PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Fourth Semester)

Branch – **PHYSICS**

ELECTRONIC INSTRUMENTATION

Time: Three Hours Maximum: 50 Marks

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

1 _____ is the practical application of atomic frequency and time standard.
(i) GPS navigation (ii) weather forecasting
(iii) traffic control (iv) all of the above

2 Continuous voltage or current signals are measured using
(i) tachometers (ii) digital meters
(iii) sonometers (iv) analog meters

3 C.R.O gives _____.
(i) actual representation (ii) approximate representation
(iii) visual representation (iv) incorrect representation

4 Which of the following represent active transducer?
(i) strain gauge (ii) thermistor
(iii) LVDT (iv) thermocouple

5 EMG deals with the
(i) study of brain activity (ii) study of Myocardial activity
(iii) study of central nervous system (iv) study of muscular activity

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

6 a Explain the concept of performance characteristics in measurement systems.
OR
b Explain the dynamic response of zero order instruments.

7 a Mention the requirements of a shunt.
OR
b Explain multirange voltmeter.

8 a With a block diagram explain the basic CRO.
OR
b List the applications of oscilloscope.

9 a Describe the operation of photoelectric transducer.
OR
b Explain the working of capacitive transducer.

10 a Give the origin of Brain waves.
OR
b Write a note on EOG.

Cont...

SECTION -C (30 Marks)

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

11 a Explain the types of errors that occur in the measurement process.

OR

b Discuss the different types of standards with examples.

12 a Explain DC ammeter and multirange ammeters.

OR

b Explain the working of the multimeter and also discuss its operations.

13 a Describe the working of dual beam CRO with diagram.

OR

b Explain the frequency measurement by Lissajous method.

14 a Describe the operation of a piezoelectric transducer.

OR

b Describe the construction of a linear variable differential transducer. Give its disadvantages.

15 a Explain the origin of different heart sounds.

OR

b Explain the working of ventricular synchronous pacemaker.

Z-Z-Z

END