INDIAN SCHOOL MUSCAT

SET B

FIRST PRELIMINARY EXAMINATION

JANUARY 2019

CLASS X

Marking Scheme – SUBJECT[PHYSICS][THEORY]

<table>
<tr><th></th><th>VALVUE POINTS</th><th>Split up marks</th></tr>
<tr><td colspan="3">SECTION A</td></tr>
<tr><td>1.</td><td>BIO</td><td>1</td></tr>
<tr><td>2.</td><td>BIO</td><td>1</td></tr>
<tr><td colspan="3">SECTION B</td></tr>
<tr><td>3.</td><td>CHE</td><td>2</td></tr>
<tr><td>4.</td><td>Advantages
(i) Renewable sources of energy
(ii) No emission of pollutant gases
Disadvantages
(i) It can be extracted only at limited sites where the wind blows most of the time in a year.
(ii) Large area is required to build the wind farm/wind mills which is an expensive affair.

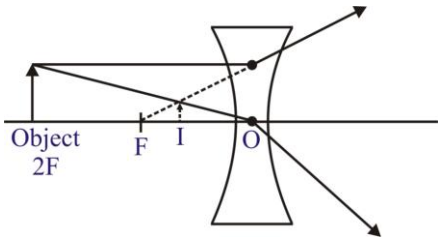
OR
Both can be used to produce electrical energy
Sun | Fossil fuels
1. It is renewable source of energy. | It is non-renewable source of energy.
2. It does not cause pollution. | It causes pollution in the environment.
3. It is cheap, easily available | It is expensive, not easily available.
(any two)</td><td>½
½
½
½

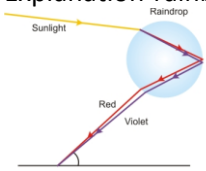
1

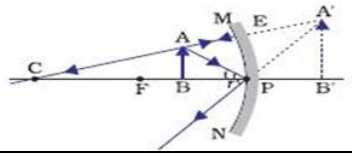
½
½</td></tr>
<tr><td>5.</td><td>BIO</td><td>2</td></tr>
<tr><td colspan="3">SECTION C</td></tr>
<tr><td>6.</td><td>h_o = 6cm
u = -20cm
f = -10cm

1/v - 1/u = 1/f

1/v = 1/f + 1/u</td><td>½</td></tr>
</table>

	$1/v = -1/10 - 1/20 = -3/20$ $v = -6.7cm$ $h_i = (v/u) \times h_o$ $= (-6.7/-20) \times 6 = 2cm$ or 2.01cm  	 ½ ½ ½ 1
7.	(a) The refractive index of diamond is 2.42. This means that the speed of light in diamond will reduce by a factor 2.42 compared to its speed in air. (b) $v=c/n$ $n = 1.33$ $c = 3 \times 10^8$ m/s $v = 3 \times 10^8/1.33$ $v = 2.26 \times 10^8$ m/s	1 ½ ½ 1
8.	(a) Definition-solenoid (b) Explanation- how current is induced in a solenoid using bar magnet. -diagram OR (a) Explanation- magnetic field is produced around a current carrying circular loop. -Diagram (b) Strength of the magnetic field can be increased: - by increasing the strength of the current - by increasing the number of turns of the coil (any two)	1 1 1 1 1 ½ ½
9.	(a) Derivation –effective resistance when three resistors are connected in parallel. -Diagram (b) Any two advantages of parallel connection over series connection	1 1 ½ + ½
10.	CHE	3
11.	CHE OR CHE	3
12.	CHE	3
13.	BIO	3
14.	BIO OR BIO	3

15.	BIO	3
	SECTION D	
16.	(a) Explanation- the force acting on a metal rod placed in a magnetic field. -Diagram (b) Fleming's left hand rule (c) Statement-Fleming's left hand rule OR (a) Electric motor (b) Principle - Electric motor -Working -diagram	1 2 1 1 1 1 1 1
17.	(a) Explanation-rainbow formation  (b) Dispersion. Total internal reflection and refraction (c) Reason-stars appear to twinkle but planet do not .	1 1½ ½+½+½ 1
18.	CHE OR CHE	5
19.	CHE	5
20.	BIO	5
21.	BIO OR BIO	5
	SECTION E	
22.	Given V = 10V R = 5Ω I = V/R = 10/5 = 2A When 3Ω resistor is connected in series with 5Ω R' = 3+5 = 8Ω new current I' = V/ R' = 10/8 =1.25A Therefore change in current I-I' = 2 -1.25 = 0.75A OR Milliammeter A2 and Voltmeter V1 The above instruments possess lowest least count which helps to measure the current and potential difference accurately.	 ½ ½ ½ ½ 1 1
23.	Concave Mirror	1 1

		
24.	CHE OR CHE	2
25.	CHE	2
26.	BIO	2
27.	BIO OR BIO	2
	End of the Question Paper	