



UNIVERSITY OF THE PUNJAB

Seventh Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig.

Roll No. in Words.

PAPER: Advanced Electronics-I (Theory)
Course Code: PHY-411 Part-I (Compulsory)

MAX. TIME: 15 Min.

MAX. MARKS: 10

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Signature of Supdt.:

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. 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 right answer, cutting and overwriting is not allowed. (1x10=10)

- i. An operational amplifier u-741 internally consist of _____ transistors.
a) 24 b) 10 c) 34 d) None of these
- ii. ROM is _____ type of memory.
a) Data b) Program c) Control d) None of these
- iii. Counter is _____
a) Combinational circuit b) Sequential circuit
c) Both A & B d) None of these
- iv. Digital data is _____ type of data.
a) Discrete b) Analog c) Function d) None of these
- v. The storage element for a static RAM is:
a) Resistor b) Inductor c) Capacitor d) None of these
- vi. The ideally input impedance of an operational amplifier is:
a) Maximum b) Minimm c) Infinity d) Zero
- vii. Lutch is _____ type of multivibrator.
a) Bistable b) Monostable c) Astable d) None of these
- viii. The gain of an inverting amplifier depends upon _____.
a) Internal structure b) External resistances
c) Both A & B d) None of these
- ix. Which gate is known as Universal gate _____.
a) AND b) XOR c) NOR d) OR
- x. Which gate is known as comparator gate _____.
a) XOR b) AND c) NOR d) XNOR



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PAPER: Advanced Electronics-I (Theory)
Course Code: PHY-411 Part – II

MAX. TIME: 2 Hrs. 45 Min.
MAX. MARKS: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give the short answers.

(5x4=20)

- i. Design 3 to 8 line decoder circuit.
- ii. What is CPU. Define its structure.
- iii. What is ROM? Discuss its types.
- iv. Design 4-bit serial in serial out shift register.
- v. Differentiate between clock and pulse.

Q.3. Give the long answers.

(3x10=30)

- i. (a) Design NAND and NOR gates as Universal gates.
(b) Discuss the designing and working of common mode operation of an operational amplifier.
- ii. (a) Design and draw the circuit of 8 to 1 line multiplexer.
(b) What are micro-operations? Discuss its application.
- iii. (a) Design and implement the circuit of 4 – bit asynchronous counter.
(b) Design digital to analog converter.