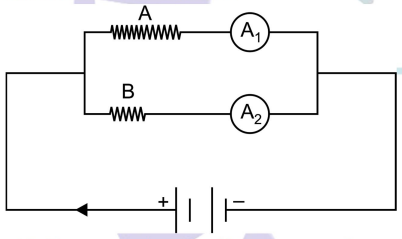
NEW STANDARD ACADEMY

Exam NEET - JEE **Marks: 60**
Date : 14-08-23 **CLASS : 10TH (M)** **Time: 2 HRS**

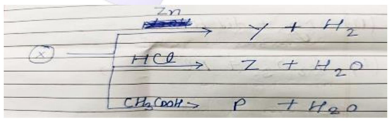
PHYSICS

1. Name the device/instrument used to measure potential difference. How is it connected in an electric circuit?
2. How much current will an electric bulb of resistance 1100 Ω draw from a 220 V source? If a heater of resistance 100 Ω is connected to the same source instead of the bulb, calculate the current drawn by the heater.
3. List in a tabular form two differences between a voltmeter and an ammeter.
4. Elements of electric toasters and electric iron are made of an alloy rather than a pure metal. Give two reasons to justify the statement.
5. In the circuit diagram shown, the two resistance wires A and B are of same area of cross-section and same material, but A is longer than B. Which ammeter A_1 or A_2 will indicate higher reading for current? Give reason.



6. (*i*) Draw a circuit diagram to show how two resistors are connected in series.
(*ii*) In a circuit, if the two resistors of 5 ohm and 10 ohm are connected in series, how does the current passing through the two resistors compare?
7. A Piece of wire is redrawn by pulling it until its length is doubled. Compare the new resistance with the original value.

CHEMISTRY

1. What is mean by balanced chemical equation are balanced? Balance the chemical equation given below.
$Al_2O_3 + NaOh \rightarrow Na\ AlO_2 + H_2O$
2. 

Determine the X,Y,Z,P
3. Point out the oxidizing and reducing agents in the following reactions.
$SO_2 + HNO_3 \rightarrow H_2SO_4 + NO_2$
4. What is a Chloralkali process and Draw the structure diagram.
5. Difference between Metal and Non Metal on the basis of their chemical properties.
6. Write balanced equation in each case
   a. Mg + did $HNO_3 \rightarrow$
   b. $Fe_2O_3 + Al \rightarrow$

BIOLOGY

1. What is the Allel which are present on different chromosome justify it?
2. Give the example of four contrasting character which is related to the pod shape, seed colour,seed shape and flower position of pea plant according to Mendel.
3. What is the difference between monohybrid and dihybrid cross give the one example of each.
4. When cross between homozygous dominant and homozygous recessive parent,what is percentage of heterzygous dominant in monohybrid cross in F2 generation. Explain with line diagram.
5. Back cross is test cross or test cross is a back cross explain it.
6. What is the name of mendalian heredity unit, define it, who conied,the term genetics.
7. Mendal choose the natural self pollinated pea plant how it is a possible artificial hybridization for his experiment, explain it

MATHS

1. For a certain distribution, mode and median were found to be 1000 and 1250 respectively. Find mean for this distribution, using an empirical relation.
2. From the following frequency distribution, find the median class:

Cost of Living index	1400 – 1550	1550 – 1700	1700 – 1850	1850 – 2000

Number of weeks	8	15	21	8

3. Find x and y from the following cumulative frequency distribution:

Classes	Frequency	Cumulative frequency
$0-8$	15	15
$8-16$	x	28
$16-24$	15	43
$24-32$	18	y
$32-40$	9	70

4. Find the unknown entries a, b, c, d in the following distribution of heights of students in aclass:

Height (in cm)	Frequency	Cumulative frequency
$150-155$	12	12
$155-160$	a	25
$160-165$	10	b
$165-170$	c	43
$170-175$	5	48
$175-180$	2	d

5. Find the mean of the following frequency distribution:

Class	$0-6$	$6-12$	$12-18$	$18-24$	$24-30$
Frequency	7	5	10	12	6

6. The mean of the following frequency distribution is 25. Find the value of p.

Class Interval	$0-10$	$10-20$	$20-30$	$30-40$	$40-50$
Frequency	5	6	10	6	p

7. The frequency distribution of agricultural holding in a village is given below:

Area of land (in hectare)	$1-3$	$3-5$	$5-7$	$7-9$	$9-11$	$11-13$
Number of families	20	45	80	55	40	12

Find the modal agricultural holding of the village.

8. The mean of the following distribution is 48 and sum of all the frequencies is 50. Find the missing frequencies x and y.

Class	$20-30$	$30-40$	$40-50$	$50-60$	$60-70$
Frequency	8	6	x	11	y

9. Find the median of the following data.

Height (in cm)	Less than 120	Less than 140	Less than 160	Less than 180	Less than 20
Number of students	12	26	34	40	50

10. The following data gives the information on the observed life time (in hours) of 150 electrical components:

C

B

Life time (in hours)	$0-20$	$20-40$	$40-60$	$60-80$	$80-100$
Frequency	15	10	35	50	40

Find the mode of the distribution.