

Half Yearly Examination 2019-20

Sub. : Science

Class : X

Time : 2.30 Hrs.

M.M. : 80

Biology

- AP
8
- Q.1 What is speciation? 1
- Q.2 Name two diseases that are transmitted sexually. 1
- Q.3 What is the role of seminal vesicles and the prostate glands? 2
- Q.4 How are inherited traits different from acquired traits? 2
- Q.5 A pea plant with blue colour flower denoted by BB is crossbred with a pea plant with white flower denoted by bb 3
- a) What is the expected colour of the flowers in their F_1 progeny?
- b) What will be the percentage of plants bearing white flower in F_2 generation, when the flowers F_1 plants were selfed?
- c) State the expected ratio of the flowers in F_2 generation with the help of diagram.
- Q.6 List three techniques that have been developed to prevent pregnancy. 3
- Q.7 a) What is the difference between asexual and sexual reproduction? 5
- b) Explain why sexually reproducing organisms have better chances of survival.
- c) Explain the type of asexual reproduction that takes place in hydra with the help of diagram.

Chemistry

- Q.1 Name one metal that can be cut with knife. 1
- Q.2 Name the compound :- $CH_3 - \overset{OH}{\underset{|}{C}} = O$ 1
- Q.3 What are amphoteric oxides? Give two examples of amphoteric oxides. 2
- Q.4 Which of the following hydrocarbons undergo addition reaction : 2
- C_2H_6 , C_3H_8 , C_3H_6 , C_2H_2 and CH_4 .
- Q.5 Show the formation of Na_2O by the transfer of electrons. 3
- Q.6 When ethanol reacts with ethanoic acid in the presence of Con. H_2SO_4 ; a substance with fruity smell is produced. Answer the following questions : 3
- a) State the class of compounds to which the fruity smelling compounds belong.
- b) Write the chemical equation for the reaction.
- c) State the role of Con. H_2SO_4 in this reaction.

Physics

- Q.1 An electric iron draws a current of 4A when connected to a 220 V mains. Its resistance must be : 1
- a) 1000Ω
- b) 100Ω
- c) 55Ω
- d) 44Ω

Q.2 Two wires of equal length, one of copper and the other of manganin (an alloy) have the same thickness. Which one can be used for ;

2

- a) Electrical transmission lines.
- b) Electrical heating devices and why? Give reason.

Q.3 a) State Ohm's law.

1

- b) A current of 5A is flowing through a resistor of 15Ω . Calculate the potential difference between the ends of the resistor. 2

Q.4 a) What are the advantages of connecting electrical devices in parallel with the battery instead of connecting in series? 5

- b) An electric iron of resistance 20Ω takes a current of 5A. Calculate the heat developed in 30S.

c) State Joule's law of heating.

KENDRIYA VIDYALAYA SANGATHAN

LUCKNOW REGION

PERIODIC TEST -II

CLASS-X

SUBJECT – SCIENCE

BLUE PRINT

CHAPTER	1 MARKS	2 MARKS	3 MARKS	5 MARKS	TOTAL
METALS AND NON-METALS	1(1)	1(2)	1(3)		3(6)
HEREDITY AND EVOLUTION	1(1)	1(2)	1(3)		3(6)
ELECTRICITY	1(1)	1(2)	1(3)	1(5)	4(11)
CARBON AND ITS COMPOUNDS	1(1)	1(2)	1(3)		3(6)
HOW DO ORGANISM REPRODUCE	1(1)	1(2)	1(3)	1(5)	4(11)
TOTAL	5(5)	5(10)	5(15)	2(10)	40

Marking Scheme
class - 8
Science

Q.No	Answers	Ma		
	BIOLOGY			
1.	Formation of new species.	1		
2.	Gonorrhoea, syphilis, AIDS (Any two)	1		
3.	Secrets fluid for nourishment and smooth movement of sperms.	2		
4.	characters that can be transferred to the next generation are inherited traits while the traits that are acquired during the lifetime of an individual and cannot be transferred to the next generation are called acquired traits e.g. body building etc.	1		
5.	a) Blue	1		
	b) 25%	1		
	c) 3:1	1		
	$ \begin{array}{cc} & Bb \times Bb \\ & \begin{array}{cc} B & b \end{array} \\ \begin{array}{c} B \\ b \end{array} & \begin{array}{ cc } \hline Bb & Bb \\ \hline Bb & bb \\ \hline \end{array} \end{array} $			
6.	Barrier method:- Using condoms/diaphragms to prevent fertilisation Chemical method:- changes the hormonal balance of female through oral pills so that eggs are not released Surgical method:- The vas deferens in males or the fallopian tube in females is blocked to prevent the transfer of sperms and eggs	1		
7.a)	Any two differences <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Asexual reproduction Only one parent takes part does not involve fertilisation of gametes </td> <td style="width: 50%; border: none;"> Sexual reproduction Both male and female take part Involves fertilisation of gametes. </td> </tr> </table>	Asexual reproduction Only one parent takes part does not involve fertilisation of gametes	Sexual reproduction Both male and female take part Involves fertilisation of gametes.	2
Asexual reproduction Only one parent takes part does not involve fertilisation of gametes	Sexual reproduction Both male and female take part Involves fertilisation of gametes.			
b)	because sexual reproduction gives rise to more variations which are essential for survival under unfavourable conditions	1		

CHEMISTRY

Q.No	ANSWERS	Marks
1.	Sodium	1
2.	Ethanoic acid	1
3.	Metal oxides that react with both acids and bases. Example ZnO , Al_2O_3	1
4.	C_3H_6 , C_3H_2	2
5.	$\begin{array}{l} \overset{2,8,1}{Na} \rightarrow \overset{2,8}{Na^+} + e^- \\ \overset{2,6}{O} + 2e^- \rightarrow \overset{2,8}{O^{2-}} \end{array}$ $\begin{array}{c} Na^+ \\ \times \\ \cdot \\ \cdot \\ \times \\ \cdot \\ \cdot \\ \times \\ \cdot \\ \cdot \\ \times \\ Na^+ \end{array} \cdot \cdot \cdot \rightarrow [Na^+]_2 [:\overset{\cdot\cdot}{O}:\overset{\cdot\cdot}{O}:\overset{\cdot\cdot}{O}:]^{2-} \rightarrow Na_2O$	1
6.	Esters $CH_3COOH + C_2H_5OH \xrightarrow{H_2SO_4} CH_3COOC_2H_5 + H_2O$ ethyl ethanoate Dehydrating agent	1 1 1

PHYSICS

1.	55Ω	1
2. a)	Copper wire because it has low resistance and hence good conductor of electricity	1
b)	Manganin because is an alloy its resistance is high hence it produces large amount of heat	1
3. a)	Correct statement	1/2
b)	$R = 15 \Omega$, $I = 5A$ $V = IR$ $V = 5 \times 15 = 75 V$	1/2 1
4. a)	In parallel circuits each appliance gets the same voltage. Overall resistance is reduced due to which current from the power supply is high. Even if one appliance stops working other appliances work normally. (Any two)	2
b)	$R = 20 \Omega$, $I = 5A$, $t = 30s$ $H = I^2 R t = 5 \times 5 \times 20 \times 30 = 15000 J = 15 kJ$	2
c)	Correct statement	1