



Sanjay Ghodawat University, Kolhapur

2018-19

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017 EXM/P/09/00

M.Sc. II

School of Science

Physics

PSS 606

Course Title: Sun and Solar system

Semester – Even(IV)

Day and Date: Saturday  
25-05-2019

End Semester Examination

Time: 30 min,

Max Marks:20

2-30 to 3-00 PM

Seat No.

PRN No.

Student Sign.

Invigilator Sign.

Examiner Sign

Marks Obtained

- Instructions:**
- 1) All Questions are compulsory.
  - 2) Mark  $\sqrt{\quad}$  to the correct option. Do not circle.
  - 3) More than one option marked will not be considered for assessment.
  - 4) Rough calculations on paper are not allowed.
  - 5) Use non-programmable calculator is allowed.

Q.1	Attempt the following	Marks (20)	Blooms Level	CO
A)	Choose the correct alternative.	(10)		
1	The outermost part of the sun's atmosphere is called the _____.	1	L1	606.1
	A) Chromosphere      B) Photosphere C) Corona      D) All of these			
2	The proton-proton chain combines _____ protons to produce one helium nucleus.	1	L1	606.1
	A) Eight    B) Four    C) Two    D) None of these			
3	Magnetic reconnections can release enough energy to blow large amounts of ionized gas outward from the corona is called as _____.	1	L2	606.2
	A) Coronal mass ejections (CMEs)    B) Solar flares C) Solar wind      D) Solar bursts			
4	The average velocity of the solar wind is about _____.	1	L2	606.2
	A) 400 km per sec      B) 400 meter per sec			

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- C) 400 km per hour                      D) 400 meter per hour
- 5 The distance between the Mars and the Sun is about 1 L2 606.3  
\_\_\_\_\_ AU.  
A) 1.52      B) 15.2      C) 0.152      D) None of these
- 6 The highest temperature in the solar system is found on 1 L1 606.3  
\_\_\_\_\_.  
A) Mercury                      B) Venus  
C) Mars                      D) Jupiter
- 7 The following planet takes maximum time for one spin on 1 L1 606.3  
its axis \_\_\_\_\_.  
A) Venus                      B) Mercury  
C) Saturn                      D) Uranus
- 8 The largest moon in the solar system is \_\_\_\_\_. 1 L1 606.4  
A) Earths moon                      B) Ganymede  
C) Enceladus                      D) Europa
- 9 The period of Halley's Comet is (in years) about \_\_\_\_\_. 1 L2 606.4  
A) 245      B) 93      C) 76      D) 72
- 10 \_\_\_\_\_ meteorites are silicate masses that resemble 1 L1 606.4  
Earth rocks.  
A) Stony-iron                      B) Iron  
C) Carbonaceous                      D) Stony

B)	Fill in the blanks	Marks	Blooms	CO
		(5)	Level	
1	The visible disk of the sun is called as _____.	1	L1	606.1
2	The sunspot cycle has average period of _____ years.	1	L1	606.2
3	The _____ belt is found in between the Mars and Jupiter.	1	L1	606.3

**ESE**  
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- |   |  |   |    |       |
|---|--|---|----|-------|
| 4 | The Venus revolves around the sun in _____ motion.   | 1 | L1 | 606.3 |
| 5 | Periodic meteor showers are probably caused through interaction of the Earth's atmosphere and debris from _____. | 1 | L2 | 606.4 |

- |           |  |            |                     |           |
|-----------|--|------------|---------------------|-----------|
| <b>C)</b> | <b>State true or false</b>   | <b>(5)</b> | <b>Blooms Level</b> | <b>CO</b> |
| 1         | The temperature in the corona is higher than the photosphere of the sun. | 1          | L1                  | 606.1     |
| 2         | The Jupiter shows the differential rotation.                             | 1          | L1                  | 606.2     |
| 3         | Nitrogen is the minor constituents of the earths atmosphere.             | 1          | L1                  | 606.3     |
| 4         | Venus has the highest surface temperature.                               | 1          | L1                  | 606.4     |
| 5         | Halley was the first to see Halley's comet.                              | 1          | L1                  | 606.4     |

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Physics

PSS 606

Course Title: Sun and Solar System

Semester - Even (IV)

Day and Date: Saturday  
25-05-2019

End Semester Examination

Time: 2.5 hrs

Max Marks:80

3.00 to 5.30 PM

Instructions:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Use of logarithmic table and calculator are allowed.

Q.2	Answer the following questions	Marks (16)	Blooms Level	CO
a)	Distinguish between Photosphere, chromosphere and corona of the sun.	12	L3	606.1
b)	Explain the composition of the sun in detail.	4	L2	606.1
OR				
b)	Write a note on helioseismology.	4	L2	606.1
Q.3	Answer the following questions	Marks (16)	Blooms Level	CO
a)	Explain the solar flares and coronal mass ejections.	12	L5	606.2
b)	Write in details about the solar wind.	4	L2	606.2
OR				
b)	Give a short note on Solar and heliospheric observatory (SOHO).	4	L2	606.2
Q.4	Answer the following questions	Marks (24)	Blooms Level	CO
a)	List various stages involved in solar nebula hypothesis and explain in detail each of them.	12	L4	606.3
b)	Write a detail about the physical characteristic and the atmosphere of the Earth.	8	L2	606.3

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OR

b) Explain geological activities and atmosphere of the Mars.  
List the name of active rovers and spacecraft studying Mars. 8 L2 606.3

c) Illustrate physical characteristic of the Mercury. 4 L2 606.3

**Q.5**

**Answer the following questions**

**Marks  
(24)**

**Blooms  
Level**

**CO**

a) Identify the orbital characteristic, physical properties and explain the atmosphere of the Saturn. 12 L3 606.4

b) Explain the formation of belts and zone cloud structure from the Jupiter. 8 L3 606.4

OR

b) Write in detail about the meteoroids, asteroids and comet and their impacts on the earth. 8 L3 606.4

c) Give the orbital characteristic of the Uranus. 4 L2 606.4

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