

Seat No.	
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B.Sc. (Part - I) (Semester - I) Examination, November-2018
ASTROPHYSICS AND SPACE SCIENCE
Fundamentals of Astronomy (Paper - I)
Sub. Code : 68272

Day and Date : Saturday, 24 - 11 - 2018

Total Marks : 50

Time : 3.00 p.m. to 5.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Use of Log table/Calculator is allowed.
 - 4) Neat diagrams must be drawn whenever necessary.

Q1) Select the correct alternatives.

[10]

- a) The geoheliocentric model was developed by _____
 - i) Tycho Brahe
 - ii) Aristotle
 - iii) Copernicus
 - iv) Ptolemy
- b) The apparent brightness of the star is inversely proportional to the _____ of the distance from the star.
 - i) cube
 - ii) square
 - iii) exponential
 - iv) logarithm
- c) The ratio of the brightness between two successive magnitudes is _____
 - i) 1
 - ii) 1.5
 - iii) 2
 - iv) 2.5
- d) In H-R diagram temperature of the star is presented on _____ axis.
 - i) vertical
 - ii) top
 - iii) bottom
 - iv) none of these
- e) Very important requirement to bring in nuclear fusion reaction is _____
 - i) presence of light element
 - ii) presence of very high temperature of seven million $^{\circ}\text{K}$
 - iii) both (i) and (ii)
 - iv) none of these

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- f) Total life time (age) of a massive star is
- | | |
|--------------------------|-------------------|
| i) very large | ii) very small |
| iii) independent of mass | iv) none of these |
- g) When sun spots increases, solar activity _____
- | | |
|-------------------|-------------------|
| i) increases | ii) decreases |
| iii) remains same | iv) none of these |
- h) Number of moons that the Mars has _____
- | | |
|--------|-------|
| i) 2 | ii) 0 |
| iii) 3 | iv) 5 |
- i) Comet Halley visits the sun on every _____ years.
- | | |
|---------|--------|
| i) 72 | ii) 73 |
| iii) 75 | iv) 76 |
- j) The closest galaxy to earth is _____
- | | |
|--------------|----------------|
| i) Milky Way | ii) Cassiopeia |
| iii) Orion | iv) Andromeda |

Q2) Attempt any TWO.

[20]

- Describe in brief Copernican heliocentric model of universe.
- Explain the spectral classification of stars.
- Describe in detail Magnetic field on the sun and Solar activity.

Q3) Attempt any FOUR

[20]

- Explain the inverse square law for the measurement of luminosity of the stars.
- What is photoelectric method? Describe construction and working of photoelectric photometer.
- When the star feels aged? Explain the formation of red giant and helium flash.
- What are nuclear fusion reactions?
- What are sunspots? List the prominent features of Sun spots.
- What is Meteor shower, how it occurs?

