

	<b>Lokmanya Vidya Niketan</b> <b>Worksheet Term 1 (2024-25)</b> <b>Class 11<sup>th</sup></b> <b>Subject- English</b> <b>Section A Reading</b>	
Q.1	<b>Read the passage given below:</b> <p>A good business letter is one that gets results. The best way to get results is to develop a letter that, in its appearance, style and content, conveys information efficiently. To perform this function, a business letter should be concise, clear and courteous.</p> <p>The business letter must be concise: don't waste words. Little introduction or preliminary chat is necessary. Get to the point, make the point, and leave it. It is safe to assume that your letter is being read by a very busy person with all kinds of papers to deal with. Re-read and revise your message until the words and sentences you have used are precise. This takes time, but is a necessary part of a good business letter. A short business letter that makes its point quickly has much more impact on a reader than a long-winded, rambling exercise in creative writing. This does not mean that there is no place for style and even, on occasion, humour in the business letter. While it conveys a message in its contents, the letter also provides the reader with an impression of you, its author: the medium is part of the message.</p> <p>The business letter must be clear. You should have a very firm idea of what you want to say, and you should let the reader know it. Use the structure of the letter—the paragraphs, topic sentences, introduction and conclusion—to guide the reader point by point from your thesis, through your reasoning, to your conclusion. Paragraph often, to break up the page and to lend an air of organisation to the letter. Use an accepted business-letter format. Re-read what you have written from the point of view of someone who is seeing it for the first time, and be sure that all explanations are adequate, all information provided (including reference numbers, dates, and other identification). A clear message, clearly delivered, is the essence of business communication.</p> <p>The business letter must be courteous. Sarcasm and insults are ineffective and can often work against you. If you are sure you are right, point that out as politely as possible, explain why you are right, and outline what the reader is expected to do about it. Another form of courtesy is taking care in your writing and typing of the business letter. Grammatical and spelling errors (even if you call them typing errors) tell a reader that you don't think enough of him or can lower the reader's opinion of your personality faster than anything you say, no matter how idiotic. There are excuses for ignorance; there are no excuses for sloppiness.</p> <p>The business letter is your custom-made representative. It speaks for you and is a permanent record of your message. It can pay big dividends on the time you invest in giving it a concise message, a clear structure, and a courteous tone.</p>	
a	On the basis of your reading of the above passage make notes using headings and sub-headings. Use recognizable abbreviations wherever necessary.	
b	Make a summary of the above passage in not more than 80 words using the notes made and also suggest a suitable title.	
	<b>Section B Writing Skills and Grammar</b>	

1.	<b>You are Krishna/ Tisha, Secretary, Greenland Enterprises Ltd, Delhi-110006. Chairman has asked you to draft an advertisement for a local daily under the classified columns for the vacant posts of one accountant and two office assistants. Draft an advertisement.</b>	Your classified columns
2.	You are Suyashi/Utkarsh, living at M-48, Wajirpur, Delhi. You want to sell off your mobile phone. Draft an advertisement for the classified columns of a national daily giving its details and the price expected.	mobile phone. and the price
3.	Prepare a poster advising people not to take alcoholic drinks illustrating the danger of consuming alcohol. Your illustration should be in conformity with the theme provided to you.	of consuming alcohol.
4.	Incidents of Road- rage are increasing day by day. Draft a poster on behalf of Delhi Traffic Police on Road Safety tips.	Traffic Police
5.	To enforce strict discipline in schools and colleges is a great problem nowadays. Write a speech in 150-200 words to be delivered in the school morning assembly on the problem of discipline. You are Mohini/Mohit.	discipline. You
6.	The government has banned the use of animals in the laboratories for the purpose of dissection. Write a debate in 150-200 words\either for or against this decision.	of dissection.
7.	A city of Venice attracts many a traveller, (a) ..... as it lie sparkling in the sunshine, (b) ..... its buildings reflecting in the waters (c) ..... of the canals. There are much beautiful churches, (d) ..... places and museums. In fact most of their (e) ..... buildings are palaces long ago, so they look (f) ..... grand and state. Some of them have been converted into (g) ..... museums but libraries. (h) .....	
8	Look at the sentences given below in a disorderly form. Re - order (Rearrange) them to form meaningful sentences: a. storehouse/this/of/hump/fats/is/a b. uses/this/a source of energy/long journey/as/in the desert/during/fat/its/the/came	
<b>Section C Literature</b>		
<b>Read the extract and answer the following questions.</b>		
(a)	The Laburnum top is silent, quite still In the afternoon yellow September sunlight, A few leaves yellowing, all its seeds fallen.	
a	What does 'Laburnum top' mean here?	
b	What has happened to the tree?	
c	Name the literary device employed in first line.	
d	Name the poem and the poet.	
(b)	I was home for a few days and it struck me immediately that something or other about the rooms had changed. I missed various things. My mother was surprised I should have noticed so quickly. Then she told me about Mrs. Dorling. I had never heard of her but apparently, she was an old acquaintance of my mother, whom she hadn't seen for years. She had suddenly turned up and renewed their contact. Since, then she had come regularly. a. What change did the narrator notice in their home upon returning?	

	<p>i. The rooms had been redecorated with new furniture.  ii. Various items were missing from the house.  iii. The mother was behaving strangely  iv. The house had been cleaned and organized more efficiently.</p> <p>b. "She had suddenly turned up and renewed their contact" Why did Mrs. Dorling do that?  c. What was Mrs. Dorling's real intention behind befriending Mrs. S?  d. What quality of the narrator's mother is highlighted in the extract?</p>	
	<b>Answer the following questions in 60-80 words.</b>	
a	What were the various methods employed by Howard Carter in 1922 to separate Tut from his coffins?	
b	What advancements have taken place in archaeology since 1922?	
c	What has been the role of little children in the hazardous voyage?	
d.	The three stanzas depict three different phases. What are they, explain.	
e	What points were put forward by Aram in defense of Mourad's act of stealing the horse?	
	<b>Answer the following questions in 120-150 words.</b>	
a	Do you think John Byro recognised his horse? Why did he not accuse the boys of stealing his horse?	
b	Do you think Carter was justified in removing the hardened ritual resin deposits on Tut's mummy? Why/ Why not?	
c	'Her face gave absolutely no sign of recognition.' Do you think the woman didn't recognize the narrator, or she was merely pretending? Give reasons for your answer.	
d	Compare and contrast Mrs Dorling and Mrs S.	
e	Why did the narrator of the story want to forget the address? Answer in the context of The Address.	
f	The hurdles of life can be challenged if we have confidence to make optimum use of our potential. Elaborate with reference to chapter, "We are not afraid to Die..."	
g	From a foster mother in the village to a lonely lady in the city, Discuss grandmother's journey through the later part of her life.	
<b>WORKSHEET CLASS XI</b> <b>TERM -I SUBJECT:CHEMISTRY</b>		
SECTION A		
<p>1. Which of the following atoms or atoms/atom-ion/ions have identical ground state configuration?  (a) <math>\text{Li}^+</math> and <math>\text{He}^+</math> (b) <math>\text{Cl}^-</math> and Ar (c) Na and K (d) <math>\text{F}^+</math> and Ne</p> <p>2. The number of radial nodes for 3p orbital is _____.  (a) 3 (b) 4 (c) 2 (d) 1</p> <p>3. The correct order of increasing energy of atomic orbital is:  (a) <math>5p &lt; 4f &lt; 6s &lt; 5d</math> (b) <math>5p &lt; 6s &lt; 4f &lt; 5d</math> (c) <math>4f &lt; 5p &lt; 5d &lt; 6s</math> (d) <math>5p &lt; 5d &lt; 4f &lt; 6s</math></p> <p>4. The screening effect of d-electrons is -  (a) equal to the p-electrons (b) much more than p-electron  (c) same as f-electrons (d) less than p-electrons</p> <p>5. For reaction, <math>\text{O}(\text{g}) + 2\text{e}^- \rightarrow \text{O}^{2-}(\text{g})</math> <math>-\text{E} = + 744.7</math> value of E is positive because  (a) It is an endothermic reaction (b) It is an exothermic reaction</p>		

(c) Both 1 and 2

(d) None of the above is correct

6. If the concentration of glucose ( $C_6H_{12}O_6$ ) in blood is 0.9 g L molarity of glucose in blood?

(a) 5M                      (b) 50M                      (c) 0.005 M                      (d) 0.5 M

7. The empirical formula and molecular mass of a compound are  $CH_2O$  and 180 g respectively. What will be the molecular formula of the compound?

(a)  $C_9H_{18}O_9$                       (b)  $CH_2O$                       (c)  $C_6H_{12}O_6$                       (d)  $C_2H_4O_2$

8. The three elements A, B and C with similar properties have atomic masses X, Y and Z respectively. The mass of Y is approximately equal to the average mass of X and Z. What is such an arrangement of elements called as? Give one example of such a set of elements.

9. Elements have been arranged in the following sequence on the basis of their increasing atomic masses. F, Na, Mg, Al, Si, P, S, Cl, Ar, K (a) Pick two sets of elements which have similar properties. (b) The given sequence represents which law of classification of elements?

8. Can the following groups of elements be classified as Dobereiner's triad? (a) Na, Si, Cl (b) Be, Mg, Ca Atomic mass of Be 9; Na 23; Mg 24; Si 28; Cl 35; Ca 40 Explain by giving reason.

9. In Mendeleev's Periodic Table the elements were arranged in the increasing order of their atomic masses. However, cobalt with atomic mass of 58.93 amu was placed before nickel having an atomic mass of 58.71 amu. Give reason for the same.

10. Write the formulae of chlorides of Eka-silicon and Eka-aluminium,

11. An element is placed in 2nd Group and 3rd Period of the Periodic Table, burns in presence of oxygen to form a basic oxide. (a) Identify the element (b) Write the electronic configuration (c) Write the balanced equation when it burns in the presence of air (d) Write a balanced equation when this oxide is dissolved in water (e) Draw the electron dot structure for the formation of this oxide

12. An element X (atomic number 17) reacts with an element Y (atomic number 20) to form a divalent halide.

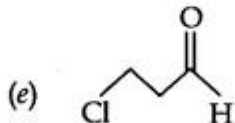
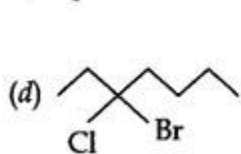
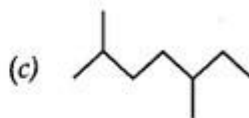
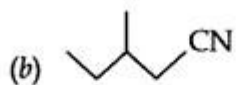
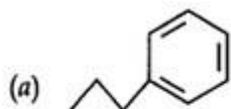
(a) Where in the periodic table are elements X and Y placed?

(b) Classify X and Y as metal (s), non-metal (s) or metalloid (s)

(c) What will be the nature of oxide of element Y? Identify the nature of bonding in the compound formed (d) Draw the electron dot structure of the divalent halide

13. Write bond-line formulas for: Isopropyl alcohol, 2,3-Dimethylbutanal, Heptan-4-one.

14. Give the IUPAC names of the following compounds:



15. Which of the following represents the correct IUPAC name for the compounds concerned?

- (a) 2, 2-Dimethylpentane or 2-Dimethylpentane
- (b) 2, 4, 7-Trimethyloctane or 2, 5, 7- Trimethyloctane
- (c) 2-Chloro-4-methylpentane or 4-Chloro-2-methylpentane
- (d) But-3-yn- 1-ol or But-4-ol-yne.

16. Draw formulas for the first five members of each homologous series beginning with the following compounds,

- (a)  $\text{H}-\text{COOH}$  (b)  $\text{CH}_3\text{COCH}_3$  (c)  $\text{H}-\text{CH}=\text{CH}_2$

14. Give condensed and bond line structural formulas and identify the functional group(s) present, if any, for: (a) 2, 2, 4-Trimethylpentane (b) 2-Hydroxy-1, 2, 3-propanetricarboxylic acid (c) Hexanedial.

15. Draw the resonance structures for the following compounds. Show the electron shift using curved-arrow notation. (a)  $\text{C}_6\text{H}_5\text{OH}$  (b)  $\text{C}_6\text{H}_5\text{NO}_2$  (c)  $\text{CH}_3\text{CH}=\text{CHCHO}$  (d)  $\text{C}_6\text{H}_5-\text{CHO}$  (e)  $\text{C}_6\text{H}_5-\text{CH}_2$  (f)  $\text{CH}_3\text{Ch}=\text{ChCh}_2$

16. What are electrophiles and nucleophiles? Explain with examples:

17. Explain the terms inductive and electromeric effects. Which electron displacement effect explain the following correct orders of acidity of the carboxylic acids?

- (a)  $\text{Cl}_3\text{CCOOH} > \text{Cl}_2\text{CHCOOH} > \text{ClCH}_2\text{COOH}$
- (b)  $\text{CH}_3\text{CH}_2\text{COOH} > (\text{CH}_3)_2\text{CHCOOH} > (\text{CH}_3)_3\text{CCOOH}$

Draw the structural formulas for the following compounds:

a) 1-pentene

b) 4-methylhexanoic acid

c) 2-methyl-3-heptyne

d) 2,3-dichloro-4-ethyl-2-hexene

<p>e) 3-ethyl-4,5-dimethylpentane</p> <p>f) 2,4-dinitrotoluene</p> <p>g) 2-ethyl-1-pentanol</p> <p>h) 3-ethyl-2,3-dimethyl-2-pentanol</p> <p>i) m-bromophenol</p> <p>j) 5-chloro-4-methyl-3-heptanone</p> <p>k) 3,3,6,6-tetraethyl-4-octyne</p> <p>l) 3-phenyl-1-propyne</p> <p>C. Draw all possible open-chain structures for the following molecular formulas and name them:</p> <p>1) <math>C_5H_{12}</math></p> <p>2) <math>C_5H_{10}</math></p> <p>3) <math>C_3H_8O</math></p>
---

### PHYSICS

1	<p>The displacement-time graph of a moving object is a straight line. Then,</p> <p>(a) its acceleration may be uniform</p> <p>(b) its velocity may be uniform</p> <p>(c) its acceleration may be variable</p> <p>(d) both its velocity and acceleration may be uniform</p>
2	<p>If the displacement of an object is zero, then what can we say about its distance covered?</p> <p>(a) It is negative</p> <p>(b) It must be zero</p> <p>(c) It cannot be zero</p> <p>(d) It may or may not be zero</p>
3	<p>Which of the following changes when a particle is moving with uniform velocity?</p> <p>(a) Speed</p> <p>(b) Velocity</p> <p>(c) Acceleration</p> <p>(d) Position vector</p>
4	<p>The distance travelled by an object is directly proportional to the time taken. Its acceleration</p> <p>(a) increases</p> <p>(b) decreases</p>

	(c) becomes zero (d) remains constant
5	A particle is moving with a constant speed along straight line path. A force is not required to (a) change its direction (b) increase its speed (c) decrease its momentum (d) keep it moving with uniform velocity
6	If the velocity-time graph of an object is a straight line sloping downwards, the body has (a) zero acceleration (b) positive acceleration (c) constant acceleration (d) negative acceleration
7	When a body is dropped from a tower, then there is an increase in its (a) mass (b) velocity (c) acceleration (d) potential energy
8	If $s$ represents distance and $S$ represents displacement, then $ S /s$ is. (a) $> 1$ (b) $< 1$ (c) $= 1$ (d) $\leq 1$
9	It is possible to have a situation in which the speed of a particle is always zero but the average speed is not zero.
10	The magnitude of the velocity of a particle is equal to its speed.
11	Three vectors $A$ , $B$ and $C$ satisfy the relation $A \cdot B = 0$ and $A \cdot C = 0$ . The vector $A$ is parallel to (a) $B$ (b) $C$ (c) $B \times C$ (d) $B \cdot C$
12	What is the minimum number of unequal forces whose resultant will be zero? (a) 1 (b) 2 (c) 3 (d) 4
13	A body travelling in a circular path at uniform speed has : (a) constant velocity (b) tangential acceleration (c) inward acceleration (d) outward acceleration
14	When a disc containing mercury and water is rotated rapidly about a vertical axis, then the outermost place in the disc will be taken by: (a) water (b) mercury

	(c) sometimes water and sometimes mercury (d) none of these.
15	Two bullets are fired simultaneously horizontally and with different speeds from the same place. Which bullet will hit the ground first? (a) The slower one (b) The faster one (c) Both will reach simultaneously (d) Depends on the masses
16	Which of the following operations between the two vectors can yield a vector perpendicular to either of them (a) addition (b) subtraction (c) multiplication (d) division
17	Out of the following which is not a scalar quantity? (a) Time (b) Volume (c) Density (d) Momentum
18	A bullet is fired horizontally and gets embedded in a block kept on a table. If the table is frictionless, then (a) only momentum is conserved. (b) only potential energy is conserved. (c) only K.E. is conserved. (d) both (a) and (b).
19	The work performed on an object does not depend upon (a) the displacement. (b) the force applied. (c) the angle at which the force is applied to the displacement (d) initial velocity of the object.
20	A ball is dropped from a height of 15 m. It gets embedded in sand by 10 mm and then stops. Which of the following is conserved? (a) Temperature (b) Momentum (c) Kinetic energy (d) Both (a) and (c)
21	The slope of the potential energy versus position vector gives (a) momentum (b) force (c) work done (d) power
22	The slope of the kinetic energy versus position vector gives the time rate of change of: (a) momentum (b) force (c) work done (d) power




23	<p>A bullet is fired into a block of sand and its velocity decreases by 50% when it penetrates through 9 cm. What will be the total distance penetrated by the bullet?</p> <p>(a) 9 cm (b) 10 cm (c) 12 cm (d) 18 cm</p>
	<p>(a) Assertion is correct, reason is correct; reason is a correct explanation for assertion. (b) Assertion is correct, reason is correct; reason is not a correct explanation for assertion (c) Assertion is correct, reason is incorrect (d) Assertion is incorrect, reason is correct.</p>
24	<p><b>Assertion :</b> A work done by friction is always negative. <b>Reason :</b> If frictional force acts on a body its K.E. may decrease.</p>
25	<p><b>Assertion :</b> A spring has potential energy, both when it is compressed or stretched. <b>Reason :</b> In compressing or stretching, work is done on the spring against the restoring force.</p>
26	<p><b>Assertion :</b> A force applied on the body always does work on the body. <b>Reason :</b> If a force applied on a body displaces the body along the direction of force work done will be maximum.</p>
27	<p><b>Assertion :</b> A force applied on the body always does work on the body. <b>Reason :</b> If a force applied on a body displaces the body along the direction of force work done will be maximum.</p>
28	<p><b>Assertion :</b> The work done in moving a body over a closed loop is zero for every force in nature. <b>Reason :</b> Work done depends on nature of force.</p>
29	<p><b>Assertion :</b> The rate of change of total momentum of a many particle system is proportional to the sum of the internal forces of the system. <b>Reason :</b> Internal forces can change the kinetic energy but not the momentum of the system.</p>
30	<p><b>Assertion:</b> Kinetic energy of a system can be increased or decreased without applying any external force on the system. <b>Reason:</b> This is because <math>K.E. = mV^2/2</math>, so it independent of any external forces.</p>
31	<p><b>Assertion:</b> Kinetic energy of a body is quadrupled, when its velocity is doubled. <b>Reason :</b> Kinetic energy is proportional to square of velocity. If velocity is doubled the K.E. will be quadrupled</p>
32	<p><b>Assertion :</b> A body may be accelerated even when it is moving uniformly. <b>Reason :</b> When direction of motion of the body is changing, the body must have acceleration.</p>
33	<p><b>Assertion :</b> Displacement of a body may be zero when distance travelled by it is not zero. <b>Reason :</b> The displacement is the longest distance between initial and final position.</p>
34	<p><b>Assertion :</b> Displacement of a body is vector sum of the area under velocity– time graph. <b>Reason :</b> Displacement is a vector quantity.</p>
35	<p><b>Assertion :</b> The position-time graph of a uniform motion, in one dimension of a body cannot have negative slope. <b>Reason :</b> In one – dimensional motion the position does not reverse, so it cannot have a negative slope.</p>

36	<b>Assertion :</b> Position-time graph of a stationary object is a straight line parallel to time axis. <b>Reason :</b> For a stationary object, position does not change with time.
37	<b>Assertion :</b> Velocity-time graph for an object in uniform motion along a straight path is a straight line parallel to the time axis. <b>Reason :</b> In uniform motion of an object velocity increases as the square of time elapsed.
38	<b>Assertion :</b> The average and instantaneous velocities have same value in a uniform motion. <b>Reason :</b> In uniform motion, the velocity of an object increases uniformly.
39	<b>Assertion :</b> The speedometer of an automobile measure the average speed of the automobile. <b>Reason :</b> Average velocity is equal to total displacement per total time taken.
40	<b>Assertion :</b> An object can have constant speed but variable velocity. <b>Reason :</b> Speed is a scalar but velocity is a vector quantity.
41	<b>Assertion :</b> position-time graph of a body moving uniformly in a straight line parallel to position axis. Says body is at rest. <b>Reason :</b> The slope of position-time graph in a uniform motion gives the velocity of an object.
42	<b>Assertion :</b> A body is momentarily at rest when it reverses the direction. <b>Reason :</b> A body cannot have acceleration if its velocity is zero at a given instant of time.
43	<b>Assertion :</b> The position-time graph of a uniform motion in one dimension of a body can have negative slope. <b>Reason :</b> When the speed of body decreases with time, the position-time graph of the moving body has negative slope.

### Mathematics

1	Given $R = \{(x, y) : x, y \in Z, y = x - 3\}$ then which ordered pair belongs to R? a. (1,4)                      b. (0,3)                      c. (5,2)                      d. (-4,1)
2	Let $A = \{3,5\}$ and $B = \{7,11\}$ and R be the relation from A to B defined as $R = \{(a, b) : a \in A, b \in B, a - b \text{ is odd}\}$ , then a. $R = A \times B$ b. $R = \emptyset$ c. $R \subset A \times B$ d. $R \subset B \times A$
3	Additive inverse of $-5 + 4i$ is a. $5 - 4i$ b. $5 + 4i$ c. $-5 - 4i$ d. $-5 + 4i$
4	The number of triangles that are formed by choosing the vertices from a set of 12 points, seven of which lie on the same line is a. 105                      b. 15                      c. 175                      d. 185
5	If $A = \{1,2,3\}$ , $B = \{3,8\}$ then $(A \cup B) \times (A \cap B)$ is equal to a. $\{(3,1), (3,2), (3,3), (3,8)\}$ b. $\{(1,3), (2,3), (3,3), (8,3)\}$ c. $\{(1,2), (2,2), (3,3), (8,8)\}$ d. $\{(8,3), (8,2), (8,1), (8,8)\}$
6	Evaluate: $(-\sqrt{-1})^{4n+3}$ , $n \in N$ a. $-i$ b. 0                      c. $i$ d. $-1$
7	The third term of G.P. is 4. The product of its first 5 terms is a. $4^3$ b. $4^4$ c. $4^5$ d. None of these

8	The circular measure of the angle $330^\circ$ is a. $\frac{\pi}{6}$ b. $\frac{5\pi}{12}$ c. $\frac{11\pi}{6}$ d. $\frac{\pi}{8}$
9	Solution of $ 3x + 2  < 1$ is a. $\left[-1, -\frac{1}{3}\right]$ b. $\left\{-\frac{1}{3}, -1\right\}$ c. $\left(-1, -\frac{1}{3}\right)$ d. None of these
10	Let $f = \{(1,1)(2,3), (0, -1), (-1, -3)\}$ be a function from $Z$ to $Z$ defined by $f(x) = ax + b$ , for some integers $a, b$ . Determine $a, b$ a. 2, -1                                  b. -2, 1                                  c. 1, 2                                  d. -2, -1
11	In how many ways can the letter of the word "PENCIL" be arranged so that I is always next to L.
12	If all the letters of the word "MOTHER" are written in all possible orders and the word so formed are arranged in a dictionary order, then find the rank of word 'MOTHER' ?
13	Find the domain for which the functions $f(x) = 2x^2 - 1$ and $g(x) = 1 - 3x$ and check whether they are equal
14	Two finite sets $A$ and $B$ have $m$ and $k$ elements respectively. If the ratio of cardinal numbers of power set of $A$ to the cardinal number of power set of $B$ is 64:1, and $n(A) + n(B) = 12$ , then find the values of $m$ and $k$ .
15	Find the modulus of $[(1 + i)/(1 - i)] - [(1 - i)/(1 + i)]$
16	<b>Find the domain and range of the real function <math>f(x) = \frac{x}{1+x^2}</math>.</b>
17	1. Express each of the following complex numbers in the form $a+ib$ (ii) $3(7 + i7) + i(7 + i7)$ (ii) $i^9 + i^{19}$ (iii) $[(\frac{1}{3})+3i]^3$
18	A state cricket authority has to choose a team of 11 members, to do it so the authority asks 2 coaches of a government academy to select the team members that have experience as well as the best performers in last 15 matches. They can make up a team of 11 cricketers amongst 15 possible candidates. In how many ways can the final eleven be selected from 15 cricket players if:  1. there is no restriction 1. 1365                                  2. 2365                                  3. 1465                                  4. 1375 2. one of them must be included 1. 1002                                  2. 1003                                  3. 1001                                  4. 1004 3. one of them, who is in bad form, must always be excluded 1. 480                                  2. 364                                  3. 1365                                  4. 640 4. Two of them being leg spinners, one and only one leg spinner must be included? 1. ${}^2C_1 \times {}^{13}C_{10}$ 2. ${}^2C_1 \times {}^{10}C_{13}$ 3. ${}^1C_2 \times {}^{13}C_{10}$ 4. ${}^2C_{10} \times {}^{13}C_{10}$ 5. If there are 6 bowlers, 3 wicket-keepers, and 11 batsmen in all. The number of ways in which a team of 4 bowlers, 2 wicket-keepers, and 5 batsmen can be chosen.

	1. ${}^6C_2 \times {}^3C_4 \times {}^{11}C_5$ 3. ${}^6C_2 \times {}^3C_5 \times {}^{11}C_4$	2. ${}^6C_2 \times {}^3C_4 \times {}^{11}C_5$ 4. ${}^6C_2 \times {}^3C_1 \times {}^{11}C_5$
19	If $A, B$ and $C$ are three sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$ , show that $B = C$ .	
20	For any two sets $A$ and $B$ , prove that $(A - B) \cup (B - A) = (A \cup B) - (A \cap B)$	
21	Let $R$ be the relation on $Z$ defined by $R = \{(x, y) : x, y \in Z, x - y \text{ is an odd integer}\}$ . Find the domain and range of $R$ .	
22	A solution is to be kept between $40^\circ\text{C}$ and $45^\circ\text{C}$ . What is the range of temperature in degree Fahrenheit, if the conversion formula is $F = (9/5)C + 32$ ?	
23	Express the following function as a set of ordered pairs and find its range: $f: X \rightarrow R$ defined by $f(x) = x^3 + 1$ , where $X = \{-1, 0, 3, 9, 7\}$	
24	If $f(x) = ax + b$ where $a$ and $b$ are integers, $f(-1) = -5$ and $f(3) = 3$ , find $a$ and $b$ .	
25	Find the domain and range of the function $f(x) = 2 - 3x^2$ . Also find $f(-2)$ and the numbers which are associated with the number $-25$ in its range.	
26	A box contains two white, three black and four red balls. In how many ways can three balls be drawn from the box, if at least one black ball is to be included in the draw?	
27	<b>Find the radius of the circle in which a central angle of <math>60^\circ</math> intercepts an arc of length 37.4 cm (use <math>\pi = 22/7</math>).</b>	
28	A boy has 3 library tickets and 8 books of his interest in the library. Of these 8, he does not want to borrow Mathematics Part II, unless Mathematics Part I is also borrowed. In how many ways can he choose the three books to be borrowed?	
29	Solve the given inequality for real $x$ : $(x/4) < [(5x - 2)/3 - (7x - 3)/5]$	
30	Find the number of different words that can be formed from the letters of the word TRIANGLE, so that no vowels are together.	

### Biology

	MCQs	
1	<b>This is not a function of insulin</b> (a) decreasing glycogenolysis (b) lipogenesis (c) gluconeogenesis (d) glycogenesis	
2	<b>Glucagon</b> (a) accelerates protein synthesis within cells (b) accelerates conversion of glycogen into glucose (c) decreases conversion of glycogen into glucose (d) slows down glucose formation from lactic acid	
3	Pituitary hormone triggering the male testes to generate sperm and in females, triggering follicular development on a monthly basis is (a) prolactin (b) growth hormone (c) follicle-stimulating hormone (d) luteinizing hormone	

4	Division of joints allowing ample movement between 2 or more specific heads of bones are grouped as (a) diarthrosis(b) tendons and tibia(c) synarthroses(d) ligaments and femur	
5	In muscle contraction, this ion is essential (a) Cl (b) Ca (c) K (d) Na	
6	This event occurs during muscular contraction I. H-zone disappears II. A band widens III. I band shortens IV. Width of A band is unaffected V. M line and Z line get closer (a) I, II and III(b) I, III, IV and V(c) II, IV and V(d) I, II and V	
7	One of the functions of the Neuroglial cells is to protect and support _____ a)Nephrons b)Myoid cells c)Neurons d)None of the above	
8	Which of these processes is not a part of the cell cycle? a) Duplication of genome b) Division into daughter cells c) Synthesis of cell organelles d) Degeneration of centrosome	
9	What is the duration of cell cycle in yeast? a) 30 minutes b) 24 hours c) 90 minutes d) 48 hours	
10	Which process does the M phase of cell cycle start with? a) Karyokinesis b) Cytokinesis c) Interphase d) Spindle formation	
11	Which process does the M phase of cell cycle start with? a) Karyokinesis b) Cytokinesis c) Interphase d) Spindle formation	
12	During S phase of the cell cycle, the amount of DNA _____ a) triples b) remains the same c) quadruples d) doubles	
13	Which of the plant groups needs both land and water to complete their life cycle? a)Tracheophyta b) Pteridophyta c) Thallophyta d) Bryophyta	
14	A plant that has seeds but no flowers and fruits? a)Bryophytes b) Gymnosperms c)Mosses d) Pteridophytes	
	<b>2Mark Question</b>	
15	What is male and female sex organs in Bryophytes are called as?	

16	What are the three groups of plants that bear archegonia?	
17	Why are bryophytes considered amphibians of the plant kingdom?	
18	The heterosporouspteridophytes exhibit certain characteristics which are precursors to the seed habits in gymnosperms. Explain.	
	<b>3MARKS Question</b>	
19	Which substance has structural similarity to floridean starch ?	
20	Why some bryophytes are called liverworts? What are rhizoids?	
21	What are cone bearing plants called? What are the two main classes of bryophytes?	
22	How is the leafy stage formed in mosses? How is it different from protonema?	

**Sub. Physical Education  
Term I 2024-25**

Q-1	What do you understand by the term Physical Education
Q-2	Highlight the Aim and Objectives of Physical Education
Q-3	Write a short note on Khelo India Programme
Q-4	What are the career options available in the field of Physical Education
Q-5	Describe Fit India Programme
Q-6	Discuss the History of Physical Education
Q-7	Explain Ancient Olympic Games
Q-8	Describe Olympic Symbol and Motto
Q.9	Discuss the role of IOC
Q.10	Write a short note on IOA
Q.11	Define Yoga
Q.12	What is need of YOGA
Q.13	Mention the Elements of Yoga
Q.14	Explain the Yogic kriyas to improve eyesight
Q.15	Mention any two sitting asanas with Procedure
Q.16	Define Disability
Q.17	Explain Disorder
Q.18	Write a short note on Adaptive physical education.
Q.19	What do you mean by Locomotor disability
Q.20	Discuss the importance of Physiotherapist, Speech therapist and Physical Education Teacher for CWSN
Q.21	Discuss Cognitive disability
Q.22	What is ASD
Q.23	Define ODD
Q.24	Define Test
Q.25	Explain Measurement and Evaluation
Q.26	Mention the need of Test, Measurement and Evaluation
Q.27	Describe Endomorph
Q.28	Explain Mesomorph
Q.29	Describe Ectpmorph

