This chapter has 61 questions.
Scroll down to see and select individual questions or narrow the list using the checkboxes below.

Select 0 questions at random and keep in order

- ☐ *Multiple Choice Questions* - (52)
- ☐ *Fill In The Blank Questions* - (9)
- ☐ *Odd Numbered* - (31)
- ☐ *Even Numbered* - (30)
- ☐ Accessibility: Keyboard Navigation - (45)
- ☐ Difficulty: Easy - (33)
- ☐ Difficulty: Hard - (3)
- ☐ Difficulty: Medium - (25)
- ☐ Topic: Eyeglasses, microscopes, and telescopes - (12)
- ☐ Topic: Focusing light with curved mirrors - (10)
- ☐ Topic: Lenses and image formation - (9)
- ☐ Topic: Reflection and image formation - (6)
- ☐ Topic: Refraction of light - (22)
- ☐ Type: Conceptual - (54)
- ☐ Type: Definition - (6)
- ☐ Type: Graphical - (6)
- ☐ Type: Numerical - (7)

1. When light enters a medium with a higher index of refraction it
   - ○ is absorbed.
   - ○ is bent away from the normal.
   - → ○ is bent towards the normal.
   - ○ continues in the same direction.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC When light enters a medium with a higher ind...
Type: Conceptual

2. Light is refracted as it crosses the interface between two different media because
   - ○ it changes frequency.
   - ○ it loses energy.
   - → ○ it changes speed.
   - ○ it becomes polarized.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC Light is refracted as it crosses the interfa...
Type: Conceptual

3. When light is reflected from a smooth, plane mirror
   - → ○ the angle of reflection is the same as the angle of incidence.
   - ○ the light is changed to a lower frequency.
   - ○ most of the light is scattered into multiple directions.
   - ○ the wave characteristics are predominant.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Reflection and image formation
MC When light is reflected from a smooth, plane...
Type: Conceptual

4. The image produced by a single diverging lens will ALWAYS be
   - → ○ erect and virtual.
   - ○ erect and real.
   - ○ at infinity.
   - ○ inverted and virtual.
   - ○ inverted and real.

Select

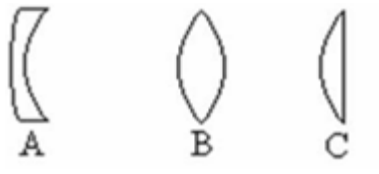
Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Type: Conceptual
MC The image produced by a single diverging len...

5. A converging lens
   - ○ always has two curved surfaces.
   - ○ always has a real image.
   - ○ refracts all light toward the focal point.
   - → ○ is thicker in the center than the edges.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Lenses and image formation
Multiple Choice Question
Type: Conceptual
MC A converging lens
Type: Definition

Select 6. Which of the following lenses is a diverging lens?



   - → ○ A
   - ○ B
   - ○ C

Difficulty: Medium
Topic: Lenses and image formation
Multiple Choice Question
Type: Conceptual
MC Which of the following lenses is a diverging...
Type: Graphical

7. Light from the sun passes through a converging lens and forms an image at
   - ○ infinity.
   - ○ the center of the lens.
   - → ○ the focal point.
   - ○ the center of curvature of the lens.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Lenses and image formation
Multiple Choice Question
Type: Conceptual
MC Light from the sun passes through a convergi...
Type: Definition

8. A plane mirror will always produce a
   - ○ virtual, inverted image.
   - ○ real, erect image.
   - → ○ virtual, erect image.
   - ○ real, inverted image.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Reflection and image formation
Multiple Choice Question
Type: Conceptual
MC A plane mirror will always produce a

9. A shaving mirror and a make-up mirror both magnify the image. Thus, these mirrors are _____ mirrors.
   - ○ plane
   - → ○ concave
   - ○ convex

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Reflection and image formation
Multiple Choice Question
Type: Conceptual
MC A shaving mirror and a make-up mirror both m...

10. The focal length of a glass lens depends on
    - ○ the curvature of the surface of the lens.
    - ○ the index of refraction of the glass.
    - ○ the intensity of the light passing through the lens.
    - ○ both the index of refraction of the glass and the intensity of the light passing through the lens.
    - → ○ both the curvature of the surface of the lens and the index of refraction of the glass.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Lenses and image formation
Multiple Choice Question
Type: Conceptual
MC The focal length of a glass lens depends on

11. The cornea of the human eye is an example of a
    - ○ converging mirror.
    - → ○ converging lens.
    - ○ diverging lens.
    - ○ convex mirror.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Eyeglasses, microscopes, and telescopes
Multiple Choice Question
Type: Conceptual
MC The cornea of the human eye is an example of...

12. The unaided nearsighted human eye focuses light from a distant object
    - → ○ in front of the retina.
    - ○ on the retina.
    - ○ behind the retina.
    - ○ acceptably but is too short for the focusing power of the cornea.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Eyeglasses, microscopes, and telescopes
Multiple Choice Question
Type: Conceptual
MC The unaided nearsighted human eye focuses li...

13. The rear view mirror of an auto bears the legend "Objects in mirror are closer than they appear." This mirror is a _____ mirror.
    - ○ plane
    - ○ concave
    - → ○ convex
    - ○ converging

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Reflection and image formation
MC The rear view mirror of an auto bears the leg...
Type: Conceptual

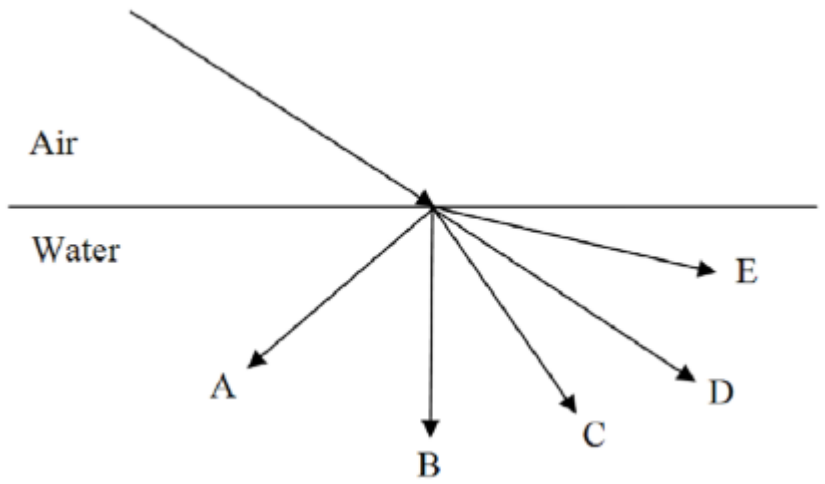
14. In the primary or inner rainbow, the

→ ○ outer edge of the bow appears red and the inner edge appears blue or violet.
○ outer edge of the bow appears blue or violet and the inner edge appears red.
○ outer edge of the bow appears yellow and the inner edge appears green.
○ pot of gold is always at the left end.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC In the primary or inner rainbow, the
Type: Conceptual

15. A ray of light moves from air into water. Which path most accurately shows the refraction?



Select

○ A
○ B
→ ○ C
○ D
○ E

Difficulty: Easy
Topic: Refraction of light
Multiple Choice Question
Type: Conceptual
MC A ray of light moves from air into water. Wh...
Type: Graphical

16. A rainbow shows separate colors of the spectrum because, at raindrop surfaces,

○ all colors are bent the same, hence the separation.
○ red light is bent more than green light.
○ green light is bent more than blue light.
→ ○ blue light is bent more than red light.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC A rainbow shows separate colors of the spect...
Type: Conceptual

17. Convex (converging) lenses are worn by

○ a nearsighted person to make rays from a nearby object diverge less strongly.
○ a nearsighted person to make rays from a distant object diverge more strongly.
○ a farsighted person to make rays from a distant object diverge more strongly.
→ ○ a farsighted person to make rays from a nearby object diverge less strongly.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Eyeglasses, microscopes, and telescopes
MC Convex (converging) lenses are worn by
Type: Conceptual

18. Rays from a distant object do not diverge enough for a nearsighted person to focus; this can be corrected with a

○ diverging or positive lens.
→ ○ diverging or negative lens.
○ converging or positive lens.
○ converging or negative lens.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Eyeglasses, microscopes, and telescopes
MC Rays from a distant object do not diverge en...
Type: Conceptual

Select

19. A fish looks up through the smooth surface of the water at a bear directly above it. To the fish, the bear appears to be

→ ○ further away than it really is.
○ closer to the point directly above the fish than it really is.

○ exactly where it really is.
○ The bear cannot be seen by the fish, due to total internal reflection.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC A fish looks up through the smooth surface o...
Type: Conceptual

20. In normal use, the image seen through eyeglasses is
→ ○ virtual.
○ real.
○ both A and B.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Eyeglasses, microscopes, and telescopes
MC In normal use, the image seen through eyegla...
Type: Conceptual

21. A ray of light in plastic reaches the edge of the plastic. The medium surrounding the plastic is air and the angle of incidence is larger than the critical angle. What will happen?
○ The ray will refract out of the plastic, bending toward the normal line.
○ The ray will refract out of the plastic, bending away from the normal line.
○ The ray will experience total internal reflection, the angle of reflection being larger than the angle of incidence.

Select
→ ○ The ray will experience total internal reflection, the angle of reflection equaling the angle of incidence.
○ The ray will experience total internal reflection, the angle of reflection being smaller than the angle of incidence.

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Refraction of light
MC A ray of light in plastic reaches the edge o...
Type: Conceptual

22. A real image of a candle formed with a converging lens can be viewed on a screen placed
○ nowhere; that is, it can't be viewed on a screen at all.
○ at either focal point of the lens.
○ anywhere on the side of the lens from which the light emerges.

Select
→ ○ at a single position determined by the distance of the object and the construction of the lens.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Lenses and image formation
MC A real image of a candle formed with a conve...
Type: Conceptual

23. A woman 1.6 m in height wants a plane mirror so that she can view her full height. The minimum vertical size of such a mirror is
○ 0.4 m.
→ ○ 0.8 m.
○ 1.6 m.
○ 3.2 m.
○ impossible to say without knowing the viewing distance.

Select

Accessibility: Keyboard Navigation
Difficulty: Hard
Multiple Choice Question
Topic: Reflection and image formation
MC A woman 1.6 m in height wants a plane mirror...
Type: Numerical

24. A ray emerges from water (n = 1.33) into air. The light ray will
○ bend toward the normal on the air side.
→ ○ bend away from the normal on the air side.
○ emerge in air at the same angle as in the water.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC A ray emerges from water (n = 1.33) into air...
Type: Conceptual

25. Suppose a fish is observed below the surface of a lake. The distance the fish appears below the surface when looking down from above into the water (n = 1.33) is
○ greater than the fish's actual distance.
○ equal to the fish's actual distance.
→ ○ less than the fish's actual distance.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Refraction of light
MC Suppose a fish is observed below the surface...
Type: Conceptual

Select 26.

A ray of light traveling in a calm pond strikes the surface at an angle of incidence which is 2° larger than the critical angle. This ray will

- ○ be refracted away from the normal to the surface in the air.
- → ○ undergo total internal reflection and not enter the air at all.
- ○ be refracted toward the normal to the surface in the air.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: Refraction of light
MC A ray of light traveling in a calm pond stri... — Type: Conceptual

27. Which of the following optical elements used alone can produce a real image of an object?

- ○ Convex mirror
- ○ Plane mirror
- ○ Negative lens
- → ○ Concave mirror
- ○ Prism

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Focusing light with curved mirrors
MC Which of the following optical elements used... — Type: Conceptual

28. An object is placed 10 cm in front of a concave mirror of focal length 30 cm. The image will be formed

- ○ 20 cm in front of the mirror.
- ○ 20 cm behind the mirror.
- ○ 15 cm in front of the mirror.
- → ○ 15 cm behind the mirror.
- ○ 0.05 cm behind the mirror.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Focusing light with curved mirrors
MC An object is placed 10 cm in front of a conc... — Type: Numerical

29. The image of an object placed 20 cm in front of a concave mirror of focal length 10 cm will be

- ○ virtual and inverted.
- ○ virtual and erect.
- → ○ real and inverted.
- ○ real and erect.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: Focusing light with curved mirrors
MC The image of an object placed 20 cm in front... — Type: Conceptual

30. An object is placed 10 cm in front of a diverging lens of focal length -15 cm. The image will be located

- ○ 0.167 cm in front of the lens.
- ○ 3.0 cm behind the lens.
- ○ 3.0 cm in front of the lens.
- → ○ 6.0 cm in front of the lens.
- ○ 6.0 cm behind the lens.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Lenses and image formation
MC An object is placed 15 cm in front of a dive... — Type: Numerical

31. A 1 cm object is placed 20 cm from a lens. The lens forms a real and inverted image of size 1.5 cm. What is the focal length of the lens?

- ○ 8.0 cm
- → ○ 12 cm
- ○ 16 cm
- ○ 20 cm
- ○ 24 cm

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Lenses and image formation
MC A 1 cm object is placed 20 cm from a lens. T... — Type: Numerical

32. A nearsighted person requires glasses with lenses that are

- ○ converging, to see distant objects.
- ○ converging, to see near objects.
- → ○ diverging, to see distant objects.
- ○ diverging, to see near objects.

Select

Multiple Choice Question
MC A nearsighted person requires glasses with l...

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Eyeglasses, microscopes, and telescopes
Type: Conceptual

33. In order for a telescope to produce a large magnification one would select lenses of

- ○ short focal length for the objective and long focal length for the eyepiece.
- ○ short focal length for both objective and eyepiece.
- ○ large focal length for both objective and eyepiece.
- → ○ large focal length for the objective and short focal length for the eyepiece.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Eyeglasses, microscopes, and telescopes
Type: Conceptual

Multiple Choice Question
MC In order for a telescope to produce a large ...

34. One difference between a microscope and a telescope is that the image formed by the objective is

- ○ real for the microscope but virtual for the telescope.
- → ○ real for both, but the image is enlarged for the microscope and reduced for the telescope.
- ○ real for both, but the image is reduced for the microscope and enlarged for the telescope.
- ○ virtual for the microscope but real for the telescope.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Eyeglasses, microscopes, and telescopes
Type: Conceptual

Multiple Choice Question
MC One difference between a microscope and a te...

35. A raindrop is doing its part to form a primary rainbow. Red and blue light enter near the top of the raindrop together from the sun. Both red and blue are reflected once at the back surface of the drop, but when the two rays emerge on the sunward side

- ○ the blue ray lies below the yellow ray and is more nearly horizontal than the yellow ray.
- ○ the red ray lies above the blue ray and is more nearly horizontal than the blue ray.
- → ○ the blue ray lies above the red ray and is more nearly horizontal than the red ray.
- ○ none of these.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Refraction of light
Type: Conceptual

Multiple Choice Question
MC A raindrop is doing its part to form a prima...

36. The speed of light in a certain type of glass is 30% slower than the speed of light in air. What is the index of refraction for that type of plastic?

- ○ 1.33
- → ○ 1.43
- ○ 1.5
- ○ 1.67

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Refraction of light
Type: Numerical

Multiple Choice Question
MC The speed of light in a certain type of glas...

37. Light enters water (n = 1.33) from air. The incident light ray makes a 0.44° angle with the normal to the surface on the air side. What will be the angle made with the normal by the refracted ray on the water side?

- ○ nearly 90°
- ○ 1.58°
- → ○ 0.33°
- ○ 0.188°

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Refraction of light
Type: Numerical

Multiple Choice Question
MC Light enters water (n = 1.33) from air. The ...

38. If the image formed by a concave mirror is closer to the mirror than the object is, then, compared to the object, the image will be

- → ○ smaller and inverted.
- ○ larger and inverted.
- ○ larger and erect.
- ○ larger and real.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Focusing light with curved mirrors
Type: Conceptual

Multiple Choice Question
MC If the image formed by a concave mirror is c...

39. One ray that is useful in locating the image formed by a convex mirror is the ray that is incident on the mirror in a path directed toward the focal point. This ray is reflected

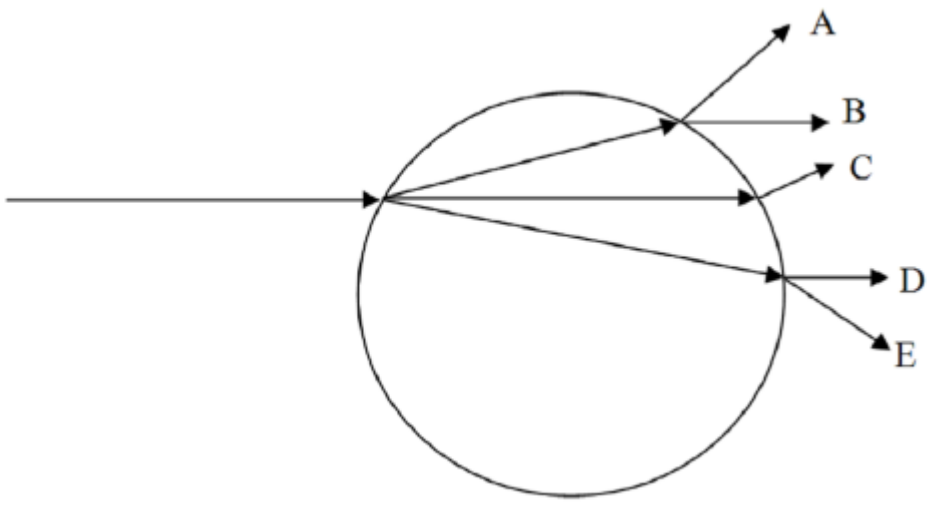
- ○ directly back along its incident path.

Select

○ through the center of curvature.
○ on a path tangent to the mirror.
→ ○ on a path parallel to the mirror axis.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Focusing light with curved mirrors
MC One ray that is useful in locating the image...
Type: Conceptual

40. A ray of light traveling through water passes through an air bubble. Which path does it take?



Select

→ ○ A
○ B
○ C
○ D
○ E

Difficulty: Hard
Topic: Refraction of light
Multiple Choice Question
Type: Conceptual
MC A ray of light traveling through water passe...
Type: Graphical

41. Two pools of water contain the same depth of water but one has a blue bottom and the other red. When looking into the pools from above,

→ ○ the red bottom pool appears deeper.
○ the pools appear to have the same depth.
○ the blue bottom pool appears deeper.
○ it is not possible to tell which will appear deeper from this information.

Select

Accessibility: Keyboard Navigation
Difficulty: Hard
Multiple Choice Question
Topic: Refraction of light
MC Two pools of water contain the same depth of...
Type: Conceptual

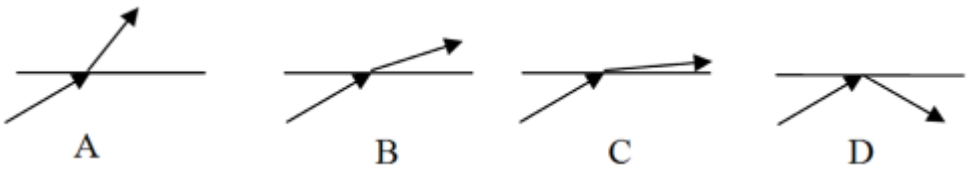
42. Lenses can be used to focus sunlight to a small point to burn paper or dry brush. A person demonstrates this using their own eyeglasses as the lenses. From this you can tell that

→ ○ the person is farsighted.
○ the person is nearsighted.
○ the person is either near- or farsighted but not both.
○ the person is both near- and farsighted.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Eyeglasses, microscopes, and telescopes
MC Lenses can be used to focus sunlight to a sm...
Type: Conceptual

43. Rays of light traveling through different media hit the boundary between the media and the air. The angle of incidence is the same in each case. Which medium has the largest index of refraction?



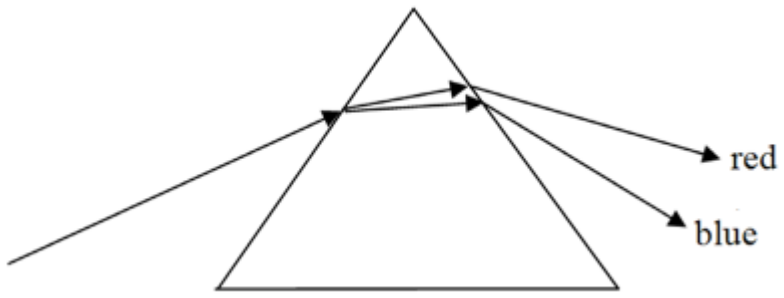
Select

○ A
○ B
○ C
→ ○ D

Difficulty: Medium
Topic: Refraction of light
Multiple Choice Question
Type: Conceptual
MC Rays of light traveling through different me...
Type: Graphical

Select 44.

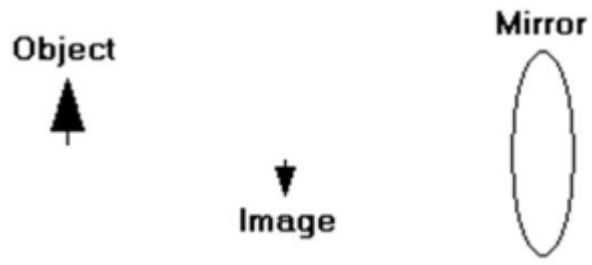
A beam of white light in air passes through the transparent object shown. Dispersion is observed to occur. From the diagram we can tell that



→ ○ the index of refraction is larger for red light than blue.
○ the index of refraction is larger for blue light than red.
○ the object acts as a converging lens.
○ the object behaves as a concave mirror.

Difficulty: Medium
Topic: Refraction of light
Multiple Choice Question
Type: Conceptual
MC A beam of white light in air passes through ...
Type: Graphical

45. While looking into a mirror, you notice that the image of a tree is projected onto the back of a chair (the positions of the tree and image are shown below). You must be looking into



Select

○ a plane mirror.
○ a convex mirror.
→ ○ a concave mirror.
○ a negative mirror.

Difficulty: Easy
Topic: Focusing light with curved mirrors
Multiple Choice Question
Type: Conceptual
MC While looking into a mirror, you notice that...
Type: Graphical

46. The image viewed in a telescope is a magnified virtual image. To achieve this, a telescope must have

○ a positive objective lens with a small focal length.
→ ○ a positive eyepiece lens with a small focal length.
○ a negative objective lens with a large focal length.
Select ○ a negative eyepiece lens with a large focal length.

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Eyeglasses, microscopes, and telescopes
MC The image viewed in a telescope is a magnifi...
Type: Conceptual

47. Fiber optics in a DVD player contain their light by employing total internal reflection. Designers surround the pure glass core with another type of glass, called cladding, that has a different index of refraction from the core.

Select

How should you select a cladding?

→ ○ Cladding must have a smaller index of refraction than the core.
○ Cladding must have a larger index of refraction than the core.

Difficulty: Easy
Multiple Choice Question
Topic: Refraction of light
MC Fiber optics in a DVD player contain their l...
Type: Conceptual

Select 48. An iPod is 20 cm in front of a flat mirror. You see the reflected image and must refocus your eye, perhaps even take off your eyeglasses, because

○ your retina has a different curvature than the flat mirror.
○ the flat mirror replaces the object in a random direction.
○ the image is inverted but virtual.
→ ○ the image location is 20 cm behind the mirror.

Multiple Choice Question
Accessibility: Keyboard Navigation
MC An iPod is 20 cm in front of a flat mirror. ...
Difficulty: Easy

Topic: Reflection and image formation
Type: Conceptual

49. Total internal reflection can occur when a light ray moves across a boundary between different materials in which direction?

- ○ Parallel to the surface, but only if the ray is polarized
- ○ Exactly perpendicular to the surface, no matter what the indices of refraction
- ○ From the material with the faster speed of light, into the material with the slower speed of light
- → ○ From a material with a slower speed of light to a material with a faster speed of light

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Refraction of light
Type: Conceptual
Multiple Choice Question
MC Total internal reflection can occur when a l...
Type: Definition

50. A Jurassic dinosaur is approaching your vehicle and appears in the side-view mirror. It is larger than it appears in the mirror. This means that

- ○ its image size is larger than what the flat rear view mirror shows.
- → ○ its image size is smaller than what the flat rear view mirror shows.
- ○ it is inverted and real.
- ○ it is a virtual image and inverted.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Focusing light with curved mirrors
Multiple Choice Question
MC A Jurassic dinosaur is approaching your vehi...
Type: Conceptual

51. The focal point of a lens is determined by

- ○ the shape of the two surfaces of the lens.
- ○ the index of refraction of the lens material.
- ○ only the shape if you have a negative lens, otherwise only the index of refraction.
- → ○ both shape and index of refraction.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Lenses and image formation
Multiple Choice Question
MC The focal point of a lens is determined by
Type: Conceptual
Type: Definition

52. The image formed by a concave mirror when the object distance is greater than the focal length is always

- → ○ real.
- ○ right side up.
- ○ virtual.
- ○ at a distance greater than the focal length.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Focusing light with curved mirrors
MC The image formed by a concave mirror when th...
Type: Conceptual

53. A curved mirror that cannot produce a real image of an object is _____.

convex

Select

Difficulty: Easy
Topic: Focusing light with curved mirrors
Fill-in-the-Blank Question
Type: Conceptual
FB A curved mirror that cannot produce a real i...
Type: Definition

54. When one observes a scratch on the bottom of a block of clear plastic, the scratch appears to be 2.5 cm below the top surface as viewed from above. The actual thickness of the plastic block is 3.0 cm. The index of refraction of the block is _____.

1.2

Select

Difficulty: Medium
Fill-in-the-Blank Question
Topic: Refraction of light
FB When one observes a scratch on the bottom of...
Type: Numerical

55. Glasses prescribed to correct a nearsighted eye will have a _____ (sign) focal length.

negative

Select

Difficulty: Easy
Fill-in-the-Blank Question
Topic: Eyeglasses, microscopes, and telescopes
FB Glasses prescribed to correct a nearsighted ...
Type: Conceptual

56. Parallel light incident on a positive lens will _____ as it emerges.

converge

Select

Difficulty: Easy
Topic: Lenses and image formation
Fill-in-the-Blank Question
Type: Conceptual
FB Parallel light incident on a positive lens w...
Type: Definition

Select 57. A prism decomposes incident white light into its _____ colors because of refraction.
constituent

Difficulty: Easy
Fill-in-the-Blank Question — Topic: Refraction of light
FB A prism decomposes incident white light into... — Type: Conceptual

58. The magnification produced by a plane mirror is _____ (sign and magnitude).
+1

Select

Difficulty: Medium
Fill-in-the-Blank Question — Topic: Focusing light with curved mirrors
FB The magnification produced by a plane mirror... — Type: Conceptual

59. The objective lens of a high-power microscope will have a _____ (large, short) focal length and will be a _____ (converging, diverging) lens.
short, converging

Select

Difficulty: Medium
Fill-in-the-Blank Question — Topic: Eyeglasses, microscopes, and telescopes
FB The objective lens of a high-power microscop... — Type: Conceptual

60. Light passing from glass into air bends _____ (toward, away from) the normal to the surface because it is traveling _____ (slower, faster) in the glass than in air.
away from, slower

Select

Difficulty: Medium
Fill-in-the-Blank Question — Topic: Refraction of light
FB Light passing from glass into air bends ____... — Type: Conceptual

61. An object is placed in front of a concave mirror. The object is farther from the mirror than the focal length of the mirror. The type of image reflected from the mirror is _____ and the orientation of the image is _____.
real, inverted

Select

Difficulty: Medium
Fill-in-the-Blank Question — Topic: Focusing light with curved mirrors
FB An object is placed in front of a concave mi... — Type: Conceptual