Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: GCSE Triple Science_Space Physics (LDQ)

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Q1.

The Sun is at the centre of our solar system.

(a) What type of object is the Sun?

_____

(1)

(b) What is the name of the galaxy our solar system is part of?

Tick (✓) **one** box.

Andromeda ☐

Milky Way ☐

Sombrero ☐

Tadpole ☐

(1)

The table below gives information about some of the moons in our solar system.

Moon	**Radius in kilometres**
Ganymede	2630
Titan	2570
Europa	1560
Charon	606

(c) What is a moon?

_____

(1)

(d) A student researched the radius of some planets in the solar system.

Downloaded from www.merit-minds.com

radius of largest dwarf planet = 1190 km
radius of smallest planet = 2440 km

The student made the following conclusions:

1. dwarf planets are always smaller than moons
2. planets are always bigger than moons.

Give **one** reason why each of the student's conclusions is wrong.

Use the data given above and in the table above.

1. _____

_____

2. _____

_____

(2)

The Earth's Moon and the International Space Station both orbit the Earth.

(e) Give **one other** similarity and one difference between the orbit of the Earth's Moon and the orbit of the International Space Station.

Similarity _____

_____

Difference _____

_____

(2)

(f) Very few people have been to the International Space Station.

Suggest **one** reason why very few people have been to the International Space Station.

_____

_____

_____

(1)

(Total 8 marks)

Q2.

The Sun is the closest star to the Earth.

(a) A 2.5 kg mass would have a weight of 750 N at the surface of the Sun.

Calculate the gravitational field strength at the surface of the Sun.

Use the equation:

$$\text{gravitational field strength} = \frac{\text{weight}}{\text{mass}}$$

Downloaded from www.merit-minds.com

_____

_____

_____

_____

Gravitational field strength = _____ N/kg

(2)

(b) Gravity is a non-contact force.

Which of the following is also a non-contact force?

Tick (✓) **one** box.

Air resistance	☐
Electrostatic	☐
Friction	☐
Tension	☐

(1)

(c) All stars have a life cycle.

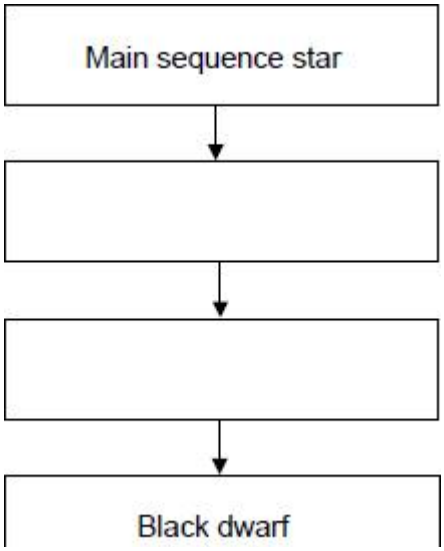
The figure below shows part of the life cycle of a star that becomes a black dwarf.

Complete the figure below.

Choose answers from the box.

	Black hole	**Neutron star**
Red giant	**Supernova**	**White dwarf**

Downloaded from www.merit-minds.com



(2)

The table below gives the mass of three stars compared to the mass of the Sun.

Star	Mass compared to the mass of the Sun
X	× 25.0
Y	× 15.0
Z	× 0.9

(d) Which letter represents the star most likely to become a black dwarf?

Give a reason for your answer.

Tick (✓) **one** box.

X ☐ **Y** ☐ **Z** ☐

Reason _____

_____

_____

(2)

(e) In which stage of the life cycle of a star are elements heavier than iron produced?

Tick (✓) **one** box.

Nebula ☐

Protostar ☐

Downloaded from www.merit-minds.com

Supernova ☐

(1)
(Total 8 marks)

Q3.

(a) The Sun is a star.

Which galaxy is the Sun in?

Tick **one** box.

Cartwheel ☐

Milky Way ☐

Starburst ☐

Tadpole ☐

(1)

(b) Light takes 500 seconds to travel from the Sun to the Earth.

Light travels at 300 000 kilometres per second.

Calculate the distance between the Sun and the Earth.

Use the equation:

distance = speed × time

_____

_____

_____

_____

Distance = _____ kilometres

(2)

The table below gives information about some of the planets in our solar system.

The planets are in order of increasing distance from the Sun.

Planet	**Time to orbit the Sun in years**
Mercury	0.2

Downloaded from www.merit-minds.com

Venus	0.6
Earth	1.0
Mars	
Jupiter	12.0

(c) There are some planets in our solar system missing from the table above.

How many planets are missing?

_____

(1)

(d) Estimate how many years it takes Mars to orbit the Sun.

_____ years

(1)

(e) Calculate how many times Venus will orbit the Sun in 9 years.

_____

_____

_____

_____

In 9 years, Venus will orbit the Sun _____ times.

(2)

(Total 7 marks)

Downloaded from www.merit-minds.com