REFRACTION OF LIGHT AT CURVED SURFACES

1. Choose the correct answer. [ ]

a. The shape of the object appears to be inverted when seen through an empty cylindrical shaped glass beaker

b. The shape of the object appears to be inverted when seen through a cylindrical shaped glass beaker filled with water.

A) a is true B) b is true C) Both a and b are true D) Both a and b are false.

2.  Identify the shape of this object when seen through an empty cylindrical glass beaker. [ ]

A) B) C)  D) 

3.  Imagine the shape of this object when seen through cylindrical glass beaker filled with water. [ ]

A)  B)  C) D)

4 A ray will bend _____ the normal if it travels from a rarer medium to a denser medium. [ ]

A) above B) below C) towards D) away from

5 A ray will bend _____ the normal if it travels from a denser medium to a rarer medium. [ ]

A) above B) below C) towards D) away from

6. A ray travelling parallel to the principal axis strikes a convex surface and passes from a rarer medium to denser medium the refracted ray reaches a particular point _____ the principal axis. [ ]

A) below B) on C) towards D) away from

7. A ray travelling parallel to the principal axis strikes a convex surface and passes from a denser medium to rarer medium. The refracted ray moves _____ the principal axis. When you extend the refracted ray backwards, it intersects the principal axis at some point.

A) above B) below C) towards D) away from

8. A ray travelling parallel to the principal axis strikes a concave surface and passes from a denser medium to rarer medium. The refracted ray reaches a particular point _____ the principal axis. [ ]

A) on B) below C) towards D) away from

9. A ray travelling parallel to the principal axis strikes a concave surface and passes from a rarer medium to denser medium. The refracted ray moves _____ the principal axis. When you extend the refracted ray backwards, it intersects the principal axis at some point.

A) above B) below C) towards D) away from

10. A light ray parallel to the principal axis, when incident on a transparent curved surface, undergoes refraction and the point where the refracted light ray intersects the principal axis is called [ ]

A)Pole B) Centre of curvature C) Focus D) Midpoint between pole and centre of curvature

11. Identify the false statement, for an incident light ray parallel to the principal axis.

i) Travels from rarer medium to denser medium through a concave surface, after refraction bends towards principal axis and intersects the principal axis.

ii) Travels from denser medium to rarer medium through a convex surface, after refraction bends away from principal axis and when produced backward intersects the principal axis at a point. [ ]

A) (i) is false B) (ii) is true C) (i) is true D) Both A, B are true.

12. The centre of the curved surface is called..... [ ]

A) Centre of curvature B) Pole C) Focus D) Midpoint of radius of curvature

13. All distances are measured from the _____. [ ]

A)Pole B) Centre of curvature C) Focus D)Object

14. Distances measured along the direction of the incident light ray are taken as _____. [ ]

A)positive B) negative C) A and B D)NONE OF THESE

15. Distances measured opposite to the direction of the incident light ray are taken as _____. [ ]

A)positive B) negative C) both D)NONE OF THESE

16. The heights measured vertically above from the points on the axis are taken as _____. [ ]

A)positive B) negative C) both D)NONE OF THESE

17. The heights measured vertically down from the points on the axis are taken as negative. [ ]

A) positive B) negative C) both D)NONE OF THESE