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NEET RAY OPTICS AND OPTICAL INSTRUMENTS — REFLECTION OF LIGHT BY SPHERICAL MIRRORS, MIRROR FORMULA AND MAGNIFICATION — PYQS

Max. Marks: 28 **Questions:** 7

Section A (MCQ) — 7 questions

Q.1 Given below are two statements:
Statement-I: Image formation needs regular reflection and/or refraction.
Statement-II: The variety in colour of objects we see around us is due to the constituent colours of the light incident on them.

In the light of the above statements, choose the most appropriate answer from the options given below : [RE-NEET (UG) 2024]

(1) Statement-I is correct but statement II is incorrect
(2) Statement-I is incorrect but Statement-II is correct
(3) Both Statement-I and Statement-II are correct
(4) Both Statement-I and Statement-II are incorrect

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Q.2 An object is placed at a distance of 40 cm from a concave mirror of focal length 15 cm. If the object is displaced through a distance of 20 cm towards the mirror, the displacement of the image will be [NEET 2018]

(1) 30 cm away from the mirror
(2) 36 cm away from the mirror
(3) 30 cm towards the mirror
(4) 36 cm towards the mirror

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Q.3 A beam of light from a source L is incident normally on a plane mirror fixed at a certain distance x from the source. The beam is reflected back as a spot on a scale placed just above the source L. When the mirror is rotated through a small angle θ, the spot of the light is found to move through a distance y on the scale. The angle θ is given by [NEET 2017]

(1) $\frac{y}{x}$ (2) $\frac{x}{2y}$ (3) $\frac{x}{y}$ (4) $\frac{y}{2x}$

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Q.4 Match the corresponding entries of **column 1** with **column 2**. [Where m is the magnification produced by the mirror] [NEET 2016 (Phase 1)]

Column 1		Column 2	
a.	$m = -2$	p.	Convex mirror
b.	$m = -\frac{1}{2}$	q.	Concave mirror
c.	$m = +2$	r.	Real image
d.	$m = +\frac{1}{2}$	s.	Virtual image

(1) (a)-(p) and (s); (b)-(q) and (r); (c)-(q) and (s); (d)-(q) and (r)
(2) (a)-(r) and (s); (b)-(q) and (s); (c)-(q) and (r); (d)-(p) and (s)
(3) (a)-(q) and (r); (b)-(q) and (r); (c)-(q) and (s); (d)-(p) and (s)
(4) (a)-(p) and (r); (b)-(p) and (s); (c)-(p) and (q); (d)-(r) and (s)

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Q.5 Two plane mirrors are inclined at 70°. A ray incident on one mirror at angle θ, after reflection falls on second mirror and is reflected from there parallel to first mirror. The value of θ is [NEET 2013 (Karnataka)]

(1) 45° (2) 30° (3) 55° (4) 50°

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Q.6 A rod of length 10 cm lies along the principal axis of a concave mirror of focal length 10 cm in such a way that its end closer to the pole is 20 cm away from the mirror. The length of the image is [AIPMT 2012 (Mains)]

(1) 10 cm (2) 15 cm (3) 2.5 cm (4) 5 cm

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Q.7 A tall man of height 6 feet, wants to see his full image. Then required minimum length of the mirror will be [AIPMT 2000]

(1) 12 feet (2) 3 feet

(3) 6 feet (4) any length

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ANSWER KEY

Ques.	1	2	3	4	5	6	7				
Ans.	**3**	**2**	**4**	**3**	**4**	**4**	**2**				