

## SUMMATIVE ASSESSMENT - 1

## MODEL QUESTION PAPER – PHYSICAL SCIENCE

CLASS - 10

Time : 2 Hr. 45 Min.

PART - A &amp; B

MAX. MARKS : 40

**Instructions :**

1. This paper contains Part-A and Part-B.
2. Part-A contains three sections and Part-B contains one section.
3. Answer the questions under Part-A in separate answer book and answer the questions under Part-B in the question paper itself.
4. Answer all the questions.  
Only Essay type questions have internal choice to select.
5. First 15 Min. of time is allotted to read the question paper and next 2Hr. 30 Min. is allotted to write the answers.

Time : 2 Hr

PART - A

MAX. MARKS : 30

## SECTION – I

**Instructions :**

1. Answer all the questions.
2. Answer each question in one or two sentences.
2. Each question carries 1 Mark.

4 × 1 = 4 Marks

1. If 'f' is the focal length then Lens formula :  $\frac{1}{f} = \frac{1}{v} - \frac{1}{u}$

In the above formula what do 'u' and 'v' represent ?

2. What happened if we heat blue colour copper sulphate is heated in a test tube ? Why ?
3. Observe the data in the following table.

	Kerosene	Ice	Water
Specific Heat ( Cal/gm-°C)	0.5	0.5	1

Now answer the following question

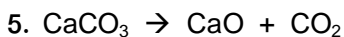
- (i) Which of the above substances take more time to raise its temperature by 1°C ?
4. You are very familiar to the process of coating colours on metals due to corrosion in daily life. Mention any two situations. Name such metals which can corrode and also write the change in colour of that metals due to corrosion.

## SECTION – II

### Instructions :

1. Answer all the questions.
2. Answer each question in atleast two sentences.
2. Each question carries 2 Mark.

5 × 2 = 10 Marks



Reshma is confused whether the above equation represents chemical decomposition reaction or not ? How can you make Reshma to understand ? Prepare any two questions.

6. Concave mirror is not used as rear view mirror. Imagine the draw backs of using concave mirror as rear view mirror ?

### 7. Read the following paragraph.

The cooler air at the top has greater refractive index than hotter air just above the road.

Light travels faster through the thinner hot air than through the denser cool air above it.

### Answer the following questions:

- (i) What happened to the refractive index of air when temperature increases?
- (ii) Is the velocity of light increased or decreased as temperature of air decreases ?

8. Observe the data given in the following table.

	Milk	Blood	Gastric juice	Milk of Magnesia
P <sup>H</sup> value	6.6	7.4	1.2	10.6

### Answer the following questions:

- (i) Name the substance in human body having acidic property.
  - (ii) Which substance is used in antacid tablets ?
9. Where do we observe spherical mirrors in our daily life ? Mention any four situations.

## SECTION – III

### Instructions :

1. Answer all the questions.
2. Answer each question in atleast four sentences.
2. Each question carries 4 Mark.

4 × 4 = 16 Marks

10. Answer all the questions.

- (i) What is the process of converting water vapour in to water ?

NAGA MURTHY- 9441786635  
Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

- (ii) Is the heat released or absorbed when water vapour changes to water ?  
(iii) How much quantity of heat energy is absorbed or released when 10 grams of water vapour at 100°C condenses to 10 grams of water at 100°C ?

( OR )

Give reasons for the following.

- (i) Why a test tube immersed at a certain angle in water beaker appears as mirror surface ?  
(ii) Why do stars appear twinkling ?

11. What information do you get from the following equation. Name any four observations.



( OR )

What are the effects of an acid on testing with the following indicators ?

- (i) Blue litmus paper  
(ii) Red litmus paper  
(iii) methyl orange  
(iv) phenolphthaleine

12. Explain an activity that how can you find the focal length of a given concave mirror. Select the needed material from the following list of articles.

V-stand, Concave mirror, Screen, Candle, Match box,

( OR )

How can you perform chemical displacement reaction in your laboratory by using the following material. What procedure do you follow ?

beaker, water, Copper sulphate, Iron nail, Spatula, Glass rod

13. If an object is placed on the principal axis of a convex lens between C and F then the image can be collected on the screen at other side of lens.

Draw a ray diagram to show the above situation.

( OR )

Take some Zinc granules in a conical flask. Close the mouth with two holed rubber cork.

Arrange this funnel in one hole and delivery tube from the other hole. Pour diluted hydrochloric acid through funnel until the bottom edge of funnel is to be sunk. A gas liberated from the delivery tube. To determine the gas, keep a burning match stick at the mouth of the delivery tube.

Draw a clear diagram to represent the experiment.

NAGA MURTHY- 9441786635  
Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

**SUMMATIVE ASSESSMENT - 1**  
**MODEL QUESTION PAPER – PHYSICAL SCIENCE**  
**CLASS - 10**

Time : 2 Hr. 45 Min.

PART - A & B

MAX. MARKS : 40

Time : 30 Min.

PART - B

MAX. MARKS : 10

- Instructions :**
1. Answer all the questions in Part-B
  2. Write the capital English letter in the given brackets that indicates the correct answer of corresponding questions
  3. No marks should allot for cancellations or over writing.
  4. All questions carries equal marks.

**SECTION – IV**

- Instructions :**
1. Answer all the questions .
  2. each question carries  $\frac{1}{2}$  mark.  $20 \times \frac{1}{2} = 10$  Marks

14. P' beaker has water with 30 °C. Q' beaker has water with 40 °C.

R' beaker has water with 30 °C. Then which is the true statement ? [     ]

- A. P and Q are in thermal equilibrium
- B. P and R are in thermal equilibrium
- C. P, Q and R are in thermal equilibrium
- D. As the data is insufficient, we can't determine the thermal equilibrium

15. The image in Pin hole camera is ..... [     ]

- A. Always erect
- B. Always inverted
- C. Either erect or invert according to the distance of the object
- D. Always big in size

16. Refractive index of glass is 1.5. the velocity of light in vacuum is  $3 \times 10^8$  m/s.

then what is the velocity of light in glass ? [     ]

- A.  $2 \times 10^8$  m/s.
- B.  $4 \times 10^8$  m/s.
- C.  $1.5 \times 10^8$  m/s.
- D.  $2.5 \times 10^8$  m/s.

NAGA MURTHY- 9441786635  
Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

17. Reason for formation of mirages [     ]

- A. Reflection of light
- B. Refraction of light
- C. total internal reflection of light
- D. Either reflection or refraction of light

18. Identify the Lens maker's formula [     ]

- A.  $\frac{1}{f} = (n+1)\left(\frac{1}{R_1} + \frac{1}{R_2}\right)$
- B.  $\frac{1}{f} = (n-1)\left(\frac{1}{R_1} + \frac{1}{R_2}\right)$
- C.  $\frac{1}{f} = (n-1)\left(\frac{1}{R_1} - \frac{1}{R_2}\right)$
- D.  $\frac{1}{f} = (n+1)\left(\frac{1}{R_1} - \frac{1}{R_2}\right)$

19. Properties of image: (i) Real and inverted image

(ii) Virtual and erect image

(iii) Enlarged image

(iv) Small size image

(v) Image having equal size

If an object is placed at 40 cm distance on the principal axis of a convex lens having 20 cm focal length, then the properties of image formed are ..... [     ]

- A. (i), (v)
- B. (ii), (iv)
- C. (ii), (iii)
- D. (i), (iii)

20. While writing the chemical equations, the downward arrow mark ( $\downarrow$ ) indicate ..... [     ]

- A. The gas evolved
- B. Liquid substance
- C. Precipitated formed in reaction
- D. aqueous solution

21. This is not a true statement [     ]

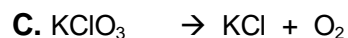
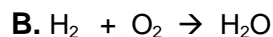
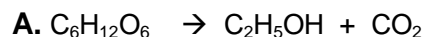
- A. If we keep burning stick near hydrogen gas, it will give pop sound.
- B. The colour of Lead iodide is Yellow
- C. Carbon dioxide converts salt solution in to milk white
- D. Pure gold doesn't get Patina

22. Potato chips flush bags of chips filled with ..... to preserve some period of time. [     ]

- A. Hydrogen
- B. Nitrogen
- C. Carbon dioxide
- D. oxygen

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23. Identify the balance chemical equation [     ]



24. Match the following:

(i) Plaster of Paris

(a)  $CaSO_4 \cdot \frac{1}{2} H_2O$

(ii) Gypsum

(b)  $CaSO_4 \cdot 2H_2O$

(iii) Baking soda

(c)  $NaHCO_3$

(iv) Washing soda

(d)  $Na_2CO_3$

Choose the correct answer: [     ]

A. (i) – b, (ii) – a, (iii) – c, (iv) - d

B. (i) – a, (ii) – b, (iii) – d, (iv) - c

C. (i) – b, (ii) – a, (iii) – d, (iv) - c

D. (i) – a, (ii) – b, (iii) – c, (iv) – d

25. This is not an olfactory indicator [     ]

A. beet root

B. onion

C. Clove oil

D. Vanilla essence

26. Formulae of substances:

(i)  $H_2SO_4$

(ii)  $NaOH$

(iii)  $NaCl$

(iv)  $KNO_3$

Identify the salt substances from the above [     ]

A. (i), (ii)

B. (i), (ii), (iv)

C. (iii), (iv)

D. (i), (iii), (iv)

27. The colour of  $P^H$  paper in a strong acid [     ]

A. Red

B. Blue

C. Green

D. Pink

28. Which is used to find the specific heat of solids ? [     ]

A. Spigmomano meter

B. Anemo meter

C. Calorie meter

D. Lacto meter

CHILD FRIENDLY MODEL QUESTION PAPER

NAGA MURTHY- 9441786635  
Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

29. The shape of stand to keep convex lens in the experiment of finding the focal length of a convex lens is ..... [ ]

- A. V
- B. C
- C. U
- D. L

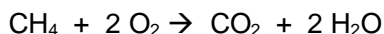
30. Read the following paragraph and answer the question followed.

A lens is formed when a transparent material is bounded by two surfaces of which one (or) both surfaces are spherical.

Question : What are the identification marks of lens ? [ ]

- A. Transparent material, two curved surfaces
- B. Two surfaces, Transparent material
- C. Transparent material, at least one curved surface in the two surfaces
- D. Bounded by two surfaces, One curved surface

31. The balanced equation of burning of Methane gas is



Molecular weight of methane is 16 units. Molecular weight of oxygen is 32 units.

How much oxygen is needed to burn 16 grams of methane ? [ ]

- A. 16 grams
- B. 32 grams
- C. 64 grams
- D. 128 grams

32. P : Sodium hydroxide can be used as antacid

Q : Sodium hydroxide is a weak base

Choose the correct statement: [ ]

- A. P is true and Q is true
- B. P is true and Q is true
- Q is the correct explanation for P
- Q is not the correct explanation for P
- C. P is true but Q is false
- D. P is false and Q is false

33. Clothes were hanged after washing. Then they loose moisture.

The process in this situation is ..... [ ]

- A. Evaporation
- B. Boiling
- C. Melting
- D. Condensation

NAGA MURTHY- 9441786635  
Contact at : [nagamurthysir@gmail.com](mailto:nagamurthysir@gmail.com)  
Visit at : [ignitephysics.weebly.com](http://ignitephysics.weebly.com)

**CLASS - X**  
**SUMMATIVE ASSESSMENT - 1**  
**MODEL QUESTION PAPER**  
**GENERAL SCIENCE PAPER - 1**  
**(PHYSICAL SCIENCE)**

**ACADEMIC STANDARD WISE WEIGHTAGE TABLE**

Academic Standard	% of Weightage	Marks allotted
AS-1	40%	16
AS-2	10%	04
AS-3	15%	06
AS-4	15%	06
AS-5	10%	04
AS-6	* 10% *	04
<b>TOTAL :</b>	<b>100%</b>	<b>40</b>

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**QUESTION WISE WEIGHTAGE TABLE**

Type of Question	Number of Questions	Marks allotted
Essay Type Questions	04	16
Short Answer Questions	05	10
Very Short Answer Questions	04	04
Multiple Choice Questions	20	10
<b>TOTAL :</b>	<b>33</b>	<b>40</b>

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## CHAPTER WISE WEIGHTAGE TABLE

Name of the Chapter	ETQ	SAQ	VSAQ	MCQ	Marks Allotted (Maximum)
1. Heat	10 <sup>01</sup> AS-1	*	03 <sup>01</sup> AS-4	14 <sup>01</sup> AS-1 28 <sup>01</sup> AS-3 33 <sup>01</sup> AS-6	06 $\frac{1}{2}$
2. Chemical Reactions	11 <sup>01</sup> AS-1 12 <sup>01</sup> AS-3	05 <sup>01</sup> AS-2	04 <sup>01</sup> AS-6	20,21,22,23 <sup>04</sup> AS-1 31 <sup>01</sup> AS-4	13 $\frac{1}{2}$
3. Reflection	12 <sup>01</sup> AS-3	06 <sup>01</sup> AS-2 09 <sup>01</sup> AS-6	*	15 <sup>01</sup> AS-1	08 $\frac{1}{2}$
4. Acids, Bases and Salts	11 <sup>01</sup> AS-1 13 <sup>01</sup> AS-5	08 <sup>01</sup> AS-4	02 <sup>01</sup> AS-3	24,25,26,27 <sup>04</sup> AS-1 32 <sup>01</sup> AS-6	13 $\frac{1}{2}$
5. Refraction at Plane Surfaces	10 <sup>01</sup> AS-1	07 <sup>01</sup> AS-4	*	16,17 <sup>02</sup> AS-1	07
6. Refraction at Curved Surfaces	13 <sup>01</sup> AS-5	*	01 <sup>01</sup> AS-1	18,19 <sup>02</sup> AS-1 29 <sup>01</sup> AS-3 30 <sup>01</sup> AS-4	07
<b>TOTAL :</b>	<b>04</b>	<b>05</b>	<b>04</b>	<b>20</b>	

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Question Number **Number of Questions** Academic Standard

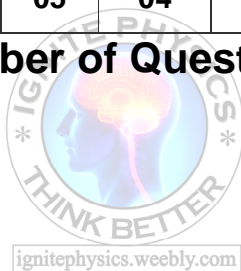
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# BLUE PRINT

Academic Standard	ETQ	SAQ	VSAQ	MCQ	Total Questions
<b>AS-1</b>	10 <b>01</b> <sup>P/P</sup> 11 <b>01</b> <sup>C/C</sup>	*	01 <b>01</b> <sup>P</sup>	14, 15, 16, 17, 18, 19 <b>06</b> <sup>P</sup> 20, 21, 22, 23, 24, 25, 26, 27 <b>08</b> <sup>C</sup>	<b>17</b>
<b>AS-2</b>	*	05 <b>01</b> <sup>C</sup> 06 <b>01</b> <sup>P</sup>	*	*	<b>02</b>
<b>AS-3</b>	12 <b>01</b> <sup>P/C</sup>	*	02 <b>01</b> <sup>C</sup>	28 <b>01</b> <sup>P</sup> 29 <b>01</b> <sup>P</sup>	<b>04</b>
<b>AS-4</b>	*	07 <b>01</b> <sup>P</sup> 08 <b>01</b> <sup>C</sup>	03 <b>01</b> <sup>P</sup>	30 <b>01</b> <sup>P</sup> 31 <b>01</b> <sup>C</sup>	<b>05</b>
<b>AS-5</b>	13 <b>01</b> <sup>P/C</sup>	*	*	*	<b>01</b>
<b>AS-6</b>	*	09 <b>01</b> <sup>P</sup>	04 <b>01</b> <sup>C</sup>	32 <b>01</b> <sup>C</sup> 33 <b>01</b> <sup>P</sup>	<b>04</b>
<b>TOTAL :</b>	<b>04</b>	<b>05</b>	<b>04</b>	<b>20</b>	<b>33</b>

Question Number **Number of Questions** Physics/Chemistry



## : మనవి :

ప్రభుత్వ పాఠశాలల్లో చదివే విద్యార్థులందరూ మేథావి వర్గం వారు కారు. మనస్తత్వ శాస్త్రము గురించి విద్యార్థులకానికి తెలియనిది కాదు. ఒక సాధారణ తరగతి గదిలో మేథావి వర్గం అనబడేవారు పది శాతమునకు మించి ఉండరు. మిగిలిన వారిలో తెలివిగలవారు, సాధారణమైన వారు, చదువులో వెనుకబాటు గలవారు ఉంటారని మన అందరికీ తెలుసు. అలా ఉంటేనే అది సాధారణ తరగతి గది. అలా లేకుండా ప్రస్తుత పోకడలను అనుసరించి తరగతిలో అందరికీ 90% మార్కులు పైబడి రావాలంటే అది అసాధారణ తరగతి అవుతుందే తప్ప సాధారణం కాదు. కామన్ గా వివిధ రకాల సామర్థ్యాలు గల విద్యార్థులకు నిర్వహించే ఎగ్జామ్ ప్రశ్న పత్రం విద్యార్థుల యొక్క ఇంటలిజెన్స్ ను పరిశోధించేదిగా ఉండకూడదు. వారిలో సామర్థ్యాలను అంచనా వేసేదిగా మాత్రమే ఉండాలి.

కానీ ప్రస్తుతం తయారు చేయబడుతున్న ప్రశ్న పత్రాలు తయారు చేస్తున్న వ్యక్తుల ప్రతిభను చాటి చెప్పేవిగా ఉంటున్నాయే తప్ప విద్యార్థుల సామర్థ్యాలకు అనుగుణంగా ఉండడం లేదు. నేరుగా ప్రశ్నను ఇస్తే లేదా సుభంగా ప్రశ్నను ఇస్తే విద్యార్థి ఎక్కడ సమాధానం వ్రాసేస్తాడో అన్న భావనతో అర్థం లేకుండా మార్చడం, సందిగ్ధంగా ప్రశ్నలను ఇవ్వడం జరుగుతున్నదని భావించబడుతున్నది. రాష్ట్ర స్థాయిలో లక్షల సంఖ్యలో విద్యార్థులు మరియు ఉపాధ్యాయులు చూడడానికి వీలైన ప్రశ్న పత్రాన్ని తప్పులతోటి, ముద్రణ దోషాలతోటి ముద్రిస్తూ ఉండడాన్ని ఏమనుకోవాలి? గతంలో ప్రశ్న పత్రం తయారీలో సులభ, మధ్యస్థ, కఠిన ప్రశ్నల భారత్య పట్టిక ఉండేది. దానిని ఎందుకు తొలగించినారో మరి !

పాఠ్య పుస్తకాలే కాదు, విద్యార్థి వ్రాయబోయే ప్రశ్న పత్రం కూడా విద్యార్థి నేస్తంగా ఉండాలి. అందమైన పాఠ్య పుస్తకం చదివినపుడు మాత్రమే ఆనందం పొంది ఎగ్జామ్ ను ఎదుర్కొనేటపుడు సునామీలో తలమునకలైనట్లుగా విద్యార్థికి పరిస్థితిని కల్పించరాదు. ప్రశ్నలకు సమాధానాలు వ్రాసేటపుడు కూడా విద్యార్థి ఆనందంగా వ్రాయగలిగేలా ప్రశ్నలను ఇచ్చినపుడు మాత్రమే విద్యావ్యవస్థ విద్యార్థి నేస్తం అవుతుంది తప్ప మరోమాట కాదు.

ఇందులో భాగంగా నేను ఈ **ఛైల్డ్ ఫ్రెండ్లీ మోడల్ క్వెస్టన్ పేపర్** ను తయారు చేశాను. ప్రశ్న పత్రం ఈ విధంగా ఉంటే బాగుంటుందని నేను అభిప్రాయపడుతున్నాను. ఈ ప్రశ్న పత్రం బట్టి విధానాన్ని ప్రోత్సహించదు. అలాగని అతి సులువైన ప్రశ్నలు ఇవ్వలేదు. విద్యార్థికి తగిన సూచనను ఇస్తూ ఆలోచించి తన అనుభవాన్ని గుర్తుకు తెచ్చుకుని వ్రాసే విధంగా ఇవ్వబడినాయి ప్రశ్నలు.

ఇందులో కూడా తప్పులు మరియు ఒప్పులు ఉండవచ్చు. ఈ ప్రశ్న పత్రం పై మీ అభిప్రాయాలను మరియు విమర్శలను నిర్ణయంగా నాకు తెలియజేయగలరు.

ధన్యవాదములు