

Dear Parents Greetings of the day!

Vacations are the best time to relax and enjoy. Summer vacations are the reason behind fun in the sun, beach and shadow of the umbrella, but it is also the time to keep some analogy of academics alive in the fun to chisel the inherent potential inside your child. My suggestion to you is to spend these holidays being sociable and be vibrant in undertaking your plans so that the vacation is made purposeful.

To begin with, enhance every precious moment prudently by motivating your child to read informative and enlightening books. Help them improve their speech by conversing with them on every possible occasion and strop their vocabulary by providing them with new words. Spend substantial time visiting your kith and kin and people in your vicinity. Hold parley with your child on daily happenings and crucial world events as this is the best time to update, put forth your thoughts, notions and ideas before your ward and ask for an opinion, be a constant supporter of tolerance and disseminate it amongst people, teach your child to help and let him/her realize the meaning of real happiness and harmony and certainly root out all possible ill feelings and factions. Try being friendly and benevolent to all, let your child play the part in family reunions which will strengthen your family bond. Look out for the ways to abrade the plodding routine and take up some supportive vigorous activities with your child like swimming, cycling, jogging, painting or any other activity that your child enjoys.

It's your time to make every single moment eventful and memorable for your child and fill them with loads of experiences, which he/she eagerly wants to share with his/her pals and Educators when returned to School.

I wish you a pleasant vacation!

Regards

Principal Delhi Public School Gwalior

ADD ONS TO MAKE YOUR VACATION MEANINGFUL !!

Childhood is a crucial stage of development. Most of life's important lessons are learnt here! Let us join hands and make sincere efforts to augment and hone the learning process of the child through inculcation of self learning and keen observation.

- Let us attempt to enable them by allowing them to assume responsibilities of the routine household and shopping chores.
 (e.g.: laying the table, serving the guests, making their beds, buying groceries from the nearby stores etc.)
- * Let us make them aware about their social responsibilities which will transform them into a responsible citizen of our society. (e.g.: keeping the surroundings clean, make use of public litter bins, switching off lights / fans / closing the taps properly etc.)
- * They should be taught how to connect with Almighty God through prayers and meditation. (e.g.: daily prayers, thought of the day, meditate to improve the concentration etc.)
- * Socialize and connect with people, neighbours and relatives. (e.g.: meeting & greeting neighbours, helping the elderly around, be friendly to the peers etc.)

We wish all the great for your summer holiday time. May all the pleasure in the world embrace you, let your fun endless with friends and family.

Note : Kindly do all the Holiday Assignments neatly and submit it latest by July 10, 2023.

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<u> SUBJECT – ENGLISH</u>

"VASUDHAIVA KUTUMBAKAM " or "One Earth \cdot One Family \cdot One Future"

The motto of the G-20 summit truly encompasses the true sprit of India

Research and find out about the aims and objectives of the G20 summit. Present your views regarding the importance and significance of such summits for international solidarity.

It is mandatory for all the students to prepare a project file using 500-600 words for the same and submit it in the first week after the summer holidays.

The Project should include:-

1. Index

- 2. Certificate
- 3. Introduction
- 4. Write up 500 600 words
- 5. Bibliography



<u>SUBJECT – MATHEMATICS</u>

General Instructions :

- Holiday Assignment consists of Multiple Choice questions, Assertion and Reasoning questions, Case based questions and solve the following questions.
- All the work to be done in A4 sized ruled sheets which are to be arranged in a stick file.
- All the best! Stay Home, Stay Safe!

Multiple Choice Questions

 $\overline{Q.1}$ Radian measure of 540⁰ is (in radian)

,

(a)
$$\frac{14\pi}{5}$$
 (b) 3π (c) $\frac{16\pi}{5}$ (d) $\frac{17\pi}{5}$

Q.2 If $\cot x = \frac{-5}{12}$ and x lies in II quadrant, then choose the correct option.

(a)
$$\sec x = \pm \frac{13}{5}$$

(b) $\tan x = \frac{12}{5}$
(c) $\sin x = -\frac{13}{12}$ and $\csc x = \frac{12}{13}$
(d) $\cos x = \frac{-5}{13}$

Q.3 If
$$\tan \alpha = \frac{m}{m+1}$$
 and $\tan \beta = \frac{1}{2m+1}$, then $\alpha + \beta$ is equal to
(a) $\frac{\pi}{2}$ (b) $\frac{\pi}{3}$ (c) $\frac{\pi}{6}$ (d)

Q.4 Two finite sets have *m* and *n* elements. The number of subsets of the first set is 112 more than that of the second set. The values of *m* and *n* are, respectively. (a) 4, 7 (b) 7, 4 (c) 4, 4 (d) 7, 7

 $\frac{\pi}{4}$

Q.5 The set
$$(A \cap B')' \cup (B \cap C)$$
 is equal to
(a) $A' \cup B \cup C$ (b) $A' \cup B$ (c) $A' \cup C'$ (d) $A' \cap B$

Q.6 If R be the set of points inside a rectangle of sides a and b (a, b > 1) with two sides along the positive direction of X-axis and Y-axis then, (a) $R = \{x, y\} : 0 \le x \le a, 0 \le y \le b\}$ (b) $R = \{x, y\} : 0 \le x < a, 0 \le y \le b\}$ (c) $R = \{x, y\} : 0 \le x \le a, 0 \le y < b\}$ (d) $R = \{x, y\} : 0 < x < a, 0 < y < b\}$

- Q.7 If $X = \{8n 7n 1; n \in N\}$ and $y = \{49n 49; n \in N\}$. (a) $X \subset Y$ (b) $Y \subset X$ (c) X = Y (d) $X \cap Y = 0$
- Q.8 If $[x]^2 5[x] + 6 = 0$, where [.] denote the greatest integer function, then (a) $x \in [3, 4]$ (b) $x \in (2, 3]$ (c) x [2, 3] (d) $x \in [2, 4)$
- Q.9 Range of $f(x) = \frac{1}{1 2\cos x}$ is

(a)
$$\left[\frac{1}{3}, 1\right]$$
 (b) $\left[-1, \frac{1}{3}\right]$ (c) $(-\infty, -1] \cup \left[\frac{1}{3}, \infty\right)$ (d) $\left[-\frac{1}{3}, 1\right]$

Q.10 The domain and range of the real function f defined by $f(x) = \frac{4-x}{x-4}$ is given by

- (a) Domain = R, Range = $\{-1, 1\}$
- (c) Domain = $R \{4\}$, Range = $\{-1\}$ (
- (b) Domain = $R \{1\}$, Range = R
 - (d) Domain = $R \{-4\}$, Range = $\{-1, 1\}$

Assertion Reasoning Questions

Direction of questions : In the following questions, A statement of Assertion (A) is followed by a statement of Reason (R).

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A).
- (B) Both (A) and (R) true but (R) is NOT the correct explanation of (A).
- (C) (A) is true but (R) is false.
- (D) (A) is false and (R) is true.
- Q.11 Assertion (A): If A = $\{2, 3\}$ and B = $\{x : x \in N \text{ and } x < 3\}$, then A x B = $\{(2, 1), (3, 2)\}$.

Reason (R) : If $A = \{1, 2, 3\}$, $B = \{3, 4, 5\}$, then $\{A \cap B\} \ge A = \{3, 1\}, (3, 2), (3, 3)\}$.

Q.12 Assertion (A): If A = $\{1, 2, 3\}$, B = $\{4, 5, 6\}$ and C = $\{1, 2\}$ then (A - B) x (A \cap C) = $\{(1, 2), (1, 3)\}$.

Reason (**R**): If $A = \{x : x \ge 4, x \in N\}$ and $B = \{x : x \le 5, x \in N\}$ then $A \cap B = \{4, 5\}$.

Q.13 Assertion (A): $A \cap B = \phi \Rightarrow A = \phi$ or $B = \phi$ or $A = B = \phi$.

Reason (**R**): $(A - B) \cap B = \phi$.

Q.14 Assertion (A): Let $A = \{x, y, z\}$ and $B = \{1, 2\}$. Then the number of relations from A to B is equal to 64.

Reason (**R**): If $A = \{1, 4, 6\}$, then the identity relation on A is the set $\{(1, 1), (4, 4), (6, 6)\}$.

Q.15 The function 't' which maps temperature in Celsius into temperature in Fahrenheit is defined by $t(c) = \frac{9c}{5} + 32$.

Assertion (A) : t(-10) = 14.

Reason (**R**): If t(c) = 212, then c = 100.

Q.16 Assertion (A): Let, f assign to each country in the World its capital city. Since each country in the world has exactly one capital city, f is a function.

Reason (**R**) : A correspondence from set A to set B is a function if to each element of A there correspondence exactly one element of B.

Q.17 Let A = {1, 2, 3, 4}, B = {1, 5, 9, 11, 15, 16} and $f = \{(1, 5), (2, 9), (3, 1), (4, 5), (2, 11)\}.$

Assertion (A) : *f* is a relation from A to B.

Reason (\mathbf{R}): *f* is a function from A to B.

Q.18 Assertion (A): The solution of the equation

$$\tan\theta + \tan\left(\theta + \frac{2\pi}{3}\right) = 3is \ \theta = \frac{n\pi}{3} + \frac{\pi}{12}, n \in 1.$$

Reason (**R**): If $tan \ \theta = tan \ \alpha$, then $\theta = n\pi + \alpha$, $n \in 1$.

Q.19 Assertion (A) : The degree measure corresponding (-2) radian is $-114^{0}19$ min.

Reason (R) : The degree measure of a given radian measure = $\frac{180}{\pi}$ x Radian measure.

Q.20 Assertion (A):
$$\frac{\cos(\pi + x).\cos(-x)}{\sin(\pi - x).\cos(\frac{\pi}{2} + x)} = \cot^2 x$$

Reason (R) : $cos (\pi + \theta) = -cos \theta$ and $cos (-\theta) = cos \theta$ Also, $sin (\pi - \theta) = sin \theta$ and $sin (-\theta) = -sin \theta$.

Solve the following :

Q.21 In \triangle ABC, \angle B is right angled. If *tan* A = 1, then show that 2*sin* A *cos* A = 1.

- Q.22 Find the value of $\cos^4 \frac{\pi}{8} + \cos^4 \frac{3\pi}{8} + \cos^4 \frac{5\pi}{8} + \cos^4 \frac{7\pi}{8}$
- Q.23 Prove that $\frac{\cos 2A\cos 3A - \cos 2A\cos 7A + \cos a\cos 10A}{\sin 4A\sin 3A - \sin 2A\sin 5A + \sin 4A\sin 7A} = \cot 6A\cot 5A$
- Q.24 If A = $\{-1, 2, 3\}$ and B = $\{1, 3\}$, then determine (i) A x B (ii) B x a (c) B x B (d) A x A
- Q.25 $P = \{x : x < 3, x \in N\}, Q = \{x : x \le 2, x \in W\}$, then find $(P \cup Q) \ge Q$, where W is the set of whole numbers.

Q.26 If
$$f(x) = \frac{x-1}{x+1}$$
, then show that
(i) $f\left(\frac{1}{x}\right) = -f(x)$ (ii) $f\left(-\frac{1}{x}\right) = \frac{-1}{f(x)}$

Q.27 If $f(x) = y = \frac{ax-b}{cx-a}$, then prove that f(y) = x.

Q.28 If A, B and C be sets. Then, show that $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$.

- Q.29 If L = {1, 2, 3, 4}, M = {3, 4, 5, 6} and N = {1, 3, 5}, then verify that $L - (M \cup N) = (L - M) \cap (L - N)$
- Q.30 For all sets A, B and C, prove that $(A B) \cap (A C) = A (B \cup C)$.

Case Study Based Questions

Q.31 Rajiv construct two right angles triangle in the fourth quadrant in such a way that the measure

of triangle gives $\cos A = \frac{4}{5}$ and $\cos B = \frac{12}{13}$, where $\frac{3\pi}{2} < A$ and $B > 2\pi$.



Based on the above information, answer the following questions.

- (i) Find the value of cos (A + B)
- (ii) Find the value of sin (A B)
- (iii) Find the value of tan (A + B)

Q.32 In a class test of class XI, a teacher asked to students to consider A + B = $\frac{\pi}{4}$, where A and B are acute angles.

Based on the above information, answer the following questions.

- (i) Find the value of (1 + tan A) (1 + tan B)?
- (ii) Find the value of (cot A 1) (cot B 1)?
- (iii) Find the value of sin (A + B) cos(A + B) + tan(A + B).

Q.33 Read the following text and answer the following questions on the basis of the same:

The given table shows the 10 most famous engineering private colleges of India with their respective fee structure of 4 years Bachelor of Technology course.

Private College	Fee structure
	(4 Years course)
Birla Institute of Technology & Science	11.57 Lakhs
SRM University	9 Lakhs
Manipal Institute Technology	7 Lakhs
AMITY University	10 Lakhs
Jaypee Institute of Information Technology	6 Lakhs
LPU University	6.8 Lakhs
Thapar Institute of Technology	8 Lakhs
Kalinga Institute of Technology	4 Lakhs
Vellore Institute of Technology	9 Lakhs
Chanidigarh University	3.3 Lakhs



- Q.1 Ram wants to take admission in private engineering college but has a budget of 6 lakhs. Find the set of colleges in which Ram takes the admission.
- Q.2 Sri has a total budget of 4 lakhs and she wanted admission in the famous college. Will she able to take admission in the colleges given in table. Find the set of college in which she can take admission.
- Q.3 Ram has taken an education loan of 2 lakhs to increase his overall budget. Find the number of college in which he can take admission after raising his budget.
- Q.34 Study the given diagram shows a relation from set P to set Q.



On the basis of information provided above, answer the following questions:

- (i) Write the relation in se-builder form.
- (ii) What is its domain?
- (iii) What is its range?

Q.35 Let $f, g : \mathbb{R} \to \mathbb{R}$ be functions defined respectively by f(x) = x + 1, g(x) = 2x - 3.

On the basis of information provided above, answer the following questions:

- (i) What is f g?
- (ii) What is f * g?
- (iii) What is f/g?

SUBJECT – APPLIED MATHEMATICS

- The following guidelines are issued by CBSE to schools for the session 2023-24.
- Project work and record : 5 marks and year end presentation/ viva : 5 marks

Following are the topics for the projects to be done individually. One has to select any one topic and prepare a detailed report on it

- 1) Predicting the Outcome of an Election- Exit Polls
- 2) Weather Prediction (To study how weather is predicted and understand the use of mathematics in weather prediction.
- 3) Risk Assessments by Insurance Firms from Data
- 4) Stock Price Movements
- 5) To show application of mathematics in real life in maximizing the profit of Kirana stores
- 6) Effect of Temperature and Rain Variations on Various Crops.
- 7) To analyze what the infant mortality rate of a country is and how we can predict it.
- 8) Predicting a Stock Market Crash.
- Steps involved in the conduct of the project:

Choose a topic

✓ Collect the research material/data

Organize material/data

Present material/data

Analyse the material/data for conclusion

Draw the relevant conclusion

Presentation of the Project Work

• Expected Checklist for the project work:

- ✓ Introduction of topic/title
- ✓ Identifying the causes, events, consequences and/or remedies
- \checkmark Various stakeholders and effect on each of them.
- ✓ Advantages and disadvantages of situations or issues identified.
- ✓ Short term and long term implications of strategies suggested in the course of research
- ✓ Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file.
- \checkmark Presentation and writing that is succinct and coherent in project file.
- ✓ Citation of the material referred to, in the file in footnotes, resources section, bibliography etc.
- The project report should include **Title page, Acknowledgements, Certificate, Contents page(Index), Introduction, Body of report, Evaluation, Conclusions and Future Work, Bibliography and Appendix.**

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<u>SUBJECT – PHYSICS</u>

Objective questions

Q.1	Which of the follow: (a) Kilogram	ing is not the name of p (b) Density	bhysical quantity? (c) Impulse	(d) Energy	
Q.2	The value of 0.98 – (a) 0.001 (b) (c)	0.989 with regard to the 0.010×10^{-1}	e significant digit will (c) 0.01×10^{-1}	be: (d) None of these	
Q.3	Give that the displacement of a particle is given by $x = A^2 \sin^2 kt$, where t denotes the time. The unit of k is				
	(a) radian	(b) metre	(c) hertz	(d) second	
Q.4	If the velocity-time graph of an object is a st (a) zero acceleration (c) constant acceleration		traight line sloping downwards, the body has (b) positive acceleration (d) negative acceleration		
Q.4	The relative velocity (a) v	of a particle moving w (b) –v	vith a velocity v w.r.t. i (c) zero	tself is (d) none of the above	
Q.5	Two particles are moving with velocities V_1 and V_2 . Their relative velocity is maximum when the angle between their velocities				
	(a) zero	(b) $\pi/2$	(c) π	(d) $\pi/4$	
Q.6	Three vectors A, B and C satisfy the relation $A.B = 0$ and $A.C = 0$. The vector A is parallel to (a) B (b) C (c) $B \times C$ (d) B.C				
Q.7	What is the minimum (a) 1	n number of unequal fo (b) 2	orces whose resultant v (c) 3	vill be zero? (d) 4	
Q.8	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	
0.9	The angle between	\hat{P} and \hat{O} is A What is 1	$\hat{P} \times \hat{O} \mid 2$		
Q.)	(a) $\sin \theta$	(b) PQ sin θ	$r \wedge Q + r$ (c) PQ	(d) PQ $\cos \theta$	
Descriptive questions.					
Q.1	.1 Can a quantity have dimensions but still have no units?				
Q.2	If x is equals to $a + bt + ct^2$ where X is in metre and t in seconds what is the unit of c?				
Q.3 Q.4	Obtain an expression for the time period of a simple pendulum. Draw the position time graph for a stationary particle.				
Q.5	Rest and motion are relative terms explain.				

- Q.7 Define instantaneous velocity and instantaneous speed. In what respects do these differ from each other.
- Q.8 Show that the slope of position time graph of a particle in a uniform motion represents its velocity.
- Q.9 Verify second equation of motion dimensionally.
- Q.10 Two trains one traveling at 72 km/h and other at 90 km/hr heading towards one another along a state level track when they are 1 km apart both the drivers simultaneously see the other strain and apply breaks which retard each train at the rate of 1m/s² determine whether the trains would colloid or not.
- Q.11 State and derive parallelogram law of vector addition.
- Q.12 State and drive triangle law of vector addition.
- Q.13 One of the rectangular components of velocity of 80 km per hour is 40 km per hour. Find other components.
- Q.14 To a person moving eastward with a velocity of 4.8 km per hour rain appears to fall vertically downward with a speed of 6.4 km per hour. find the actual speed and direction of the rain.
- Q.15 When are two vectors perpendicular and parallel to each other?
- Q.16 How can the vector product of two vectors can be expressed in terms of their rectangular components?
- Q.17 What are base vectors? Give their important properties?
- Q.18 What is dimensional analysis? Write its uses.
- Q.19 Write the dimensional formula of , force ,pressure, kinetic energy and density.
- Q.20 Differentiate between fundamental and derive units.

<u>SUBJECT – CHEMISTRY</u>

Objective questions

Q.1	The number of signif (a) 1	icant figures in 0.050 (b) 2	is (c) 3	(4) 4		
Q.2	Which out of the following is not a homogeneous mixture?(a) Air(b) Brass(c) Solution of sugar in water(d) Smoke.					
Q.3	A compound has the empirical formula $C_2H_2O_2$. Its vapour density is 59. Its molecular					
	formula will be (a) $C_2H_2O_2$	(b) $C_4 H_6 O_4$	(c) $C_6H_9O_6$	(d) C ₃ H ₁₂ O ₈		
Q.4	The number of molece (a) 6.022×10^{23}	cules present in 8 g of (b) 3.011×10^{23}	oxygen gas are (c) 12.044 x 10 ²³	(4) 1.55 x 10^{23}		
Q.5	112 cm ³ of hydroger (a) 0.005 mole	n gas at STP contain (b) 0.01 mole	(c) 0.02 g	(d) 3.011×10^{22} molecules		
Q.6	10 g CaCO ₃ on reacting (a) 1120 cm ³	ion with 0.1 M HCl ac (b) 2240 cm ³	id will produce CO_2 (c) 112 cm ³	(d) 224 cm^3		
Q.7	One fermi is (a) 10 ⁻¹³ cm	(b) 10^{-15} cm	(c) 10^{-10} cm	(d) 10^{-12} cm		
Q.8	8 Which of the following has the largest number of atoms? (a) 0.5 g atom of Cu (b) 0.635 g of Cu (c) 0.25 moles of Cu atom (d) 1 g of Cu.					
Q.9	27 g of Al (at mass = (a) 24 g	27) will react with ox (b) 8 g	ygen equal to (c) 40 g	(d) 10 g		
Q.10	10 2.76 g of silver carbonate (at mass of $Ag = 108$) on being heated strongly yields a residue					
	weighing (a) 2.16 g	(b) 2.48 g	(c) 2.32 g	(d) 2.64 g		
Q.11	Define Element, Compound and Mixture.					
Q.12	Give two main points of difference between a compound and a mixture.					
Q.13	0.44 g of hydrocarbon on complete combustion with oxygen gave 1.8 g of water and 0.88 g of carbon dioxide. Show that these results are in agreement with the law of conservation of mass.					
Q.14	Give one experiment involving a chemical reaction to prove that the law of conservation of mass is true.					
Q.15	N and O combine with H to form NH ₃ and H ₂ O and they combine with each other to form					

 NO_2 . Which law is illustrated? Explain?

- Q.16 10 mL of hydrogen combine with 5 mL of oxygen to yield water. When 200 mL of hydrogen at NTP are passed over heated CuO, the latter loses 0.144 g of its mass. Do these results agree with the law of constant composition?
- Q.17 Define Gay Lussac's Law of gaseous volumes.
- Q.18 Air contains 20% of oxygen by volume Calculate the theoretical volume of air which will be required for the burning of 200 cm³ of acetylene gas completely. All volumes are measured under the same conditions of temperature and pressure.
- Q.19 What are the postulates of Dalton's Atomic Theory? How do the laws of chemical combination follow from it?
- Q.20 How is mole related to?
 - (a) number of atoms / molecules
 - (b) mass of the substance
 - (c) volume of the gaseous substance?
- Q.21 How many molecules of the water and atoms of oxygen are present in 0.9 g of water?
- Q.22 What is the difference between
 - (a) Normality and Molarity?
 - (b) Molarity and Molality?
- Q.23 Define Empirical formula and Molecular formula. What is the relationship between them?
- Q.24 What is a limiting reactant? Explain with suitable example.
- Q.25 Give one limitation of the law of constant composition.
- Q.26 Which is law co-relates the mass and volume of a gas?
- Q.27 What is the difference between the mass of a molecule and molecular mass?
- Q.28 Why is the value Avogadro's number 6.022×10^{23} and not any other value?
- Q.29 Where do we use the words mole and mol?
- Q.30 Determine the empirical formula of a compound having percentage composition as: Fe = 20%; S = 11.5%; O = 23.1% and H₂O molecules = 45.4%

<u>SUBJECT – BIOLOGY</u>

<u>Objec</u>	Objective questions				
Q.1	Which is correct hierarchical sequence?(a) Phylum, Class, Order, Family(c) Genus, Species, Order, Family		(b) Phylum, Division, Family, Class(d) Division, Order, Class, Genus		
Q.2	Whi cates	Which of the following suffixes used for unit of classification in plants indicates a taxonomic category of 'family'?			
	(a) –	Ales	(b) –Onae	(c) –Aceae	(d) -Ae
Q.3	Coei (a) P	nocytic myceliun Phycomycetes	is characteristic featu(b) Basidiomycetes	re of (c) Ascomycetes	(d) Deuteromycetes
Q.4	Viru (a) E	s was first crysta Beijerink	llized by (b) Stanley	(c) Ivanowsky	(d) Leeuwenhoek
Q.5	Genetic material of bacteria is (a) RNA (c) Either RNA or DNA		(b) DNA(d) Both RNA and DNA		
Q.6	Asse	e rtion – In living	beings growth is due t	o internal addition of p	protoplasmic material.
	Reason – Growth occurs in both living and nonliving systems.				
Q.7	Assertion – The category of subspecies is used by zoologist while botanist use the category of variety.				
	Reas	son – Some spec	ies cannot be divided in	nto races, varieties and	l subspecies
Q.8	Asse	ertion : Secondar	ry mycelium of Agaric	us is binucleated.	
	Reas	son : Secondary	mycelium is formed by	somatogamy of prima	ary mycelium.
Q.9	Assertion : Unicellular eukaryotes are included in Monera.				
	Reas	son : Unicellular	eukaryotes have 70S r	ibosomes.	
Q.10	Read the following passage & answer any four questions W.M. Stanley (1935) showed that viruses could be crystallised and crystals consist largely of proteins. They are inert outside their specific host cell. In addition to proteins, viruses also contain genetic material, that could be either RNA or DNA. No virus contains both RNA and DNA. A virus is a nucleoprotein and the genetic material is infectious. In general, viruses that infect plants have single stranded RNA and viruses that infect animals have either single or double stranded RNA or double stranded DNA. Bacterial viruses or bacteriophages (viruses that infect the bacteria) are usually double stranded DNA viruses. The protein coat called capsid made of small subunits called capsomeres, protects the nucleic acid. These capsomeres are arranged in helical or polyhedral geometric forms.				
	I.	Viruses are nor cell. They belor (a) Monera	n-cellular organisms b ng to kingdom (b) Protista	ut replicate themselve	(d) None
	II.	I. Viral genome that has been integrated with genome of the host is called (a) DNA (b) RNA (c) Prophage (d) Viroid			ost is called (d) Viroid
	III.	Virus is (a) Obligate par (c) Obligate sap	asite prophyte	(b) Facultative parasite(d) Facultative saprophyte	

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IV. Prions are (a) Infectious proteins (b) Infectious nucleic acid (c) Infectious nucleic acid covered with proteins (d) Modified virus V. Bacteriophages are found in (a) Plant body (b) Animal body (c) Ganges water (d) Soil **Descriptive questions.** Give scientific name of species of fungus:-0.11 (a) Produces a plant disease. (b) Is edible (c) A source of antibiotic (d) Used in manufacture of ethanol. Diatoms are also called as 'pearls of ocean', why? What is diatomaceous earth? **O**.12 0.13 Discuss the salient features of viruses with the help of diagram? 0.14 Explain utility of systematics in classification. Q.15 What is nomenclature and identification? Why is it important? Q.16 Write the rules of binomial nomenclature for assigning scientific name to the organisms. Q.17 Write a short note on mycoplasma and viroids. Write names of any five bacteria which produce antibiotics. Q.18 0.19 What do the terms phycobiont and mycobiont signify? **O**.20 Explain any one method of sexual reproduction in bacteria. Q.21 Describe briefly the four major groups of Protozoa. O.22 Plants are autotrophic. Can you think of some plants that are partially heterotrophic? Q.23 State the drawbacks of two kingdom classification. Q.24 What is capsid? Q.25 What observable features in Trypanosoma would make you classify it under kingdom Protista? Mention any three differences between phycomycetes, basidiomycetes and ascomycetes. O.26 Q.27 Differentiate Bacteria and Cyanobacteria. Do you consider a person in coma-living or dead? Give reasonin support of your answer. Q.28 Q.29 What is the similarity and dissimilarity between "whole moong daal" and "broken moong daal" in terms of respiration and growth? Based on these parameters classify them into living or non-living? 0.30 What is heterocyst? Name the bacteria which posses heterocyst. -----X-----

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SUBJECT – ACCOUNTANCY

A) MULTIPLE CHOICE QUESTIONS

- Basic function of financial accounting is to

 (a) record all business transactions.
 (c) assist the management.
- (b) interpret financial data.
- (d) None of these
- 2. Which of the following will not be recorded in the books of account?
 - (a) Sales of goods
 - (c) Quality of staff

- (b) Payment of salary(d) Purchase of Goods
- 3. Which of the following transaction is not of financial character?
 - (a) Purchase of asset on credit
 - (b) Purchase of asset for cash
 - (c) Withdrawing of money by proprietor from business
 - (d) Strike by employees.
- 4. Which of the following limitations of accounting states that accounts may be manipulated to conceal vital facts :
 - (a) Accounting is not fully exact
 - (b) Accounting may lead to window dressing
 - (c) Accounting ignores price level changes
 - (d) Accounting ignores qualitative elements
- 5. Which external user of accounting information is most interested in knowing the long-term solvency position of the firm?
 - (a) Employees(c) Bank and Financial Institutions

(b) Management(d) Researchers

- 6. During the life-time of an entity, accounting produces financial statements in accordance with which of the following accounting concept?
 (a) Matching
 (b) Conservatism
 (c) Accounting period (d) Cost
- 7. M/s Future Ltd. has invested ₹ 10,000 in the shares of Relicam Industries Ltd. Current market value of these shares is ₹ 10,500. Accountant of Future Ltd. wants to show ₹ 10,500 as value of investment in the books of accounts, which accounting convention restricts him from doing so?
 - (a) Full disclosure (b) Consistency
- (c) Conservatism (d) Materiality
- 8. According to the Cost Concept
 - (a) Assets are recorded at lower of cost and market value.
 - (b) Assets are recorded by estimating the market value at the time of purchase.
 - (c) Assets are recorded at the value paid for acquiring it.
 - (d) Assets are not recorded
- 9. According to Convention of Conservatism closing stock is valued at:
 - (a) At cost Price (b) At Realisable value
 - (c) Cost price or realizable whichever is less (d) At Real value

10. Convention of conservatism takes into account:

- (a) All future profits and losses
- (b) All future profits and not losses
- (c) All future losses and not profits
- (d) Neither profits nor losses of the future

Case Study

- 1. Mohan started business for buying and selling of readymade garments with ₹40.00,000as an initial investment. Out of this he paid ₹20,00,000 for the purchase of garments,₹2,50,000 for furniture, ₹2,50,000 for computer and theremaining amount was deposited into the bank.He sold some of the ladies and kids garments for ₹15,00,000 for cash and some garments for 7,50,000 on credit to Rajesh. Subsequently, he bought men's garments of ₹10,00,000 from Satish. In the first week of next month, a fire broke out in his office and stock of garments worth ₹5,00,000 was destroyed. Later on, some garments which cost ₹6,00,000 were sold for ₹6,50,000. Expenses paid during the year were ₹45,000. Mohan withdrew ₹1,00,000 from business for his domestic use. From the above, answer the following:
 - a) What is the amount of capital with which Gopal started business?
 - b) What Non-current assets dis he buy?
 - c) What is the value of goods purchased?
 - d) Who is the creditor and state the amount pavable to him?
 - e) Who is the debtor and what amount is receivable from him?
 - f) What is the amount of Expense?
 - g) What is the amount of drawings of Mohan?

Project: Collect the different vouchers (Invoice, Cash Memo, Pay-in-slip, Withdrawal form, cheque) and explain them.

<u> SUBJECT – ECONOMICS</u>

A) MULTIPLE CHOICE QUESTIONS

- 1. Which of the following statements reflects the actual relationship between the marginal opportunity cost and production possibility frontier?
 - a. When the marginal opportunity cost remains constant, the production possibility frontier is a downward sloping straight line
 - b. When the marginal opportunity cost remains constant, the production possibility frontier is an upward sloping straight line
 - c. When the marginal opportunity cost remains constant, the production possibility frontier is a central sloping straight line
 - d. There is no relation between the marginal opportunity cost and the production possibility frontier
- 2. Which of the following statements is the actual meaning of scarcity?
 - a. The actual meaning of scarcity is that there is an increase in the resources
 - b. The actual meaning of scarcity is that there is a shortage in the resources
 - c. The actual meaning of scarcity is that there is no change in the resources
 - d. None of the above
- 3. Which of the following statements about the economy is correct?
 - a. An economy is a system that helps in the production of goods and also enables people to earn a living
 - b. An economy is a system that helps in the production of services and also enables people to earn a living
 - c. Both a and b are correct
 - d. Both a and b are incorrect
- 4. Which of the following statements reflect the correct situation related to the allocation of the resources?
 - a. Allocation of the resources comes under the causes of economic problems
 - b. Allocation of the resources comes under the causes of opportunity cost
 - c. Allocation of the resources comes under the causes of central problems
 - d. Allocation of the resources comes under the causes of marginal demand
- 5. The branch of economics that deals with the allocation of resources is _____
 - a. Econometrics
 - b. Macroeconomics
 - c. Microeconomics
 - d. None of the above
- 6. Which of the following is a type of economic activities
 - a. Production
 - b. Consumption
 - c. Exchange and Investment
 - d. All of these
- 7. Which of the following statements about the production possibility curve is true?
 - a. If a point falls inside the production possibility curve, it indicates that the resources are over utilised

- b. If a point falls inside the production possibility curve, it indicates that the resources are underutilised
- c. If a point falls inside the production possibility curve, it indicates that there is adequate employment in the economy
- d. If a point falls inside the production possibility curve, it indicates that there is inadequate employment in the economy
- 8. Which of the following is a sign of a free economy?
 - a. The prices are regulated
 - b. The prices are partly regulated
 - c. The prices are determined with the help of the forces of demand and supply
 - d. None of these
- 9. Which is the first law of Gossen:
 - a. Law of Demand
 - b. Law of Diminishing Marginal Utility
 - c. Consumer Surplus
 - d. Law of Equi-marginal utility
- 10. Which of the following is true
 - a. TU increases till MU is positive
 - b. TU is maximum when MU is equal to zero
 - c. TU declines when MU is negative
 - d. All of these

Project: a) Explain Types of Economies with Pictures

b) Explain Production Possibility Curve with diagram and its properties.

<u> SUBJECT – BUSINESS STUDIES</u>

Answer the following questions:

Q.1 Nikhil wants to start a wholesale business of stationery items. But he is hesitating as it will involve hindrances related to finding consumers, moving goods from place of production to market, storing goods because of time gap between production and consumption, risk of theft, fire, accidents, procurement of capital to finance above activities, providing information to the consumers about products etc.

He approaches his friend Anant to discuss his problem. Anant, who himself imports the electric appliances for the purpose of exporting them to other countries, advises Nikhil to carry on with his plan and explains to him various functions performed by the second limb of business i.e., Commerce.

Anant elaborates on various advantages of 'trade' and 'auxiliaries to trade'. After getting convinced by the advice given by Anant, Nikhil starts the business named Nikhil Ltd. and finds no major problems at all in converting his desire into a business venture. Nikhil gets his company registered under the companies Act 2013.

- (a) Name the part of commerce which exclusively helps in the process of trading the goods and services.
- (b) Name the type of trade under which Anant was doing his business.
- (c) Name the service which helps Nikhil to remove the hindrance of storing the stationery items.
- (d) Name the service which helps Nikhil to remove the hindrance of place.
- Q.2 Abdul is a single owner of a shoe manufacturing business. His business was suffering from continuous losses. To revive his business and to expand, he took a loan of '20 lakhs form 'Progressive Finance Co.' In suffer losses. This resulted in the declining assets and mounting debts. Abdul started defaulting on his repayment schedule. Finance company served him final notice to repay the loan and settle the account. He proposed the finance company to take over the business assets and clear their dues. Finance company took over the assets of the business in part settlement of their dues as the assets were not sufficient to settle the debts and they claimed the remaining amount from Abdul from his personal assets. Abdul refused to do so on the ground that loan was taken for the business and not by him for personal use.
 - (1) Name the form of business organization followed by Abdul.
 - (2) Is the finance company justified in asking for remaining amount form Abdul's personal assets? Justify your answer by giving suitable feature of the business organization.
- Q.3 'A', 'B', 'C', 'D' and 'E' are partners in partnership firm. The firm has different types of partners. Mr. A has contributed capital and participates in the management of firm. He shares profits and losses and is liable to an unlimited extent to the creditors of the firm. Mr. B has contributed capital and shares its profits and losses. He also has unlimited liability but he does not take part in day to day activities of business.

Association of Mr. C is not known to the general public but in all other respects he is like an active partner.

Mr. D has allowed the firm to use his name as he enjoys good reputation among clients but he does not either contribute capital or take part in the management.

Mr. 'E', 15 years of age is entitled to the benefits of partnership with mutual consent of all their members. He is not eligible to take part in management of firm and shares only profits and not losses of the firm.

- (i) How many partners of the firm has?
- (ii) Who is the active partner and what is the nature of his liability in the firm?
- (iii) Who is the sleeping partner in the firm and what is the nature of his liability?
- (iv) What king of partner is Mr. C and what king of liability does he have in the firm?
- (v) How does the partnership relationship of Mr. C differs from Mr. D ? How do they differ in their liability?
- (vi) Is Mast. E legal partner? Can be held liable for the liability of the firm?
- Q.4 Sharma brothers inherited some ancestorla property. They decided to form a Hindu undivided family consisting of four male members. Mr. Raman Sharma was eldest brother so he became 'Karta'. The business took a loan of Rs.20 lac from Canara Bank, which was to be returned within 5 years. Due to poor financial position of the buinsess, they were unable to repay the loan. Brother sold the ancestoral property for Rs.10 lac and pain the amaount to Canara Bank. The Bank filed a case for recovery of balance amount. Mr. Raman Sharma pleaded the court that the loan was taken for the pourpose of Business; so all members of business are liable to repay. The court said all membes are responsible only to the extent of their share in business and business property is already sold, but you being karta will have to repay whole amout even by selling your personal property.
 - (a) In this case who has unlimited liability.
 - (b) Was the decision of court to clain only from Raman is justified?
- Q.5 Sneha after her course in designing started taking jobs for designing logo, wedding cards, panphelts, advertisements etc. Her work became quite popular and she had continuous orders. She decided to have a separate office with some staff to help her. She was suggested by her father to have a business organization and run it properly.
 - (a) Her business was constantly growing and she was facing problems with handling all orders and finishign them on time. Her friend Pooja, who was also a designer, proposed to join her as a business partner. Sneha was confused whether to continue her business as a sole trader or convert in into a partnership firm. As a true frined of sneha, you are required to suggest the advantages and disadvantages of a partnership business. (two each)
 - (b) Sneha and Pooja decide to form a partnership firm and do the business together. Suggest them on the following issues with proper reasons.
 - (i) What kind of liability will they have and how will it affect them?
 - (ii) How is 'Particular Partnership' different from 'Partnership at Will'?
 - (iii) Is it necessary for them to have an agreement and register their firm?

<u> SUBJECT – HISTORY</u>

Topics

- 1. Mesopotamia City life and writing.
- 2. The Roman Empire.
- 3. Three continents.
- 4. Displacing the indigenous people.
- 5. Paths to modernization Japan and China
- 6. Changing culture.
- Read the topics Choose anyone you like the most.
- Explore content other than NCERT from books, Google , Authentic Site, Surveys, Reports and Interviews.
- Collect relevant pictures, maps , cartoons.
- The above material is to be brought on re-opening as rough for discussion.

For Project

- ◆ A4 size thick sheets ruled from one side and plain from the other. (minimum 25)
- \clubsuit It could be white or coloured but thick papers.

<u>Note</u> – First show the material, discuss the topic chosen, rough work and then we will make it fair.

<u>SUBJECT – GEOGRAPHY</u>

- ✤ Write about the physical features of India.
 - Use maps for representing their distribution.
 - Use their pictures for presentation.

<u> SUBJECT – POLITICAL SCIENCE</u>

Topics

- 1. Constitution at work
- 2. Political theory
- Choose any topic of your liking.
- Read the NCERT topic and then collect material from other sources also like library, e-book, Google, interviews, surveys, newspapers etc.
- Collect pictures, cartoons and maps related to the topic.
- Bring all this material as rough on school re-opening.
- We will individually discuss the content concept and lay-out.

<u>Requirement</u> – Minimum 25 pages white or coloured A4 size one side ruled and one side plain. It should be thick paper.

Project has to be hand written, creative innovative, authentic and well managed.

<u> SUBJECT – PSYCHOLOGY</u>

- 1. Watch any 2 or movies or read books (related to psychological disorders)
 - * Dear Zindgi (Depression)
 - * Taare Zameen Per (Disleksiya)
 - * Like a beautiful kind (Paranoid Schizophrenia)
 - * Rain Man (autism)
 - * Good will hunting (gifted / counseling/ PTSD)

Silver livings, playbook (bipolar disorders / depression)

2. Write about enquiry methods and prepare a questionnaire for survey with survey report. Topics for Survey (Choose any one)

- Can screen time habits change your thinking and perception about life?
- Bullying Bullying can affected some one's life.
- Life of disabled people in India.

<u> SUBJECT – SOCIOLOGY</u>

Submit a project work using method of your choice – survey, interview, observation or combination of more than one method on any one of the following topics.

- 1. Rural health Centre
- 2. Role of Social Media in our life
- 3. Social Change
- 4. Social Institutions
- 5. Gender Bias
- 6. Social Stratification

Mention: Objective, Importance, Theoretical assumption ,Statement of the purpose, Methodology, Technique and Conclusion Submit the holiday homework in file (shoelace file)with content and bibliography inserted.

<u> SUBJECT – ENTREPRENEURSHIP</u>

A. PROJECT WORK:

Case study of Karsanbhai Patel (Founder of NIRMA) Introduction Journey towards Entrepreneurship Contribution in Economy Achievements and Acknowledgements Business Mantra Message to youth Collect the information covering the above aspects and then write neatly on A4 size ruled thick sheets. Project should be hand written with minimum of 15 sheets. Be creative.

B. Answer the following Questions:

- Q1. Define Entrepreneurship. Discuss the process of Entrepreneurship.
- Q2. Discuss the Advantages and Disadvantages of Entrepreneurship.
- Q3. Describe any five Managerial functions of an Entrepreneur.
- Q4. Discuss the various myths surrounding Entrepreneurship.

<u>SUBJECT – MASS MEDIA</u>

A. Engage yourself in watching a movie

The Godfather **OR**

A Satyajit Ray Movie

- * Write the review of the movie
- * The plot of the same
- * Your favourite character and the reason why.
- * Also frame five questions you will ask your favouite character in the movie if you get to meet them.

B. REPORT WRITING :

Write a report on the initiatives taken by the Indian Government in at school level in the G20 Summit on an A4 size sheet.

NOTE: Compile the work in a file, paste pictures as well and submit the same in the first week of the reopening of the school after the summer vacations.

C. **Revise all the chapters done.**

<u>SUBJECT – HINDI</u> परियोजना–विषय

- 'लड़कियाँ हैं, वह घास-फूस की तरह बढ़ती चलीं जाती हैं।' कथन के आधार पर समाज में लड़कियों की वास्तविक स्थिति को स्पष्ट करते हुए केंद्र सरकार की 'बेटी बचाओ-बेटी पढ़ाओ' योजना का उल्लेख एक आकर्षक चित्रात्मक परियोजना द्वारा कीजिए।
- 2) जातिगत संकीर्णता को त्याग कर रचनात्मक कार्य द्वारा स्वरोजगार के लिए भारतीय युवाओं को प्रेरित करते हुए, एक चित्रात्मक परियोजना बनाइए। (उदाहरण – फास्ट फूड, बेकरी, टी कॉर्नर, योग प्रशिक्षण, फलों के रस की दुकान आदि)
- 3) भारत के विकास को लेकर आप जो सपने देखते हैं, उन पर एक आकर्षक चित्रात्मक परियोजना तैयार कीजिए।
- 4) मीरा और अक्कमहादेवी की भक्ति—भावना का तुलनात्मक विवेचन करते हुए, वर्तमान नारी संशक्तिकरण पर एक आकर्षक चित्रात्मक परियोजना तैयार कीजिए।
- 5) पढ़ाई अथवा नौकरी के लिए घर से दूर रहने पर आप अपने घर की और परिजनों की जिन विशेषताओं को याद करेंगे, उन्हें चित्र सहित एक आकर्षक परियोजना द्वारा व्यक्त कीजिए।
- 6) समाज में अशिक्षित स्त्रियों की पीड़ा को व्यक्त करते हुए एवं उन्हें शिक्षित कर आत्मनिर्भर बनाने के उपायों पर एक आकर्षक चित्रात्मक परियोजना तैयार कीजिए।
- 7) भारत के स्वतंत्रता संग्राम में आदिवासियों के योगदान का उल्लेख निम्नलिखित किन्हीं तीन क्रांतिकारियों के माध्यम से कीजिए-
 - * सिद्धू मुर्मू और कान्हा मुर्मू– संथाल विद्रोह के नेतृत्वकर्ता
 - बिरसा मुंडा— मुंडा विद्रोह
 - टंट्या भील— भारत के रॉबिनहुड
 - * तिलका मांझी- स्वतंत्रता सेनानी
 - झलकारी बाई— रानी लक्ष्मीबाई की सेनापति

अथवा

आदिवासी समाज पर शहरी अपसंस्कृति के प्रभावों का उल्लेख करते हुए एक चित्राकर्षक परियोजना बनाइए।

8) स्वर कोकिला सुश्री लता मंगेशकर की संगीतमय जीवन—यात्रा पर एक चित्राकर्षक परियोजना तैयार कीजिए।

निर्देश

- परियोजना का पहला पृष्ठ विद्यार्थी का नाम, कक्षा, वर्ग, अनुक्रमांक, विद्यालय का नाम एवं विद्यालय का प्रतीक चिह्न (लोगो)
- 2) दूसरा पृष्ठ–आभार ज्ञापन
- 3) तीसरा पृष्ठ–प्रमाण–पत्र
- चौथा पृष्ठ–अनुक्रमणिका
- 5) पॉचवा पृष्ठ-भूमिका / प्रस्तावना
- 6) छठे पृष्ठ से-आकर्षक संपूर्ण परियोजना
- 7) अंतिम पृष्ठ-संदर्भ-ग्रंथ
- * उपरोक्त परियोजनाओं में से किसी एक पर आकर्षक परियोजना तैयार कीजिए।

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<u> SUBJECT – SANSKRIT</u>

- निम्नलिखित सर्वनाम–शब्दरूपाणि अपनी उत्तरपुस्तिका में स्पष्ट तथा सुन्दर हस्तलेखन में लिखें तत् (तीनों लिंगों में), एतत् (तीनों लिंगों में), इदम् (तीनों लिंगों में)। अस्मद् तथा युष्मद्।
- धातुरूपाणि–(परस्मैपदी) : पठ् , गम्–गच्छ् , वद् , भू–भव् , क्रीड् , नी , दृश् , अस् , कृ , पा–पिब् धातुओं को – लट्लकार , लृट्लकार , लोट्लकार , लंगलकार तथा विधिलिंगलकार में लिखिए। (आत्मनेपदी) : लभ् तथा सेव् धातुओं को लट् तथा लृट्लकार में लिखिए। (कंठस्थ / याद कर के संस्कृत की उत्तरपुस्तिका में सुंदर ढंग से लिखिए।)
- 3. ''जी–20'' समूह में आने वाले सभी देशों के नाम लिखें तथा इनमें से किन–किन देशों में संस्कृत भाषा का प्रचलन है उनसे संबंधित चित्र एवं विवरण पर आधारित प्रयोजना (Project) A4 शीट पर तैयार करें।

SUBJECT – PHYSICAL EDUCATION

Write following topics in Practical Lab Manual:-

Practical 1: Labelled diagram of 400 M Track & Field with computations.

Practical 2: Describe Changing Trends in Sports & Games in terms of changes in Playing Surface, Wearable gears, Equipment, Technological advancements.