


Name:			
Enrolment No:			
<b>UPES</b> <b>End Semester Examination, April 2024</b>			
<b>Course: Solar Physics</b> <b>Program: B.Sc.</b> <b>Course Code: PHYS3025</b>		<b>Semester: 6th</b> <b>Time : 03 hrs.</b> <b>Max. Marks: 100</b>	
<b>Instructions:</b>			
<b>SECTION A</b> <b>(5Qx4M=20Marks)</b>			
S. No.		Marks	CO
Q 1	What is the importance of studying the sun?	4	CO1
Q 2	Elaborate on the slowly varying and rapidly varying radio component in the spectra of the sun.	4	CO1
Q 3	What is the primary difference between coronal mass ejection and flares?	4	CO2
Q 4	How does the rotation of the sun differ in the surface and its interior?	4	CO4
Q 5	Discuss some of the reasons that sets the formation of solar flares.	4	CO1
<b>SECTION B</b> <b>(4Qx10M=40Marks)</b>			
Q 6	Explain the missing neutrino problem and how it was resolved.	10	CO1
Q 7	Enumerate the events driven by the changing of solar magnetic field over the course of the solar cycle.	10	CO4
Q 8	With the help of a line diagram explain the working of a coronagraph. OR How do astronomers make sure that the light from the sun is collected efficiently throughout the day without moving the whole telescope assembly?	10	CO3
Q 9	How are sunspots formed and how is the magnetic field distributed in a sunspot?	10	CO4
<b>SECTION C</b> <b>(2Qx20M=40Marks)</b>			
Q 10	Explain in detail the standard flare model. OR Justify the reversal of solar magnetic poles with the help of Babcock's cycle.	20	CO4

Q 11	Demonstrate one space based and one ground based solar observatory on following aspects - <ol style="list-style-type: none"><li>1. Science objective</li><li>2. Main instruments and major findings.</li></ol>	<b>20</b>	<b>CO3</b>
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