PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

PG DEGREE EXAMINATION DECEMER 2023
(Third Semester)

TRANS DISCIPLINARY COURSE
(Common to PG Programmes)

BASIC ELECTRONICS

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks   (5 x 1 = 5)

1   Identify the answer for 100 KΩ resistor colour code ----------------.
    (i)   Brown black red   (ii) Brown black yellow
    (iii) Brown black green   (iv) Brown black orange

2   Choose the following for Ohms law parameter V= -----------------.
    (i)   IR   (ii) IP
    (iii) RL   (iv) RC

3   Match the negatively charged particle -------------.
    (i)   proton   (ii) neutron
    (iii) electron   (iv) atom

4   Which is the correct answer for gray to binary conversion of 1011------------.
    (i)   1101   (ii) 0101
    (iii) 1001   (iv) 0111

5   Identify the complement gate --------.
    (i)   AND   (ii) OR
    (iii) NAND   (iv) NOT

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks   (5 x 3 = 15)

6   a   State voltage definition.
                        OR
    b   Classify power and energy.

7   a   Justify Ohms law.
                        OR
    b   Illustrate the current divider rule.

8   a   Sketch the structure of the atom.
                        OR
    b   Explain the energy band.

9   a   Solve the given problem to find Excess 3 code 2 4.
                        OR
    b   Apply the Commutative law.

10 a   Analyze the NOR gate operation with its truth table.
                        OR
    b   Discuss the associative law.

SECTION -C (30 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks   (5 x 6 = 30)

11 a   Criticize resistor connected in series and parallel.
                      OR
    b   Assess the inductor connected in series and parallel.

12 a   Enumerate the Kirchhoff's voltage law.
                      OR
    b   Predict the maximum power transfer theorem.

13 a   Criticize the V I Characteristics of zener diode.
                      OR
    b   Enumerate the insulator.

14 a   Predict the A9F5 and 72DE into octal number.
                      OR
    b   6723 and 5146 solve the octal number into binary.

15 a   Elucidate Demorgan's theorem.
                      OR
    b   Assess the EX-NOR gate with its truth table.

Z-Z-Z   END