1 to 100 kHz (b) 30 to 300 kHz

(c) kHz to MHz (d) MHz to THz

VII. Less noise is produce in ;

(a) AM (b) FM

(c) Angle modulation (d) Vestigial side band modulation

VIII. Superhetrodyne receivers are used to ;

(a) Reduce intermediate frequency (b) increase intermediate frequency

(c) To set standard (d) increase skip distance

IX. Microwave power is almost remain the same;

(a) In optical fiber (b) in copper cable

(b) In air (d) thick sheet of metal

X. Megnetron tube is used to produce;

(a) amplification (b) oscillation

(c) switching action (d) modulation and demodulation

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Roll No. .....

Paper: Advanced Electronics-III (Theory)
Course Code: PHY-431 Part – II

Time: 2 Hrs. 45 Min. Marks: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Answer the following short questions;

a. Mention the characteristics of Gunn diode.

b. Mention the difference between Tunnel and IMPATT diode.

c. Indicate the formation of Ionospheric layer during day and night time.

d. Mention the principle of Phase-locked loop.

e. Mention the way to measure microwave power.

Q.3. What is the difference between LED and Laser diode in term of fabrication, characterization?

Q.4. Mention the working of UJT and also explain the circuit to generate basic and triggered sweep.

Q.5. Explain Ground wave propagation and also discuss the skip distance.