



WINTER VACATION ASSIGNMENT

GRADE XII

ENGLISH

DATE	TOPIC	TASK	CLASS /HOME ASSIGNMENT
Thursday 23 December 2021	Media and Society	Read the text in Page 22 "Social Media: Its Influence and Control over People's Lives	Page No. 24: Way with words A Page No. 25: Comprehension A and B
Friday 24 December 2021	Media and Society	Write an essay in about 300 words on ANY ONE of the following topics: a) There are different schools of thought regarding the social media. Some people see the benefits while others see problems in them. What are your observations? Explain the advantages and disadvantages of the social media giving your position in it. b) What is cyber bullying? What are its effects? How can it be stopped?	
Monday 27 December 2021	History and Culture	Read the given text in Page 31 The contribution of the Qin Dynasty in Chinese history and culture.	Page No. 36: Way with words A and B Page No. 37: Comprehension A and B
Tuesday 28 December 2021		Write an email to your friend living abroad stating the contributions of Prithvi Narayan Shah in the unification of Nepal	
Wednesday 29 December 2021		Project Work Find the similarities and differences between the Qin Dynasty in China and the Rana Regime. You can search information on the internet and prepare a comparative chart. Once you complete your project, compare it with the charts from your friends.	
Thursday 30 December 2021	Life and Love	Read the text in Page 22 Read the given text on Page 42, "The Looking Glass"	Page No. 46: Way with Words A and B Page No 48: Comprehension A
Friday 31 December 2021	Health and Exercise	Read the text in Page 53 "You May Scoff"	Page No. 57: Way with Words A Page No 58/59: Comprehension A and B

Monday 3 January 2022	Write and essay in about 300 words on ANY ONE of the following topics: a) Yoga can be good to stay physically and mentally healthy. Do you practise anyyoga? Write an essay on the benefits of yoga. b) How can a person be mentally healthy? Provide tips to a person to staymentally fresh and healthy
Tuesday 4 January 2022	Project Work “Eat Healthy Stay Healthy” is the slogan to keep oneself healthy and active. Hereare some sources of healthy food: BERRIES, FRUITS, VEGETABLES, GRAINS,LENTILS and NUTS. Research the benefits of these food items and prepare a PowerPoint Presentation.

NEPALI

नेपाली पाठ्यपुस्तकका पाठ ९, १०, ११ र १२ को अध्ययन गरी निम्नलिखित प्रश्नहरूको उत्तर लेख्नुहोस् :

पाठ	पेज	प्र. नं.
९	११८	३
९	१२०	९ (ख)
१०	१३१	१ सबै
११	१४५	३
११	१४६	७
१२	१६५	५ र ६

COMPUTER SCIENCE:

Write answer of the following questions in your copy and submit your copy after return back to school.

1. What is function? List out the advantages of function.
2. What is DBMS? List out the advantages of DBMS.
3. Define DDL and DML with examples.
4. Differentiate between guided and unguided networking media.
5. Write short notes on – TCP/IP, WiFi, ER diagram
6. Who is system analyst? What are the roles of system analyst.
7. Write the importance and necessity of SDLC.
8. Describe the normalization in database.
9. Describe ring ,star and bus topology with diagram.
10. What is optical fibre cable in networking system?
11. Differentiate between centralized and distributed database.
12. What is transmission media? Explain any 2 types of transmission media.
13. Write short notes on- a) Cloud computing b) E-Commerce c) IoT
14. Difference between Structure and Union
15. What is pointer in C? What are the advantages of using pointer?

MATHEMATICS:

1. The value of $\frac{(\cos \theta + i \sin \theta)^4}{(\cos \theta - i \sin \theta)^5}$ is
 - a) $\cos 9\theta + i \sin \theta$
 - b) $\cos \theta - i \sin \theta$
 - c) $\cos 5\theta + 2 \sin 5\theta$
 - d) $\cos 4\theta - i \sin 4\theta$
2. In the expansion of $(3 - 2x)^{\frac{2}{n}}$ is valid only if
 - a) $|x| < 1$
 - b) $|x| < \frac{2}{3}$
 - c) $|x| < \frac{3}{2}$
 - d) $|x| < \frac{1}{2}$
3. The number of permutations of the letters of the word "COMMITTEE" is
 - a) $\frac{9!}{(2!)^2}$
 - b) $\frac{9!}{(2!)^3}$
 - c) $\frac{9!}{2!}$
 - d) $9!$
4. If $Cov(X, Y) = 10$, $Var(X) = 16$, $Var(Y) = 9$ then correlation coefficient between two variables is
 - a) 0.75
 - b) 0.83
 - c) 0.91
 - d) 1
5.
 - a) How many 4 digits even numbers can be formed from the digits 4, 5, 6, 7, 8, 9 if the repetition of digits is not allowed?
 - b) In an examination, there are 10 questions. In how many ways candidate can answer 6 questions if question number 9 is compulsory?
6.
 - a) Find the term independent of x in the expansion of $\left(x - \frac{1}{3x^2}\right)^{12}$.
 - b) Find the area of the parallelogram determined by the vectors $\vec{i} + \vec{j} + \vec{k}$ and $-2\vec{i} + 3\vec{j} + \vec{k}$.
7.
 - a) Express $2 + 2\sqrt{3}i$ in polar form and Euler form.

- b) A sample of 100 fuses is known to have an average 5 defective fuses. 3 fuses of sample are tested. What is the probability that exactly one of them is defective?
8. Two lines of regression are $x + 2y = 5$ and $2x + 3y = 8$ and $\sigma_x^2 = 12$. Calculate \bar{x} , \bar{y} , b_{yx} , b_{xy} , r and σ_y^2 .
9. Find, from definition, the derivative of $\tan\sqrt{x}$.
- 10.
- a) A committee of 5 members is to be formed out of group of 8 boys and 7 girls. Find the probability that in the committee there will be at least one girl.
- b) Calculate the Karl Pearson's correlation coefficient between speed and mileage of a car.

Driving speed	30	50	40	55	30	25	60	25	50	55
Mileage(Lt)	28	25	25	23	30	32	21	35	26	25

11. Define vector product. Prove by vector method that in any triangle,

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

12. Solve the following system of linear equations.

$$x - y - 2z = -2$$

$$3x - y + z = 6$$

$$x - 3y - 4z = -4$$

SOCIAL STUDIES:

समूह 'क' (संक्षिप्त उत्तरात्मक पत्रनको उत्तर दिनुहोस्।

१. मानव विकास सूचकांकको अवधारणालाई स्पष्ट पार्नुहोस्।
२. राज्यका तत्वहरूको सूची बनाउनु कुनै दुईको व्याख्या गर्नुहास्।
३. सन् १९९० देखि नेपाल चीन सम्बन्धबारे व्याख्या गर्नुहोस्।
४. अर्थतन्त्र भनेको के हो ?
- ५। विकास भनेको के हो ?

६। आर्थिक विकासका कुनै दुई सूचकहरूको नाम लेख्नुहोस् ।

७। सहरको परिभाषा दिनुहोस् ।

८। सहराकरणका विशेषताहरू उल्लेख गर्नुहोस् ।

९। विश्वव्यापी सहराकरणको प्रवृत्तिलाई व्याख्या गर्नुहोस् ।

१०। कम विकसित देशहरूमा सहराकरण तीव्र रूपले हुने कारणहरू के के हुन् ? प्रस्तुत गर्नुहोस् ।

११। दर्शन भन्नाले के बुझिन्छ ?

१२। विश्व दृष्टिकोण भन्नाले के बुझिन्छ ?

समूह 'ख' (Group 'B') (विस्तृत उत्तरात्मक प्रश्नहरू/ Long answer questions)

१। संयुक्त राष्ट्र संघका उद्देश्य एवं सिद्धान्तहरूबारे व्याख्या गर्नुहोस् ।

२। नेपाली समाजमा महिलाहरूको स्थानबारे चर्चा गर्नुहोस् ।

३। आर्थिक विकासलाई परिभाषित गर्दै यसका सूचकहरूको सूची तयार गर्नुहोस् ।

४। नेपालको आर्थिक विकासलाई यसका सूचकका आधारमा व्याख्या गर्नुहोस् ।

५। गाउँ सहर सम्बन्धका आयामहरूको सङ्क्षिप्त चर्चा गर्नुहोस् ?

६। पृष्ठप्रदेशले गाउँ सहर अन्तरसम्बन्धमा कसरी भूमिका खेल्छ, उल्लेख गर्नुहोस् ।

७। गाउँ सहर सम्बन्धले जीविकोपार्जन शैलीमा ल्याउने सकारात्मक र नकारात्मक परिवर्तनमा छोटो टिप्पणी लेख्नुहोस् ।

८। विदेश नीति भनेको के हो? विदेश नीति किन आवश्यक पर्दछ ?

९। नेपाल-भारत बीचको आर्थिक सम्बन्धको समिक्षा गर्नुहोस् ।

१०। नेपाल-चीन बीचको राजनैतिक सम्बन्धको व्याख्या गर्नुहोस् ।

११। नेपालको परराष्ट्र नीतिका आधारहरू उदाहरणसहित व्याख्या गर्नुहोस् ।

PHYSICS:

GROUP 'A'

Circle the best alternative to the following question.

1. 1st law of thermodynamics related with

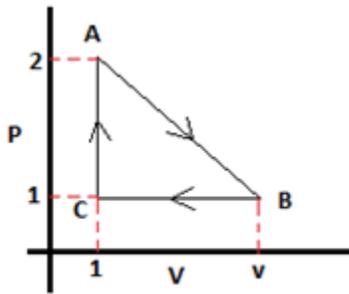
i) Conservation of mass

ii) Conservation of energy

iii) Conservation of force

iv) None of above

2. In the process A to B to C, 20J of heat is supplied from A to B. 20.5J of heat has been removed from B to C and 2J of heat has been added from C to A. Calculate the value of 'v' from the given conditions in the diagram. The values of pressure and volume given in the graph are in S.I. units.



- a) 4m^3
- b) 1.5m^3
- c) 3m^3
- d) 8m^3

3. When there is no exchange of heat occurs, then thermodynamics process becomes

- a) Isothermal process
- b) Adiabatic process
- c) Isobaric process
- d) Isochoric process

4. In diesel engine, there is absence of

- a) spark plug
- b) working substance
- c) valves
- d) none of the above

5. Ideally which engine gives more efficiency,

- a) Petrol Engine
- b) Carnot Engine
- c) Diesel Engine
- d) none of the above

6. Mechanical wave is work based on principle of

- i) Newton's Law
- ii) Faraday's Law
- iii) Planck's Law
- iv) Hertz's Law

7. If the incident wave be represented by $y(x, t) = a\sin(kx - \omega t)$, then, for reflection at a rigid boundary the reflected wave is represented by?

- i) $y(x, t) = a\sin(kx + \omega t)$
- ii) $y(x, t) = -a\sin(kx + \omega t)$

iii) $y(x, t) = -a \sin\left(kx + \omega t + \frac{\pi}{2}\right)$ iv) $y(x, t) = a \sin(kx + \omega t - \pi/2)$

8. A wave is given by $y = 3 \sin 2\pi \left(\frac{t}{0.04} - \frac{x}{0.01}\right)$ where y in cm. frequency of wave and maximum acceleration will be :

- i) 25 Hz, 7.5×10^4 cm/sec² ii) 25 Hz, 4.7×10^4 cm/sec²
iii) 50 Hz, 7.5×10^3 cm/sec² iv) 100 Hz, 4.7×10^3 cm/sec²

9. The mechanical waves in which particles of the medium vibrate about their mean position perpendicular to the direction of propagation of the waves are called

- i. transverse waves
ii. longitudinal waves
iii. mechanical waves
iv. electromagnetic waves

10. When sound wave travels through air, the air particles

- i. do not vibrate
ii. vibrate but not in any fixed direction
iii. vibrate perpendicular to the direction of propagation of wave
iv. vibration along the direction of propagation of wave

11. The Laplace correction was necessary to Newton's calculation of velocity of sound, because propagation of sound in a medium is

- i. isothermal process
ii. adiabatic process
iii. isobaric process
iv. isochoric process

12. The temperature at which the velocity of sound in air will be 3/2 times the velocity at 11°C

- i. 373°C ii. 366°C
iii. 277°C iv. 266°C

GROUP 'B'

1. Velocity of sound in solids is more than that in liquids, why?

2. When sound waves travel through a medium, does the temperature at various points remain constant? Explain.
3. The speed of sound in humid air is more than that in dry air, why?
4. Sound at a distance can be heard distinctly at night than in the day time. Why?
5. Do sound waves need a medium to travel from one point to other point in space? What properties of the medium are relevant?
6. If you are walking on the moon surface, can you hear the cracking sound behind you? Explain.
7. Which types of wave propagate in liquid, explain.

GROUP 'C'

1. Define molar specific heat capacities at constant volume and pressure. Prove that $c_v - c_p = -R$.
2. Derive the expression for workdone during adiabatic process.
3. Prove that : $PV^\gamma = \text{constant}$.
4. Discuss about petrol engines with the help of PV diagram.
5. Discuss about working mechanism of Carnot engine with the help of Carnot cycle and PV diagram.
6. Discuss about the diesel engine.
7. How is progressive wave different from a stationary wave? Derive an equation for a progressive wave.
8. What are stationary waves? Prove that the distance between any two consecutive nodes in a stationary wave is $\frac{\lambda}{2}$.
9. Derive an expression for the velocity of sound in a medium by dimensional method. Discuss the effect of change in pressure and temperature on the velocity of sound in air.
10. Does the propagation of sound wave cause change in thermodynamics condition of medium? Derive Laplace formula of velocity of sound in air.
11. Describe Laplace's correction in Newton's formula for velocity of sound in air. Also discuss the effect of temperature and pressure in the velocity of sound in air.
12. Discuss the significance of Laplace's correction to Newton's formula for the velocity of sound. Also, explain how different factors affect the velocity of sound.

GROUP 'D'

1. Explain concept of latent heat and internal energy. The density of gas is 1.775 kg m^{-3} at 27°C and 10^5 N/m^2 pressure and its specific heat capacity at constant pressure is 846 J/kg.K . Find the ratio of its specific heat capacity at constant pressure to that at constant volume.
2. An ideal gas initially at 4 atmosphere and 300K is permitted to expand adiabatically twice its initial volume. Find the final pressure and temperature if the gas is

i) Monoatomic with $C_V=3/2R$ and ii) diatomic with $C_V=5/2R$

3. For hydrogen, the molar heat capacities at constant volume and constant pressure are 20.5J/mol.K and 28.8J/mol.K . Calculate i) the heat needed to raise the temperature of 8gm of hydrogen from 10°C to 15°C at constant pressure ii) the increase in internal energy of the gas iii) the external work done. (molar mass of hydrogen= 2gm)

4. A wave equation (x in meters and t in seconds) $y=0.02\sin(30t-4x)$. Find

i. Its frequency, speed and wave length

ii. The required of wave with double the amplitude but travelling in the opposite direction.

5. Stationary waves are set up by the superposition of two waves given by $y_1=0.05\sin(5\pi t-x)$ and $y_2=0.05\sin(5\pi t+x)$ where x and y are in metres and t in seconds . Find the displacement of a particle situated at $x=1\text{m}$.

6. For a travelling wave $y=2.0 \cos(10t-0.0008x+0.35)$ where x,y are in cm and t in seconds. What is the place difference between oscillatory motions at two points separated by a distance of i) 4m and ii) $3 \lambda/4$?

7. A source of sound of frequency 550Hz emits waves of wavelength 60cm in air at 20°C . What would be the wavelength of sound from the source in air at 0°C ?

8. At what temperature, the velocity of sound in air is increased by 50% to that at 27°C ?

9. What is the differences between the speed of longitudinal waves in air at 27°C and at 13°C ? What is the speed of 0°C ?

10. In a resonance air column apparatus, the first and second resonance positions were observed at 18 cm and 56cm respectively. The frequency of tuning fork used was 480Hz . Calculate the velocity of sound in air and end correction of the tube.

11. A source of sound produces a note of 512Hz in air at 17°C with wavelength 66.5cm . Find the ratio of molar heat capacities at constant pressure to constant volume at NTP. Densities of air and mercury at NTP are 1.293kg/m^3 and 13600kg/m^3 and 13600kg/m^3 respectively.

12. When a detonator is exploded on railway line, an observer standing on the rail 2 km away hears two sounds. What is the time interval between them? (Young's modulus of steel $=2 \times 10^{11}\text{N/m}^2$, density of steel $=8 \times 10^3\text{kg/m}^3$, density of air $=1.4\text{kg/m}^3$, γ -for air $=1.4$, atmospheric pressure $=10^5\text{N/m}^3$)

13. A man standing at one end of a closed corridor 57m long blow a short blast on a whistle. He sound the time from the blast to the sixth echo was 2 seconds . If the temperature was 17°C , what was the velocity of sound at 0°C ?

CHEMISTRY:

1. Define acidimetry and alkalimetry.
2. Differentiate between end point and equivalent point.
3. Define primary standard solution.
4. Write the requisite for the substance to be primary standard.

5. Calculate the equivalent weight of the following: H_2SO_4 , H_3PO_4 , NaOH , HCl , HNO_3 , $\text{Mg}(\text{OH})_2$, NaCl , Na_2CO_3 , CaCO_3 .
6. Write about the appropriate choice of indicator in acid base titration.
7. Define decinormal solution. What volume of water should be added to 50 ml of N/2 NaOH to make it exactly decinormal?
8. 0.315 gm of dibasic acid required 50ml of decinormal sodium hydroxide solution for complete neutralization. Find the molecular mass of acid.
9. 49gm of H_2SO_4 is present in 200ml of its solution, determine the strength of this solution in terms of concentration of (a) normality (b) molarity (c) % by volume (d) g/L. Also determine the volume of this solution required to prepare 100ml of N/10 solution of H_2SO_4 .
10. A solution of concentrated hydrochloric acid contain 38% HCl by mass. (a) what is the molarity of this solution if the density of the solution is 1.19g/cc? (b) what volume of the conc. HCl is required to neutralize 1 litre of 0.1M NaOH.
11. What is meant by normality factor? How many ml of conc. HNO_3 of specific gravity 1.41 containing 69% by mass are required to prepare 500ml of 0.5 N HNO_3 .
12. A commercial sample of sulphuric acid has specific gravity 1.8. 10ml of this acid was dilute upto 1 litre with water. 10ml of diluted acid required 30ml of N/10 NaOH for complete neutralization. Calculate the percentage purity of H_2SO_4 in the commercial sample.
13. 3gm of trivalent metal was completely dissolved with 750 ml of 1N HCl. The residual solution further required 1000ml of N/2 NaOH for the complete neutralization. Find the atomic mass of the metal.
14. X gm of magnesium (Eq. wt. = 12) reacts with 20ml of 1N ($f=0.95$) acid. Calculate the weight of X.
15. 25cc of 0.820N NaOH is added to 50cc of HCl acid solution. The excess of acid solution required 30cc of 0.09N Na_2CO_3 for complete neutralization. Find the normality of HCl in terms of gram/Litre.
16. Show your acquaintance with Williamson's synthesis.
17. Give reason: (a) It is dangerous to boil sample of ether stored for a long time. (b) Ether is stored in bottle containing iron wire.
18. Convert ethoxy ethane to methoxy ethane.
19. Describe the laboratory preparation of diethyl ether with well labeled diagram.
20. What happens when ethoxyethane reacts with (a) air (b) PCl_5 (c) Cl_2 in light (d) conc. HCl at 0°C . (d) HI at 100°C
21. Write the functional isomer of $\text{C}_2\text{H}_6\text{O}$ with their IUPAC name.
22. Define strong and weak electrolyte with 2 examples of each.
23. Define (a) ionization constant (b) degree of ionization (c) ionic product of water (d) conjugate acid base pair
24. With suitable example show that water acts as Bronsted-Lowry acid as well as base.
25. State Ostwald's dilution law. Mention the limitation of dilution law.
26. NH_3 is Lewis base but not an Arrhenius base, why?
27. Calculate the pH of 0.1N H_2SO_4 .
28. Calculate the degree of ionization and pH of HCN having concentration 0.01M. [$K_a = 4.8 \times 10^{-10}$].
29. pH of 0.1M HCN is 5.2. what is the value of K_a for this acid?
30. AlCl_3 is called Lewis acid, why?
31. What are the limitations of Lewis concept of acid and base?
32. A sample of AgCl is treated with 5ml of 2M Na_2CO_3 solution to produce Ag_2CO_3 . The remaining solution contained 0.003 gm Cl^- per litre. Calculate the solubility product of AgCl. (K_{sp} of $\text{Ag}_2\text{CO}_3 = 8.2 \times 10^{-12}$).
33. Write the formula of the ore listed below:
 - a) Malachite b) copper pyrite c) haematite d) cinnabar e) argentite f) zinc blende g) magnetite h) calamine i) zinc blende j) siderite
34. Explain the process of extraction of copper from its major ore with well labeled diagram.
35. What happens when:

- a) Copper is heated with air above 1100°C and below 1100°C?
 - b) Copper sulphate is treated with excess of ammonia solution?
 - c) Zinc sulphate is treated with barium sulphide?
 - d) Calomel is treated with ammonia?
 - e) Calomel is treated with aqua regia?
36. Write short note on:
- a) Corrosive sublimate
 - b) Manufacture of steel by basic oxygen process.
 - c) Electrochemical theory of rusting.

BOTANY:

1. Lateral roots originate in

- a. Cortex
- b. Endodermal cells
- c. Pericycle
- d. Cork cambium

2. Vascular bundles in dicot stem are

- a. Closed, conjoint, endarch
- b. Open, conjoint, endarch
- c. Closed, conjoint, exarch
- d. Open, conjoint, exarch

3. The xylem in a root is

- a. Endarch
- b. Both
- c. Exarch
- d. Mesarch

4. The dicot root is identified by the presence of.....

- a. Exarch xylem
- b. 2-6 radial vascular bundles
- c. >6 radial vascular bundles
- d. Absence of pith and endodermis

5. In the rainy season, doors get swelled up due to

- a. Transpiration
- b. Imbibition
- c. Diffusion
- d. Respiration

6. When cell is kept in hypertonic solution, the cell gets turgid, this phenomenon is called.....

- a. Turgidity
- b. Endo-osmosis
- c. Exo-osmosis
- d. Plasmolysis

7. Double helical structure of DNA is proposed by.....

- a. Atman
- b. Hutchinson
- c. Watson and Crick
- d. Bateson

8. Guttation is mainly due to the

- a. Root pressure
- b. Transpiration
- c. osmosis
- d. imbibition

9. The rate of photosynthesis is higher in

- a. yellow light
- b. red light
- c. continuous light
- d. green light

10. NADP⁺ is reduced to NADPH in

- a. PS I
- b. PS II
- c. Light reaction
- d. dark reaction

11. The core metal of chlorophyll is

- a. Ni
- b. Fe
- b. Cu
- d. Mg

12. A gamete normally contains...

- a. many alleles of a gene
- b. two alleles of a gene
- b. all alleles of a gene
- d. one allele of a gene

13. The crossing of F1 to any of the parents in the F2 generation of

- a. test cross
- b. F1 cross
- b. back cross
- d. all of above

14. DNA replication in eukaryotes is

- a. Unidirectional with many ori
- b. Unidirectional with single ori
- b. bidirectional with many ori
- d. bidirectional with single ori

15. The vascular bundles are scattered in.....

- a. Corn plant
- b. Cucurbita
- c. Sunflower
- d. Mustard

16. Which is not correct according to Chargaff's rule?

- a. A=T
- b. A+G=C+T
- c. C=G
- d. A+T/G+C=1

17. In *Mirabilis* sp., red flowered plants are crossed with white flowered plants resulting in all pink flowered plants. What are the chances of the appearance of red flowered plants in a cross between pink and white flowered plants?

- a. 0
- b. 0.5
- c 0.25
- d. 0.75

18. When cell is kept in hypotonic solution, the cell gets turgid, this phenomenon is called.....

- a. Turgidity
- b. Endo-osmosis
- c. Exo-osmosis
- d. Plasmolysis

19. Starch sheath is.....

- a. Endodermis of stem
- b. Storage of cortex
- c. outer cortex
- d. covering of vascular bundle

20. Pith and cortex do not differentiate in...

- a. Monocot stem
- b. Monocot root
- c. dicot root
- d. dicot stem

Group 'B'

Give short answer to the following questions.

1. Types of meristematic tissues. Structure and function of collenchyma.
2. Types of vascular bundles.
3. Short notes on xylem.
4. Short notes on phloem.
5. Short notes on double fertilization.
6. Differentiate between simple permanent tissue and complex permanent tissue.
7. Explain structure & function of sclerenchyma.
8. Write about permanent tissue of plant.
9. Describe in brief about the structure of stomata and its function.
10. Factor affecting transpiration. Differentiate between transpiration and guttation.

11. Describe components of nucleotide.
12. Draw a well-labelled diagram of dicot root.
13. Differentiate between transpiration and guttation.
14. Elaborate the double helical structure of DNA.
15. Describe in brief about the structure of stomata and its function.
16. Give differences between non-cyclic and cyclic photophosphorylation
17. Differentiate between genotype and phenotype
18. Describe law of dominance.
19. Short notes on incomplete dominance

Group 'C'

Give long answer to the following questions.

1. Draw a well labelled diagram of T.S. of monocot stem. And differentiate anatomy of monocot stem with dicot stem.
2. Define osmosis. Explain the process of osmosis using semi-permeable membrane as egg membrane.
3. Differentiate between DNA and RNA. Explain double helical structure of DNA.
4. Define transpiration. Show the experiment to prove the process of osmosis using potato osmoscope.
5. Define linkage. Describe the types of linkage with suitable examples.
6. Discuss different factors affecting the rate of transpiration.
7. Notes on mechanism of light reaction.

ZOOLOGY:

Complete the Practical writing portion of all the practical you have completed in the School.

Graderoom Facilitator

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