



MACRO VISION ACADEMY, BURHANPUR

Sample Paper

Class: XI (C)

Mathematics Stream

Time 2:00 Hrs. M.M.: 100

Office Use

Student's Name:- _____ Father's Name:- _____

City:- _____ Mobile No:- _____ Exam Date:- _____

Studying in Class:- _____ Appearing for Class:- _____ Board:- MP/CBSE/Other _____

Mathematics (50)	Physics (15)	Chemistry (15)	English (20)	OBTAINED MARKS (100)

Mathematics (50)

- ❖ State basic proportionality theorem and its converse. 1
Ans.

- ❖ Write the empirical relation between mean, mode and median. 1
Ans.

- ❖ If the circumference of two circles are in the ratio 2:3, what is the ratio of their radius? 1
Ans.

- ❖ Two cones have their heights in the ratio 1:3 and radii 3:1. What is the ratio of their volumes? 1
Ans.

- ❖ State fundamental Theorem of Arithmetic. **1**
Ans.
- ❖ Prove that $5 - \sqrt{3}$ is an irrational number. **2**
Ans.
- ❖ If the zeros of the polynomial $f(x) = x^3 - 3x^2 + x + 1$ are $a - b, a, a + b$, find a and b. **2**
Ans.

❖ Prove that: $\frac{1 - \cos \theta}{\sin \theta} = \frac{\sin \theta}{1 + \cos \theta}$

2

Ans.

❖ Find the values of k for which the equation has equal roots:

2

$$(k - 12)x^2 + 2(k - 12)x + 2 = 0$$

Ans.

- ❖ The radii of two circles are 8 cm and 6 cm respectively. Find the radius of the circle having its area equal to the sum of the areas of the two circles. **2**
Ans.

- ❖ Solve the system of equations **3**
 $8v - 3u = 5uv$
 $6v - 5u = -2uv$
Ans.

- ❖ In $\triangle OPQ$ right angled at P, $OP = 7$ cm, $OQ - PQ = 1$ cm. Determine the values of $\sin Q$ and $\cos Q$. **3**
Ans.

- ❖ Calculate the median from the following data: **3**

Marks:	0-10	10-30	30-60	60-80	80-90
No. of students:	5	15	30	8	2

Ans.

❖ Show that $(a-b)^2$, (a^2+b^2) and $(a+b)^2$ are in A.P.

3

Ans.

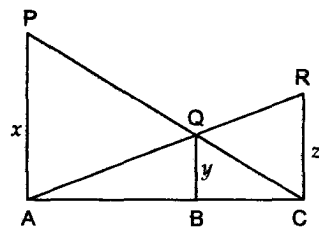
❖ The shadow of a tower, when the angle of elevation of the sun is 45° , is found to be 10 m. longer than when it was 60° . Find the height of the tower.

3

Ans.

- ❖ PA, QB and RC are each perpendicular to AC. Prove that $\frac{1}{x} + \frac{1}{z} = \frac{1}{y}$.

5



Ans.

- ❖ A circle touches the sides of a quadrilateral ABCD at P, Q, R, S respectively. Show that the angles subtended at the centre by a pair of opposite sides are supplementary. **5**

Ans.

- ❖ Determine the ratio in which the straight line $x - y - 2 = 0$ divides the line segment joining $(3, -1)$ and $(8, 9)$. **5**

Ans.

- ❖ A cone, a hemisphere and a cylinder stand on equal bases and have the same height. Show that their volumes are in the ratio 1:2:3. **5**
Ans.

Physics (15)

- ❖ An object is placed 15 cm from a convex mirror of radius of curvature 60 cm. Find the position of image and its magnification. **3**

Ans.
.....
.....

- ❖ With the help of a labeled diagram, explain the construction and working of a solar water heater. **3**
Ans.
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Chemistry (15)

- ❖ What is difference between displacement and double displacement reactions? Write equations for these reactions. **3**
Ans.
.....
.....
.....
.....
.....
.....

- ❖ ➤ Write word equations and then balanced equations for the reaction taking place when: **3**
i) Dilute Sulphuric acid reacts with zinc granules.
Ans.
.....
.....

- ii) Dilute hydrochloric acid reacts with magnesium ribbon.
Ans.
.....
.....

- Write chemical formula & uses of following
i) Bleaching powder.
Ans.
.....

- ii) Washing soda.
Ans.
.....

❖ The following passage carefully:

In 1977, Satyajit Ray started shooting a historical film based in Awadh of 1856, in the reign of Nawab Wajid Ali Shah. It falls into our discussion of 1857 films because of its plot centering the British takeover of Awadh, which has been cited as one of the causes that triggered the 1857 uprising in the region. The film has two parallel narratives, one based on Munshi Prem Chand’s short story of two chess-playing jagirdars, who remain absorbed in their games of chess while the British moved into Lucknow, the other dramatizing the takeover of Oudh by the British under General Outram.

The film has a strain of nationalist sentiment in its concession of the treacherous ad of Daihousie’s takeover of Awadh, the frustrations of the Nawab, and Outram’s own discomfort with the course of events. Yet, it is a new genre of the 1857 historical with its overt subtext of historicity, and its departure from the established elements of the historical genre that were available in Jhansi Ki Rani—the film builds on research and recorded history and dispenses with the larger-than-life element established by the genre. Rather than intense engagement as called for by the heightened use of character and action in the conventional historical, the voice-over punctuating the diegesis gives the sense of a fait accompli establishing distance from the unfolding historical events.

Ray was India’s most famous filmmaker and his films automatically generated a series of assumptions about the quality and value of the product. Shatranj Ke Khilari was meticulously researched and period reconstruction undertaken in the minutest of detail. Filmfare, which had been following the shoots since its 7-20 January 1977 issue, for instance, revealed in its 18 February-3 March issue that actor Amjad Khan, who plays Wajid Au Shah in the film, was being trained in Kathak dance, for scenes in the film that had Wajid Au performing the Raas-leela with his nautch girls. Cooper mentions that Ray’s research on Wajid Ali Shah had revealed, according to Ray, Wajid’s “extraordinary character”, which “made the king a figure worthy of film treatment.” (Cooper, 198).

In response to a critic’s comments in the 22 October 1978 issue of The Illustrated Weekly of India that Ray had been “Orientalist” in his depiction of Wajid Au as weak, ineffectual and effeminate. Ray himself declared many of the sources he had consulted while making the film in the 31 December, 1978 issue of the magazine. These included among other contemporary sources, Abdul Halim Sharar’s Guzesta Lucknow, which provided both the socio-cultural details and a portrait of Wajid in Lucknow and Calcutta, the text of Wajid Au Shah’s Rajas, where he plays Krishna, and the young Wajid’s personal diary, Mahaj Khana Shahi

I. Complete the following statements:

➤ The historical film produced by Satyajit Ray had the background of _____

Ans.
.....

➤ Lord Dalhousie’s takeover of Awadh was _____

Ans.
.....

➤ The film dramatized
(i) _____
(ii) _____

Ans.
.....

➤ Atyajit Ray's film was different from a conventional historical film in that it _____

Ans.
.....

II. Fill in the blanks with ONE word only:

➤ Satyajit Ray was India's most distinguished (a) _____ .

Ans.
.....

❖ Chang the following sentences into passive voice. **2**

➤ I have written a story.

Ans.
.....

➤ His mother is cooking food.

Ans.
.....

❖ Rearrange any four of the following word clusters to make meaningful sentences. **3**

➤ born/life/led/John Keats/was/family/in/a/poor/and/humble/a

Ans.

➤ only/boy/father/his/when/small/died/was/a/he

Ans.

➤ guardian/training/surgeon/provided/him/to be/his/a

Ans.

❖ In the following paragraph one word has been omitted in each line. Write the missing words in any four lines of the given paragraph, along with the words that come before and the words that come after it in the space provided. **4**

	Before	Missing	After
Almost everyone knows outdoor air pollution	e.g. Knows	that	outdoor
can damage one's health, the lungs particular	a) .....	.....	.....
but not many people aware about indoor pollution.	b) .....	.....	.....
In own small way, your house, school work	c) .....	.....	.....
environment all contribute to pollution.	d) .....	.....	.....
we do something about it.	e) .....	.....	.....

