

QB365 Question Paper Software
10th Standard - Science
Our Environment Assertion and reason

Exam Time: 00:20 Hrs

Date: 2025-10-11

Total Marks: 10

Questions:

Assertion and reason

1. **Assertion:** With one eye open we can see things in one dimension.

Reason: By opening two eyes we can see in two dimension.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

2. **Assertion:** White light of the Sun gives us various colours of the rainbow

Reason: The bending ability of red is least and the violet is the most.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false

3. **Assertion:** Blue light scatters the most in the atmosphere

Reason: The wavelength of blue light is more than the red light

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false

4. **Assertion :** Iris control the size of the pupil

Reason : Pupil regulates and controls the amount of light entering the eye.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false

5. **Assertion:** Sun appears reddish in the morning. It will not be observed on moon.

Reason: It is because moon does not have atmosphere, therefore, red light will not

scatter

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false

6.**Assertion:** Higher the refractive index of the prism material, lower is the angle of deviation.

Reason: The angle of deviation is directly proportional to the angle of prism.

Codes

(a) Both A and R are true, and R is correct explanation of the assertion.

(b) Both A and R are true, but R is not the correct explanation of the assertion.

(c) A is true, but R is false.

(d) A is false, but R is true.

7.**Assertion:** The rainbow is seen when the sun is behind the observer.

Reason: Rainbow is produced due to dispersion of white light by small rain drops hanging in the air after the rain.

Codes

(a) Both A and R are true, and R is correct explanation of the assertion.

(b) Both A and R are true, but R is not the correct explanation of the assertion.

(c) A is true, but R is false.

(d) A is false, but R is true.

8.**Assertion:** Danger signals are red.

Reason: Red colour has smallest wavelength.

Codes

(a) Both A and R are true, and R is correct explanation of the assertion.

(b) Both A and R are true, but R is not the correct explanation of the assertion.

(c) A is true, but R is false.

(d) A is false, but R is true.

9.**Assertion:** There is no dispersion of light refracted through a rectangular glass slab.

Reason: Dispersion of light is the phenomenon of splitting of a beam of white light into its constituents colours.

Codes

(a) Both A and R are true, and R is correct explanation of the assertion.

(b) Both A and R are true, but R is not the correct explanation of the assertion.

(c) A is true, but R is false.

(d) A is false, but R is true.

10.**Assertion (A) :** A person suffering from myopia cannot see the distant objects clearly.

Reason (R) : A converging lens is used for the correction of myopic eye as it can form real as well as virtual image of the objects placed in front of it.

(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.

(b) If both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.

- (c) If Assertion is true, but Reason is false.
 - (d) If Assertion is false, but Reason is true.
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Answers Key:

Assertion and reason

1. (d) If both assertion and reason are false.
2. (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
3. (c) If assertion is true and reason is false. (The wavelength of red light is more than blue)
4. (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
5. (a) If both assertion and reason are true and the reason is correct explanation of assertion.
6. **(d):** Higher the refractive index of the prism material, greater is the angle of deviation.
7. **(b):** Just after the rain, a large number of small droplets of water remain suspended in the air. Each drop acts like a small prism. When sunlight falls on these drops, the white light splits into seven colours. The dispersed light from a large number of drops forms a continuous band of seven colours.
8. **(c):** Red colour has longest wavelength
9. **(b):** After refraction at two parallel faces of a glass slab, a ray of light emerges in a direction parallel to the direction of incidence of white light on the slab. As rays of all colours emerge in same direction, hence there is no dispersion only lateral displacement takes place.
10. (c) Myopia is a refractive error of the eye that makes it difficult to see distant objects clearly. To correct myopia, a diverging lens is used.