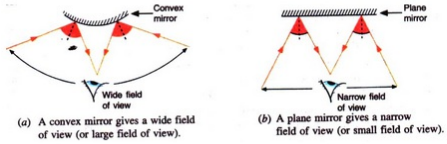
PAGE 205

Q1.
(a) Virtual and erect
(b) Virtual and erect; real and inverted
Q2.
Convex mirror has a wider field of view.
Q3.
Concave mirror.
Q4.
Convex mirror always produces a virtual, erect and diminished image.
Q5.
Image is formed at the focus.
focus = 30/2 = 15 cm
i.e. 15 cm behind the convex mirror.
Q6.
Concave mirror.
Q7.
Convex mirror.
Q8.
Concave mirror should be used to get a magnified image.
Q9.
(a) Concave mirror.
(b) Convex mirror.
Q10.
True.
Q11.
(a) Concave mirror.
(b) Convex mirror.
Q12.
Convex mirror.
Q13.
Convex mirrors.
Q14.
diagram 47.
Q15.
focus.
Q16.
A driver prefers to use a convex mirror as a rear-view mirror because
(i) A convex mirror always produces an erect image of the objects.
(ii) A convex mirror has wider field of view.
Q17.
We cannot use a concave mirror as a rear-view mirror in vehicles because a concave mirror produces inverted images of distant objects. So, all the vehicles will be seen running upside down in the mirror.
Q18.
(a) Image will form between pole and focus.
(b) At focus.

PAGE 206
Q19.
(a) R=50cm

f=?
We know that
f=R/2 = 50/2 = 25 cm
(b) Convex mirror
(c) It will diverge light rays.
Q20.

The advantage of using a convex mirror as a rear-view mirror in vehicles as compared to a plane mirror is that a convex mirror has a wider field of view as compared to a plane mirror. This enables driver to view much larger area of the traffic behind him.



(a) A convex mirror gives a wide field of view (or large field of view).
(b) A plane mirror gives a narrow field of view (or small field of view).

Q21.
Two uses of convex mirror:
(i) A convex mirror is used as a rear-view mirror in vehicles because it forms erect and dimished images of the objects and has a wider field of view.
(ii) Big convex mirrors are used as security mirror in shops so that a large number of goods displayed in the shop can be seen in the convex mirror.
Q22.
(a) Our image will be diminished, virtual and erect. This is because when the object lies anywhere between the pole and inifinity, the concave mirror forms a diminished, virtual and erect image.
(b) Our image will be enlarged, virtual and erect. This is because when the object lies within the focus of a concave mirror, it forms an enlarged, virtual and erect image.
Q23.
Shaving mirror - concave mirror.
Car headlight mirror - concave mirror.
Searchlight mirror - concave mirror.
Driving mirror - convex mirror.
Dentist's inspection mirror - concave mirror.
Torch mirror - concave mirror.
Staircase mirror in a double-decker bus - convex mirror.
Make-up mirror - concave mirror.
Solar furnace mirror - concave mirror.
Satellite TV dish - concave mirror.
Shop security mirror - convex mirror.
Q24.
We can distinguish between a plane mirror, a concave mirror and a convex mirror by bringing our face close to each mirror, turn by turn. If the image is of the same size as our face, it is a plane mirror. If the image is magnified, it is a concave mirror. If the image is diminished, it is a convex mirror.
Q25.
The images formed in the convex rear-view mirror will be smaller than those formed in the plane rear-view mirror.
Q26.
(a) Virtual and erect.
(b) Virtual and erect; real and inverted.

Page 207

Q37.
(a) Mirror B is convex since it forms a smaller image of fork.
(b) Mirror A is concave since it forms a larger image of fork.
Q38.
(a) The purpose of the dish is to collect a large amount of TV signals from the satellite.
(b) Concave.
(c) At the focus of the dish.
(d) Stronger signals will be received.
Q39.
(a) Convex - Because a convex mirror forms a diminished image

when the object is placed near it.
(b) Concave - Because a concave mirror forms an enlarged image when the object is placed near it.
(c) Plane - Because a plane mirror forms an image of same size as the object.
Q40.
(c) Mirror A is concave and mirror B is plane.

********** END **********