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V—103—2017

FACULTY OF SCIENCE

B.Sc. (Third Year) (Fifth Semester) EXAMINATION

OCTOBER/NOVEMBER, 2017

(Old Course)

PHYSICS

Paper XIII-B (Phy.-303)

(Astrophysics)

(Friday, 17-11-2017) **Time : 10.00 a.m. to 12.00 noon**

Time—2 *Hours* *Maximum Marks*—40

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) *All* questions carry equal marks.

1. Attempt any *four* of the following : 8

   (*a*) On which factors does the luminosity classification of star depend ?

   (*b*) Which is the largest and smallest planet in size in our solar system ?

   (*c*) State the value of Hubble constant with unit.

   (*d*) Define sunspot.

   (*e*) State the main characteristics of earth responsible for existence of human life.

   (*f*) State Hubble's law.

2. Attempt any *two* of the following : 8

   (*a*) Describe how the distance is measured by parallex method in astrophysics.

   (*b*) Explain in brief the Milkyway Galaxy.

   (*c*) What are different parts (layers) of sun's atmosphere ? Describe in brief Carona.

P.T.O.

3. Attempt any *two* of the following : 8

   (*a*) Describe structure, composition and atmosphere of mercury.

   (*b*) Explain the phenomenon of transmission of radiations through atmosphere.

   (*c*) Write a note on interstellar medium.

4. Attempt any *one* of the following : 8

   (*a*) Discuss in detail Big Bang theory.

   (*b*) Derive an expression for the black body radiation and Wien's law.

5. Write short notes on any *two* : 8

   (*a*) Spectral classification of stars

   (*b*) Condensation theory

   (*c*) Sunspot and sunspot cycle

   (*d*) Asteroids.