

# Model questions for Qualification Round of PSQC21

These questions have been prepared to give participants an idea of what type/structure of questions may be asked on the actual quiz.

**Note:** The **bold** option represents the correct answer

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**1. What is the name of the shell-like spherical structure made of icy rocks that is located at the far end of the Solar system? (Topic: Astronomy; Level: Basic)**

Options:

- a. Kuiper Belt
  - b. Kepler's Belt
  - c. Post-Neptune Asteroid Belt
  - d. Oort Cloud**
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**2. Betelgeuse, the famous Red Giant, is located in which of the following constellations? (Topic: Astronomy, constellations; Level: Basic)**

Options:

- a. Pegasus
  - b. Taurus
  - c. Orion**
  - d. Draco
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**3. What was the value and units of the "Hubble constant" which was estimated by Edwin Hubble in the 1920s.**

Options:

- a. Value: 70; Units: megaparsec/km/sec
  - b. Value: 550; Units: km/sec/megaparsec**
  - c. Value: 70; Units: km/sec/megaparsec
  - d. Value: 550; Units: megaparsec/km/sec
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**4. Through libration phenomena, what percentage of the Moon's surface will be visible from the Earth in a 30 year period despite its synchronous orbit (Topic: Astronomy; Level: Intermediate)**

Options:

- a. 50%
  - b. 61%
  - c. 59%**
  - d. 55%
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**5. What is the value of planck time and how is it measured? (Level: Intermediate)**

Options:

- a.  $5.391\ 247 \times 10^{-44}$  seconds; Measured by dividing Planck length by Planck velocity
  - b.  $5.391\ 247 \times 10^{-44}$  seconds; Measured by multiplying Planck length with speed of light
  - c.  $5.391\ 247 \times 10^{-44}$  seconds; Measured by multiplying Planck length by Planck velocity
  - d.  $5.391\ 247 \times 10^{-44}$  seconds; Measured by dividing Planck length with speed of light**
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**6. What is the temperature of the Corona (Atmosphere) of the sun? (Topic: Astronomy, Stellar Physics; Level: Intermediate)**

Options:

- a. around 1,000 Kelvin to 5,000 Kelvin

- b. around 5,000 Kelvin to 50,000 Kelvin
  - c. around 10,00,000 Kelvin to 1,00,00,000 Kelvin**
  - d. around 10,000 Kelvin to 10,00,000 Kelvin
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*7. What is microgravity? (Topic: space science, physics; Level: Intermediate)*

**Options:**

- a. The gravity encountered on lighter heavenly bodies (eg: asteroids)
  - b. The extremely low gravity that would be encountered at or close to the centre of the Earth
  - c. the gravity encountered at a point that is infinitely far from the sun
  - d. the gravity encountered inside spacecrafts**
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*8. Name the point in the atmosphere from which visible tracks of showering meteors appear to be diverging (Topic: Astronomy; Level: Intermediate)*

Options:

- a. Meteor split
  - b. Meteor Radiant**
  - c. Meteor Bifurcation
  - d. Meteor Ramify
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