14PHU12

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) * !

BSc DEGREE EXAMINATION DECEMBER 2019
(Fourth S emester)..

Branch **- PHYSICS**

ELECTRONIC INSTRUMENTATION & COMMUNICATION SYSTEMS

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks!
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 Define precision in measurements.
2 State the principle of potentiometer.
3 What is the reason for using Germanium diodes in rectifier circuit?
4 What are vaccum thermocouple?
5 What are the two types of pollutants? Explain in one sentence each.
6 Define Humidity.
7 Define power gain of an antenna.
8 Define Surface waves.
9 Mention the two types of stabilization in geostationary satellite.
10 State Kepler's II law.

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Explain the AC Wheatstone's bridge.
OR ?
b Obtain an expression for Anderson's constant.

12 a Explain the measurementwith AC amplifier.
OR
b ■ Explain the working of electromechanical DC ammeter.

13 a Explain the working of Humistor Hygrometer.
OR
b Briefly explain the technique of specific gravity 'measurements.

14 a Discuss the different modes of propagation in free space.
OR
b Obtain an expression for effective length and area of the antenna.

15 a Explain the power system of geostationary orbit.
OR
b What are the multiple access methods of digital carrier transmission.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Explain in detail about the electrical standards.
17 Explain static electric field and charged surface measurements.
18 Explain any one method of measuring P_H value.
19 Explain Trophospheric and Sonospheric propagation in radio wave propagation.
20 Write an essay about the satellite communication.