PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017 \ 4 Nd AiJ CLI
(Sixth Semester)

Branch- MATHEMATICS

ASTRONOMY

Time : Three Hours Maximum : 75 Marks

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

1 Explain Eastern and Western hemisphere.
2 Define polar triangle.
3 What do you mean by perpetual night?
4 State the law of refraction.
5 Define angular diameter and angular radius.
6 Define Parsec.
7 State any two Kepler's laws.
8 Define true anomaly and eccentric anomaly.
9 What is Sunday letter?
10 When the lunar Eclipse and solar eclipse occur.

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

11 a Explain Ecliptic system.
OR
b Find the condition that twilight may last throughout night.

12 a Find the duration of perpetual day in a place of latitude (p > 90° - co.
OR
b Derive tangent formula for refraction.

13 a Find the change in the longitude of a star due to heliocentric parallax.
OR
b Compare Parallax and refraction.

14 a Derive the Kepler's equation.
OR
b Obtain the analytical expression for the equation of time.

15 a Explain how the tides are caused.
OR
b Find the condition for the occurrence of a total solar Eclipse.

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

16 Find the time taken by a star to rise from a small vertical distance x" below the horizon.

17 Derive Cassin's formula.

18 Find the aberration of a star at a given instant in any given direction.

19 Obtain the Newton' s deductions from Keplers law of planetary motion.

20 Define the following terms: (a) Elongation * (b) Conjunction (c) Opposition (d) Quadratures (e) Age of moon.