

M.SC.(Physics) Semester - 2 (CBCS) Examination
April/May-2023 (NEW COURSE)
Space Physics (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

-
- Q.1 Answer the following questions in short. (Any Seven) (Each 2 marks) 14**
- (1) What is Tropopause? Give temperature it.
 - (2) What is Global Warming? Explain.
 - (3) Define : (i) Albedo, (ii) Air Mass.
 - (4) Give your comments on Climate Change.
 - (5) What do you mean by TEC? Give importance of it.
 - (6) What is Scintillation? Explain.
 - (7) Mention in brief about Sun spot nos.
 - (8) What are Van Allen radiation belts? Explain.
 - (9) What do you mean by Remote Sensing? Explain.
 - (10) List out important features of CME.
- Q.2 Answer following questions in detail. (Any two) (Each 7 marks) 14**
- (1) Discuss atmospheric chemical composition in details.
 - (2) How does thermal balance maintained in the Earth atmosphere? Describe any model about neutral atmosphere.
 - (3) List out important components of Solar radiation. Explain attenuation of solar radiation and radiate transfer.
- Q.3 Answer the following question as it requires. (each 7 marks) 14**
- (A) Discuss Chapman's theory of photo ionisation in details.
 - (B) Explain effect of ionosphere on radio wave propagation. Also explain about critical frequency and virtual height.
- OR**
- Q.3 Answer the following question as it requires. (each 7 marks) 14**
- (A) List out important measurement techniques of solar radiation. Explain any one in details.
 - (B) What is Langmuir probe? Discuss in details about electric field probe mass spectrometer in details.
- Q.4 Answer the following question as it requires. (any two question) (each 7 marks) 14**
- (A) Write a short note on the interior structure of the Sun.
 - (B) How does the Earth's Magnetic field produced? Describe Magnetosphere of the Earth.
 - (C) Explain about, (i) formation of geomagnetic cavity, (ii) magneto pause, (iii) magnetoshaeth.
- Q.5 Answer the following question as it requires. (any two question) (each 7 marks) 14**
- (1) Mention some practical applications of remote sensing. Also explain about GPS in brief.
 - (2) What is Solar Corona? List type of it and explain each in details.
 - (3) What is Solar wind? How does it affect communication explain in details.
 - (4) Discuss about thermodynamics and chemical composition of middle atmosphere and thermosphere.
