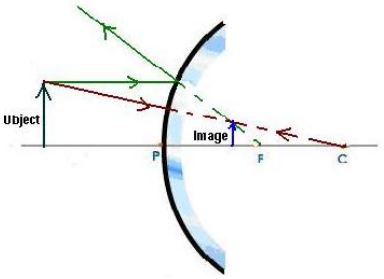
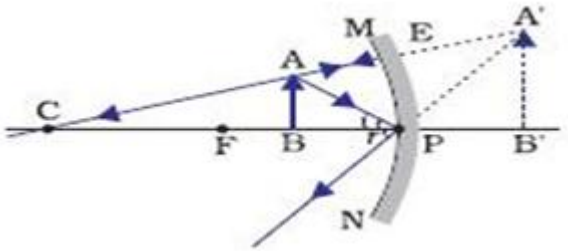
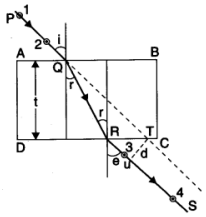
MID TERM EXAMINATION

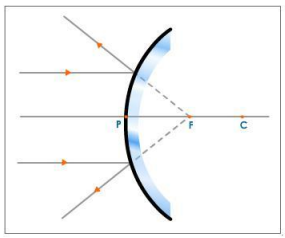
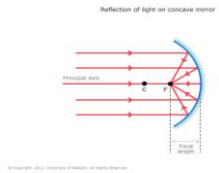
APRIL/MAY 2018

CLASS X

Marking Scheme – SCIENCE[PHYSICS][THEORY]

Q.NO.	Answers	Marks (with split up)
1.	Negative sign shows that the image is real and inverted. M=1.5 shows that the size of the image is magnified.	½ ½
2.	CHE	
3.	CHE	
4.	BIO	
5.	BIO	
6.	 Position of image-between P & F behind the mirror Nature of image-virtual and erect Size of the image-diminished . OR  Position of image-behind the mirror Nature of image-virtual and erect Size of the image-enlarged	1 ½ 1 ½
7.	I) Medium B. More the refractive index more is the bending or refraction II) Medium A. n∞1/v	1½ 1½

8.	A concave mirror can produce a magnified image of an object when the object is placed at F as well as between C & F. When the object is at F, the nature of the image is real and inverted When the object is between C & F, the nature of the image is real and inverted	2 ½ ½
9.	Refractive index depends on Nature of medium Wavelength of light Speed of light (any two) n=c/v V=c/n = 3X 10^8 /2.42 = 1.24 X 10^8 m/s	1 2
10.	CHE	
11.	CHE	
12.	CHE	
13.	BIO	
14.	BIO	
15.	BIO	
16.	Snell's law states that the ratio of sine of the angle of incidence to the angle of refraction is a constant for a given pair of media and for a given colour of light  Refraction through a glass slab. The perpendicular distance between the extended incident ray and the emergent ray is called lateral displacement.	2 2 1
17.	f = r/2=-1.75 m u=- -10m v=? $f = \frac{uv}{u+v}$ $v = \frac{uf}{u-f}$	1 ½

	$v = \frac{-10 \times -1.75}{-10-(-1.75))} = \frac{17.5}{8.25} = 2.12m$ M= -(v/u) = -(2.12/-10) = 0.21 Position –at F Nature-virtual and erect Size- diminished  	½ 1 ½ 1 ½
18.	CHE	
19.	CHE	
20.	BIO	
21.	BIO	
22.	 OR R =-47cm F = R/2 = -47/2 = -23.5cm	2 1 1
23.	U = -60cm F = -15cm 1/v +1/u = 1/f Substituting we get 1/v= -20cm M= -(v/u) =-(-20/-60) = -0.33	½ ½ 1

24.	CHE	
25.	CHE	
26.	BIO	
27.	BIO	