



Final Exams  
2018-2019

- Q1 A- Explain Lunar Eclipse (4+6+5) Marks  
B- Draw average distribution of incoming solar radiation by percentage and amount of solar energy.  
C- What are byproducts in the first step of the nuclear fusing of the sun and explain with interaction equation.

- Q2: A- The distance between two stars  $1.42 \times 10^{14} \text{ Km}$  (4+3+3+6+4) Marks

Calculate this distance by 1-Light year 2 - parsec.

B- Calculate atmosphere pressure at height 5000 km

C- Calculate earth rotation on its axis at latitude 75 degree south.

D- Life time of the sun is 100 times greater than the life time of the one star. Calculate the mass and luminosity of the star.

E- Define the main sequence stars and draw the (H-R diagram) or (Mass-Luminosity relation).

- Q 3 A- -Complete the following statement. (10+5) Marks

1- In the ozone layer temperature ----- with altitude due to-----.

2- In first quarter of moon phase the moonrise at-----, and moonset at -----.

3- At winter the distance between the sun and earth is ----- the potential energy -----.

4- Third Kepler's Law is represented -----

5- Luminosity is represented -----.

B- Compare between Terrestrial and Jovian planets.

- Q4 Choose the correct answer. 10 Marks

1- The space, all the matter and energy are called (A- star B-planet C-Universe).

2- An object which orbits a planet is ( A- galaxy B- moon C- earth).

3- The ion layer disappears at midnight is (A-D B-E C-F) layer.

4- The layer of the sun visible during a total eclipse is (A- Chromosphere B- Photosphere C- Corona).

5- The coldest layer of earth atmosphere is (A- Stratosphere B- mesosphere C- Troposphere).

Best wishes

Instructor : Dr Abbas H Rostam  
Signature



Q1: A- Explain Solar Eclipse (6+4) Marks  
B- Explain the models of the solar system.

Q2: A- Compare moon phases timing in first quarter and last quarter . (4+6) Marks  
B- Define the third Kepler's Law of Planetary Motion and prove this law.

Q3:A- If the power energy emitted or (power per unit area emitted) from one star is  $35437500 \frac{\text{watt}}{\text{m}^2}$ . Calculate the temperature of the star. (5+5) Marks

B- Calculate the distance of Saturn from the sun and the period time of the Saturn around the sun.

Q 4: A- -Complete the following statement. 10 Marks

- 1- -----the time required for the Moon to complete a  $360^\circ$  revolution around the Earth; this takes ----- days.
- 2- Thermonuclear fusion can take place only at ----- and----- .
- 3- ----- is the time required for the Moon to pass through its complete series of phases from new moon to new moon; this takes ----- days.
- 4- Star with mass four time greater than the mass of the sun, luminosity of the stars is---
- 5- Planets are categorized according to ----- and -----.

Q5: Choose the correct answer. 10 Marks

- 1- The closed distance moon from the earth is called (A- Aphelion B-perigee C-Apogee).
- 2-The layer of ions that ability to refract low frequency signals. (A- F 2- E 3- D).
- 3- One of these variables has more effect on the luminosity of the star (A- Temperature B- mass C-radius).
- 4-One light year is equal (A-3.26 pc B-206265 pc C- 0.306748 pc)
- 5- Stars below the main sequence are called (A-White dwarfs B- Giants stars C-Super giants stars).

Q6: A- At 70 South latitude line, in 25 May the day longer or the night.

(5+5) Marks

B- Draw the layers of the sun.

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4/9/2019



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