

Marking Scheme
Strictly Confidential
(For Internal and Restricted use only)
Secondary School Examination, 2026 (Xth)
SUBJECT NAME SCIENCE (Q.P. CODE /Set No 31/2/3)

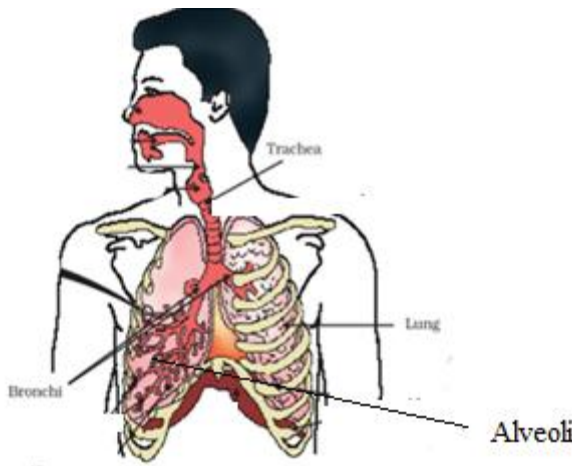
General Instructions: -

1	You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully.
2	“Evaluation policy is a confidential policy as it is related to the confidentiality of the examinations conducted, evaluation done and several other aspects. Its leakage to public in any manner could lead to derailment of the examination system and affect the life and future of millions of candidates. Sharing this policy/document to anyone, publishing in any magazine and printing in Newspaper/Website, etc. may invite action under various rules of the Board and IPC.”
3	Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one’s own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and due marks be awarded to them. In Class-X, while evaluating two competency-based questions, please try to understand given answer and even if reply is not from marking scheme but correct competency is enumerated by the candidate, due marks should be awarded.
4	The Marking scheme carries only suggested value points for the answers. These are in the nature of Guidelines only and do not constitute the complete answer. The students can have their own expression and if the expression is correct, the due marks should be awarded accordingly.
5	The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. If there is any variation, the same should be zero after deliberation and discussion. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
6	Evaluators will mark (✓) wherever answer is correct. For wrong answer CROSS ‘X’ be marked. Evaluators will not put right (✓) while evaluating which gives an impression that answer is correct and no marks are awarded. This is most common mistake which evaluators are committing.
7	If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then be totaled up and written in the left-hand margin and encircled. This may be followed strictly.
8	If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.

9	If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out with a note “Extra Question” .
10	No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
11	A full scale of marks 80 (example 0 to 80/70/60/50/40/30 marks as given in Question Paper) has to be used. Please do not hesitate to award full marks if the answer deserves it.
12	Every examiner has to necessarily do evaluation work for full working hours i.e., 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines). This is in view of the reduced syllabus and number of questions in question paper.
13	Ensure that you do not make the following common types of errors committed by the Examiner in the past :- • Leaving answer or part thereof unassessed in an answer book. • Giving more marks for an answer than assigned to it. • Wrong totaling of marks awarded on an answer. • Wrong transfer of marks from the inside pages of the answer book to the title page. • Wrong question wise totaling on the title page. • Wrong totaling of marks of the two columns on the title page. • Wrong grand total. • Marks in words and figures not tallying/not same. • Wrong transfer of marks from the answer book to online award list. • Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.) Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
14	While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0) Marks.
15	Any unassessed portion, non-carrying over of marks to the title page, or totaling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
16	The Examiners should acquaint themselves with the guidelines given in the “Guidelines for Spot Evaluation” before starting the actual evaluation.
17	Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totaled and written in figures and words.
18	The candidates are entitled to obtain photocopy of the Answer Book on request on payment of the prescribed processing fee. All Examiners/Additional Head Examiners/Head Examiners are once again reminded that they must ensure that evaluation is carried out strictly as per value points for each answer as given in the Marking Scheme.

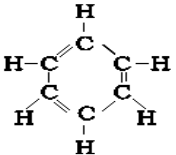
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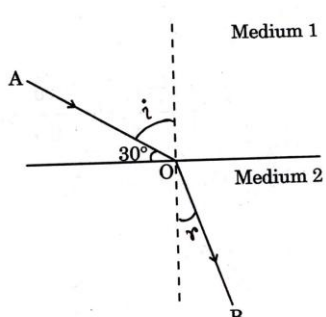
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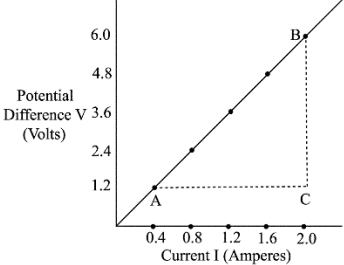
	global warming, most of these bacteria would die but the few variants resistant to heat would survive and grow further.		2						
12.	(a) Sewage should not contain solid waste, so sieve should be installed at the opening of drain. (or any other valid point) (b) Chemical treatment of industrial waste should be done before disposing it off. (or any other valid point)	1 1	2						
13.	(a)  (Award ½ mark for each labelling) (b) (i) Alveoli - Exchange of gases (ii) Respiratory pigment - Helps in the transportation of oxygen	2 ½ ½	3						
14.	(a) - In a few reptiles, the temperature at which fertilised eggs are kept determine whether the animal developing from the eggs will be male or female. - In snails, individuals can change sex. (Any other example) (b) <table border="1"><thead><tr><th>Male sex chromosome</th><th>Female sex chromosome</th></tr></thead><tbody><tr><td>Male has a mismatched pair i.e, 'XY' chromosomes.</td><td>Female has a perfect pair i.e. 'XX' chromosomes.</td></tr><tr><td>Y chromosome is smaller than X chromosome.</td><td>Both X chromosomes are of same size.</td></tr></tbody></table> (Any one difference, Any other difference)	Male sex chromosome	Female sex chromosome	Male has a mismatched pair i.e, 'XY' chromosomes.	Female has a perfect pair i.e. 'XX' chromosomes.	Y chromosome is smaller than X chromosome.	Both X chromosomes are of same size.	1 1 1	3
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Male has a mismatched pair i.e, 'XY' chromosomes.	Female has a perfect pair i.e. 'XX' chromosomes.								
Y chromosome is smaller than X chromosome.	Both X chromosomes are of same size.								
15.	(a) Actions which are controlled by forebrain / Actions which are under our control and are performed according to our will. (b) Cerebellum.	1 1							

	(c)(i) Regulates involuntary functions like heart rate/ blood pressure/ Breathing / sneezing/ vomiting.	2	
	OR (ii) Animal muscles are made up of special proteins, that change both shape and arrangement in response to nervous electrical impulses, new arrangements of these proteins give the muscle cells a shorter form so, muscle cells move which help animals to move.	2	4
16.	(a) (i) • Organ - Testes • Conditions - Requires a lower temperature than the normal body temperature/Secretion of testosterone. (ii) The sperms formed in the testes are carried by Vas deferens and delivered to urethra (Common passage for both sperms and urine). / Testes → Vas deferens → Urethra (iii) Long tail of sperms. OR (b) (i) • Mechanical barrier / Female condom (Diaphragm)/ similar covering worn in vagina. • Oral contraceptives/ Oral pills • Copper - T / loops. (Any two methods, Any other method) (ii) Surgical methods • Vas deferens in the male is blocked / Vasectomy • Fallopian tube in the female is blocked /Tubectomy (iii) Bacteria - Gonorrhoea / Syphilis (any other example) Virus - Warts / AIDS (any other example)	1 1 2 1 2 2 ½ ½	5
SECTION – B Chemistry			
17.	(C) / Oxalic acid	1	1
18.	(B) / Washing soda	1	1
19.	(C) / (i) and (iii)	1	1
20.	(C) / X-Hydrochloric acid, Y-Carbon dioxide	1	1

[illegible]

	$2\text{NaCl(aq)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{Cl}_2\text{(g)} + \text{H}_2\text{(g)}$ (Deduct ½ marks for no/incorrect balancing) (c) (i) (I) The red litmus solution will turn blue. (II) Sodium hydrogen carbonate and Ammonium chloride will be formed/ NaHCO_3 and NH_4Cl will be formed. / $\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2 + \text{NH}_3 \rightarrow \text{NH}_4\text{Cl} + \text{NaHCO}_3$ (Ammonium (Sodium chloride) hydrogencarbonate) OR (c) (ii) • A-Bleaching Powder / CaOCl_2 / $\text{Ca}(\text{ClO})_2$ • $\text{Ca}(\text{OH})_2 + \text{Cl}_2 \rightarrow \text{CaOCl}_2 + \text{H}_2\text{O}$ / $2\text{Ca}(\text{OH})_2 + 2\text{Cl}_2 \rightarrow \text{Ca}(\text{ClO})_2 + \text{CaCl}_2 + \text{H}_2\text{O}$ (Deduct ½ mark for no/incorrect balancing)	1 1 1 1 4	
29.	(a) (i) P- Ethanol / $\text{C}_2\text{H}_5\text{OH}$ / $\text{CH}_3\text{CH}_2\text{OH}$ (ii) (I) $\text{CH}_3 - \text{CH}_2\text{OH} \xrightarrow[\text{H}_2\text{SO}_4]{\text{Hot Conc.}} \text{CH}_2 = \text{CH}_2 + \text{H}_2\text{O}$ (II) Dehydrating agent / Catalyst (iii) • Sweet smelling compound/ester is formed. • $\text{CH}_3 - \text{COOH} + \text{CH}_3 - \text{CH}_2\text{OH} \xrightleftharpoons{\text{Acid}} \text{CH}_3 - \underset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{O} - \text{CH}_2 - \text{CH}_3 + \text{H}_2\text{O}$ OR (b) (i)  (or other resonating structure) (ii) Carbon cannot form C^{4+} cation because removal of four electrons is energetically not possible. Carbon cannot form C^{4-} anion because nucleus with six protons cannot hold ten electrons.	1 1 1 1 1 1	

	(iii) Covalent bond (iv) $\text{CH}_3 - \text{CH}_2\text{OH} \xrightarrow[\text{Or acidified K}_2\text{Cr}_2\text{O}_7 + \text{Heat}]{\text{Alkaline KMnO}_4 + \text{Heat}} \text{CH}_3\text{COOH}$ / Ethanol is converted to Ethanoic Acid by adding Alkaline KMnO₄/Acidified K₂Cr₂O₇ as oxidising agent. (v) $\text{CH}_3\text{COOC}_2\text{H}_5 \xrightarrow{\text{NaOH}} \text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COONa}$	1	
		1	
		1	5
	Section C Physics		
30.	(A) / Concave mirror, Nature of image-real	1	1
31.	(B) / Red, Yellow, Green, Blue, Violet	1	1
32.	(C) / Assertion (A) is true, but reason (R) is false.	1	1
33.	 $\frac{\sin i}{\sin r} = n$ $\angle i = 90^\circ - 30^\circ = 60^\circ$ $\sin r = \frac{\sin i}{n}$ $\sin r = \frac{\sin 60}{\sqrt{3}}$ $\sin r = \frac{\sqrt{3}}{2\sqrt{3}}$ $\sin r = \frac{1}{2} \Rightarrow \sin r = \sin 30$ $r = 30^\circ$	$\frac{1}{2}$ 1 $\frac{1}{2}$	2

34.	(a) - If the distance of the object from the eye is increased, ciliary muscles relax, lens becomes thin and so the focal length increases - If the distance between the object from the eye is decreased, the ciliary muscles contract, lens becomes thick and the focal length decreases. OR (b) In myopic eye image is formed in front of the retina. A concave lens / diverging lens of suitable power will bring the image back on to the retina.	1 1 2	 2
35.	(a) - Convex lens - When object is placed between focus and optical centre (b) $f = +20$ cm $u = -30$ cm $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$ $\frac{1}{v} = \frac{1}{f} + \frac{1}{u}$ $\frac{1}{v} = \frac{1}{20} + \frac{1}{-30}$ $\frac{1}{v} = \frac{1}{60}$ $v = 60$ cm The image is formed at a distance of 60 cm on the other side of the optical centre. - Nature of image – Real, inverted	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1	 3
36.	- The phenomenon of spreading light in different directions on interaction with particles of the medium. - Light bounces back in a fixed direction after reflection while in scattering of light, it spreads in different directions. /Reflection of light is independent of the size of reflecting particles whereas the colour of the scattered light depends upon the size of scattering particles	1 2	 3
37.		2	

	(ii) An earth wire provides a low resistance conducting path for the current and thus, protect us from electric shock due to leakage of electric current to metallic body of electric appliances.	2	5
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