

B.Sc. Space Science-A
Astronomy, Astrophysics and Meteorology

Note: Attempt any **FIVE** question. All question carry equal marks.

- Q-1 What are the different system of coordinates in astronomy? 15
- Q-2 Write a detailed note on solar eclipse. Why solar eclipse does not occur? 15
 every month?
- Q-3 (a) Derive a relation between luminosity and magnitude? 7.5
 (b) What is Interstellar medium and how it affect stars? 7.5
- Q-4 Write a detailed note on Jet streams. Discuss its segments and its 15
 flight importance?
- Q-5 What is humidity? Discuss its different types? 15
- Q-6 Differentiate between sidereal and mean solar times? 15
- Q-7 What is solar activity and its effects on earth? 15
- Q-8 Define the following terms: 15
 Celestial sphere Small Circle Great circle Sunspots.
 Supernovae Sunspots Parallex Galaxy
- Q-9 What is magnetosphere? Do not forget to draw and label its figure? 15

B.Sc. Space Science-B
Astronomy, Atmospheric Physics and Space Science

Note: Attempt any **FIVE** question. All question carry equal marks

- Q-1 What is the composition of dry air? What is environmental lapse rate? 15
Also discuss difference modes of heat transfer?
- Q-2 Discuss in detail Tephigram? 15
- Q-3 (a) What is Ionosphere and its layers? 7.5
(b) Briefly discuss sunspot activity? 7.5
- Q-4 Discuss in detail the cloud classification? 15
- Q-5 Discuss different applications of remote sensing technology? 15
- Q-6 Differentiate between aerial and satellite remote sensing? 15
- Q-7 Write a detailed note on the working of multistage rocket? 15
- Q-8 How a satellite is launched and injected into its orbit? 15
Write down all the maneuvers?
- Q-9 (a) Discuss the principle of rocket? 7.5
(b) Write advantages and disadvantages of solid and liquid propellant? 7.5

**B.Sc. Space Science-C
Practical**

Note: Attempt any **TWO** Practical. All carry equal marks

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| Q-1 | Draw constellations and identify the stars in it? | 10 |
| Q-2 | Describe the use of telescope and how sunspots can be measured by telescope? | 10 |
| Q-3 | To determine the precise time of sunrise on a given date and place? | 10 |
| Q-4 | To determine the vertical distance between two points by means of sextant? | 10 |

**B.Sc. Space Science-D
Practical**

Note: Attempt any **TWO** Practical. All carry equal marks

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| Q-1 | Determine the azimuth of Qibla at a given place? | 10 |
| Q-2 | Describe the uses of different Meteorological instruments for observations | 10 |
| Q-3 | In detail interpret the satellite picture? | 10 |
| Q-4 | To calculate the precise time of Astronomical twilight on a given date and place? | 10 |