

# DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI WINTER ASSIGNMENT

**CLASS -XI** 

SUBJECT - ENGLISH

#### **READING SECTION**

#### Read the following passage carefully:

1 Just a decade ago, Nepal was a Himalayan kingdom where Buddhists and Hindus from surrounding countries travelled on pilgrimage to see the temples of Pashupatinath, Swayambhunath, Boudhinath, Buddha Neelkantha and Guhyeshwari among scores of others. They also thronged this tiny strip of an incredible Himalayan landscape to see the great heritage cities of Kathmandu, where the Durbar Squares has a unique collection of ancient buildings; Patan-Lalitpur, the city of art where the quaint combination of Hindu and Buddhist architecture creates a memorable group of ancient buildings and Bhaktapur, where, once again, the melee of ancient shrines displays the finest buildings and carving art cherished by Nepal's builders over the centuries.

2 Ten years down the line, this tiny Himalayan kingdom has undergone a dramatic change. Millions of people still travel to this country for pilgrimages and nature treks. It has some of Asia's best luxury resorts, deluxe hotels and conference centres, supermarkets and, of course, restaurants offering not only the exotic Nepalese cuisine, but also the best food from all over the world. Suddenly, Nepal has become the country for marriages, parties, holidays, business deals, adventure holidays, gourmet eating and, of course, for old world sightseeing.

The Tribhuvan International Airport is as full of backpackers as it is of business tycoons, who come to Kathmandu to conduct important meetings with international groups for joint projects all over Asia and to shape import-export business in the next decade along the renowned old silk route.

3 Apart from Kathmandu, most nature lovers visit Pokhara, where the highest peaks of the sprawling Annapurna range of the Himalayas and the Machchepuchra peak stand brooding over several resorts. The town's crowning glory is Fulbari, a 167-room resort which offers every kind of luxury one can dream of. A fitness, yoga and beauty centre, a spa, a sports complex, several restaurants and landscaped gardens which overlook the mountains and a viewpoint from where the rising sun looks gorgeous – these are some of the attractions of the resort. The lakeside bazaar is really a shopper's delight. A number of Kashmiri migrants have settled around the Pokhara Lake, where boating is available, and have opened shops selling leather and metal goods, semi-precious stones, beads and Kashmiri, Tibetan and Nepalese handicrafts of the Hindu, Muslim and Buddhist variety. Pokhara is the hill station from where several helicopter flights take off to see the fabulous mountain ranges around the area. The ride to see Mount Everest, which is also available from Kathmandu, is the most popular.

4. Apart from Kathmandu and Pokhara, the cities which attract hordes of culture visitors are Patan-Lalitpur, Bhaktapur, Dhulikhel and Nagarkot. The last two are towns from where the sunset and the beauty of the snow-clad mountain ranges are unforgettable. Nagarkot and Dhulikhel — both have luxury resorts where one can go lotus-eating to one's heart content and meditate upon the setting sun and its magnificent beauty each evening ! The earlier mentioned towns, namely Patan-Lalitpur and Bhaktapur are a different kettle of fish. Here are Durbar Squares of majestic beauty, buildings built by the great rulers of Nepal's past royal families and the best work of architects, and Nepal can be everything to everyone. It is a one-stop holiday for the religious people, the pleasureseekers, the adventure-seekers and the business tycoons. It is a heaven for nature lovers and for those who are fascinated by the animal and bird world. It is a sanctuary for those who want peace and quiet, away from the hectic world, down in the plains and their duty cities.

5. Most of all, Nepal is a wonderful destination for all those who want to gaze at the eternal Himalayas endlessly, and store a treasure of peace in their souls to last for a lifetime!

# (a) On the basis of your reading of the above passage, make notes using headings and subheadings in any suitable format. Use recognisable abbreviations. Give a suitable title to the passage.(b) Write a summary of the passage based on your notes.

#### Read the passage given below.

1. Earthquakes are one of the largest threats from moving plate tectonics in Indonesia as they come sudden and can strike in densely populated areas, such as the bigger cities. Earthquakes with a magnitude of around five or six on the Richter scale happen almost on a daily basis in Indonesia but usually cause no or little damage. When the magnitude becomes over seven on the Richter scale however, an earthquake can potentially do a lot of damage. Yearly, two or three earthquakes with a magnitude of seven or higher occur in Indonesia and cause casualties and damage the infrastructure or environment.

2. The table shows the location, date, magnitude and number of casualties that have resulted from recent earthquakes in Indonesia. There is a general trend for Sumatra and Java to be most heavily affected by earthquakes, at least in terms of lives lost, as suggested by the table. This is because both cities are located on the coast of Indonesia, meaning they are also potentially affected by underwater earthquakes that cause tsunamis. Furthermore, Sumatra has experienced the largest magnitude earthquakes with the 2004 earthquake registering 9.3 on the Richter scale and resulted in a staggering 283,106 casualties.

Location	Date	Magnitude	Casualties
Sumatra	25 October 2010	7.7	435
Sumatra	30 September 2009	7.6	1.117
Java	17 July 2006	7.7	730
Java	26 May 2006	6.3	5,780
Sumatra	28 March 2005	8.6	1,313
Sumatra	26 December 2004	9.2	283.106

3. An earthquake that occurs underwater, in the oceans, almost always results in mass displacement of the water surrounding it. The height and destructive power of these waves depend on the magnitude of the earthquake that generated it. When the force of the waves created is strong enough, it is specifically identified as a tsunami. On average, it has been identified that a large tsunami (caused by an earthquake of magnitude 7+) reaches areas of Indonesia every five years, with most hitting the cities of Sumatra and Java.In general, evacuations are often made in time in tsunami-prone areas, as many Indonesians living in coastal cities are able to flee to the hills located further inland to avoid loss of life after being notified of an offshore earthquake.However, the existing infrastructure and agriculture are unable to be saved, meaning tsunamis often devastate the Indonesian economy.

4. Just over a decade ago, on the 26th of December 2004, the Indian Ocean tsunami resulted from a giant underwater earthquake that occurred off the coast of northern Sumatra, in Banda Aceh, a city in Indonesia, This underwater earthquake was the result of a thrust fault that occurred in a subduction zone where the Australian plate was subducting under the European plate. As a result, the ocean floor broke, releasing its energy in a massive 9.1 magnitude earthquake, which subsequently caused large scale displacement of water in this region, ultimately generating massive tsunami waves which hit coastal communities surrounding the epicentre of the disaster, with the region of Aceh in Indonesia being hit the hardest in particular.

6. Indonesia was both the first and worst hit by this tsunami, which swamped the northern and western coastal areas of Sumatra, and the smaller outlying islands of Sumatra. However, nearly all the casualties and damage took place on the province of Aceh, Indonesia, where three devastating earthquakes struck the western shore in succession within 30 minutes. Each of these waves ranged from 4 to 39 metres high and due to the relatively flat ground of the region, extended inland for as far as 250 kilometres, subsequently affecting a large portion of Indonesia of up to an estimated 300,000 people, while also destroying 250 coastal communities in Indonesia with its rampant movement.

5. Residential neighbourhoods and fishing villages in coastal areas of Indonesia were entirely devastated, and houses were swept inland or out to sea. While the traditional construction of the buildings was able to resist the shaking from the underwater earthquake, they could not resist the continuous forces from the onslaught of tsunamis, meaning most were completely obliterated.

# On the basis of your understanding of the above passage, answer any ten questions from the eleven given below.

- (a) Mark the false statement.
  - (i) Stagnant tectonic plates trigger earthquakes.
  - (ii) Sumatra and Java are prone to earthquakes.
  - (iii) In Indonesia the hills located further in land are a blessing in disguise.
  - (iv) Underwater earthquakes in oceans result in mass displacement of water.

#### (b) The casualties in Java and Sumatra are high because \_\_\_\_\_

- (i) they are untouched by underwater earthquakes
- (ii) they are located in the centre of Indonesia
- (iii) they are located on the coast of Indonesia
- (iv) they are hit by the largest magnitude earthquakes
- (c) Indonesia's prosperity suffers because of \_\_\_\_\_\_.
  - (i) manmade calamities
  - (ii) natural calamities
  - (iii) pollution
  - (iv) deforestation
- (d) The worst hit region of Indonesia by Tsunami 2004 was
  - (i) Sumatra

- (ii) Java
- (iii) Province of Aceh
- (iv) Southern coastal areas of Sumatra
- (e) To resist and shield themselves from the earthquakes, Indonesia practises \_\_\_\_\_\_.
  - (i) modern construction of buildings
  - (ii) multi-storey buildings
  - (iii) traditional construction of buildings
  - (iv) building houses on hills

\_ .

- (f) The table shows two cities which had the same magnitude of earthquake on Richter scale but different number of casualties. The difference in casualty was \_\_\_\_\_\_ .
  - (i) 295
  - (ii) 387
  - (iii) 682
  - (iv) 730

(g) According to the data, the most intensive earthquake occurred on

- (i) 26 May 2006
- (ii) 25 October 2010
- (iii) 28 March 2005
- (iv) 26 December 2004
- (h) The table points out to which city that recorded the highest number of casualties
  - (i) Java
  - (ii) Sumatra
  - (iii) Province of Aceh
  - (iv) both (i) and (ii)

\_\_\_\_\_·

(i) Despite being hit by less than 7 magnitude on the Richter scale many casualties resulted in Java. This disaster occurred on \_\_\_\_\_\_.

- (i) 30 September 2009
- (ii) 26 May 2006
- (iii) 25 October 2010
- (iv) 28 March 2005
- (j) The word 'obliterated' does not mean \_\_\_\_\_\_.
  - (i) eradicated
  - (ii) wiped out
  - (iii) created
  - (iv) demolished
- (k) The word 'rampant' is similar to \_\_\_\_\_\_.

- (i) strained
- (ii) guarded
- (iii) unbridled
- (iv) limited

#### WRITING SECTION

1. You are Bhumika Sahni, President of the cultural forum of your school. You have organized an Interschool patriotic singing competition on Republic Day, write a notice in about 50 words, informing the students about this event.

2. St. Anne's School, Guwahati, has completed 50 years of meritorious service to the society. As president of the student council of your school, write a notice informing the council's decision to celebrate the Golden Jubilee of the school. You are Sanjeev/Sanjana (word limit: 50 word).

3. Design a poster for your School Exhibition, you may use slogans.

4. 'The Citizens' Awareness Forum of your city has decided to launch a campaign against the use of drugs. You are asked to get poster prepared. Design an attractive poster against the use of Drugs

5. As Manish Batra, the Sports Secretary of Apex Model School, Janakpuri, New Delhi write a letter to M/s. Champion Sports,237 Fatehpur, New Delhi, placing order for some games equipments . (120-150 words)

6. The Pre-Board English Exam of Happy Valley School, Secunderabad is on the same day as the All India Entrance Exam for the Indian School of Languages. As Kiran Seth the prefect of Class – XIIA, write a letter to the principal of the school requesting him/her to change the date of the School English Exam. (120-150 words)

7. An unrealistic – syllabus, pressure of parents, intense competition and tuitions have taken a heavy toll on children's playtime. As Nadeem/Amber write a speech for the Parent-Teacher Association meeting of your school in about 200 words on the tuition menace. (120-150 words)

8. Write a debate for the motion: 'Politeness and courtesy are outdated in Today's world. You are Gautam/Gargi of St. Mary's School. (120-150 words)

#### **GRAMMAR SECTION**

#### .Fill in blanks with the most suitable determiners

The report concludes sadly that ---- students have ---- knowledge of nuclear physics.
 [A] very few / some
 [B] both / whole

[C] every / no [D] none / any

2. Although ---- species of fox are reddish in color, ---- Arctic fox is often pure white.

[A] most / the

[B] any / the

[C] a great amount of / an

[D] None

3.We could barely get any information at the airport. ---- people seemed to have ---- idea about the flights.

[A] Only a few / some[B] A lot of / any[C] Many / any[D] Few / no

4. Heavy fines and jail sentences have made ---- difference in preventing elephant poaching for their tusks.

[A] little

[B] few

[C] a little

[D] None of these

5. Last summer we went on ---- cruise in the Caribbean. Among ---- Islands we visited were Bermuda and the Bahamas.

[A] a / the

[B] the / an

[C] -an / the

[D] the / -

#### II. Fill in blanks with the most suitable tenses.

1. I \_\_\_\_\_ working all afternoon and have just finished the assignment.

[A] have been

[B] had been

[C] shall be

[D ]am

2. Every boy and girl \_\_\_\_\_ in the class today.

[A] are present

[B] is present

[C] have present

[D]had present

3. Which tense is used to express general truths and facts?

[A]Present continuous tense

[B]Present perfect tense

- [C]Past perfect tense
- [D] Present indefinite tense

4. According to the prevailing rate, two dozen \_\_\_\_\_ rupees one hundred.

[A]costs

[B] cost

[C]costing

[D ]costed

5. What do tenses as the form of a verb help to determine?

[A] The time of the action

[B] The state of the action

[C] Both (A) and (B)

[D] The number of action

#### III. Un-jumble the following words to form a sentence and select the correct option

1.(A) exploded /(B) a powerful /(C) the station /(D) device /(E) outside [A]BDAEC [B]BAEDC [C]CAEBD [D]ABDEC [E]CDAEB

2.(A) plays an /(B) upbringing /(C) important /(D) development /(E) role in
[A]DACEB
[B]EBACD
[C]BACED
[D]BDACE
[E]DCBAE

3. camera /(B) in the water /(C) being dunked /(D) the /(E) survived
[A]BDEAC
[B]DAECB
[C]BACDE
[D]ACBDE
[E]EDBCA

#### LITERATURE SECTION

1.When did my childhood go?Was it the day I ceased to be elevenWas it the day I realised that He'll and Heaven,Could not be found in Geography,And therefore could not be,Was that the day!

- i). What is the poem ' Childhood ' about?
- A. Poet's lost Childhood
- B. Childhood of every person
- C. Childhood of poet's child
- D. Poet's father's Childhood

ii). After what age did the poet realise thathe had lost his childhood?

- A. Eleven and stepped in twelfth year
- B. Eleven
- C. Ten
- D. Thirteen
- iii).What is the meaning of the word ceased?
- A. Starting of something
- B. Come to an end
- C. In the middle
- D. To chase something

2.I believe there is a rule that form results should only be announced by the headmaster on the last day of the term..... So you've got to wait until tomorrow to know your fate, have you?

- i) Who has written 'The Browning Version'? A.Terence Rattigan
   B. Edgar.S.Woolard
   C.Lester Brown
   D.Kushwant Singh
- ii) What does the speaker mean by 'know your fate'?A. whether Taplow will be able to take up scienceB.whether the teacher will support him
  - C. whether he will be able to please his teacher
  - D. none of the above
- iii) In which class does Taplow study ?
  - A.Lower fifth B. Upper Seventh C.Upper fifth
  - D. Lower sixth

3. Answer the following questions by choosing the most appropriate option:

i)Why did the author wait for such a long time before visiting the address(46, Marconi Street)?

A.because she was afraid of confronting her mother's belongingsB.because she was not interestedC.Both A&BD. None of the above.

ii)When did the death-like tree become alive ?

A.in the month of MarchB. in the monsoon seasonC.with the arrival of the goldfinchD.with the arrival of the sun rays

iii)Why were the Tibetan mastiffs famous in China's royal court?

A.as wild animals B.as hunting dogs C.as trained dogs D.None of the above

iv)Andrew was oblivious to all the work he had done in Blaenelly.....

A.because he was feeling tiredB. because he was leaving BlaenellyC.because he did something extraordinary that nightD.because he was feeling sleepy

4. Answer the following questions in 30-40 words.

1.King Tut's body had been subjected to repeated scrutiny- Why?

2.What was Andrew's view about marriage? Why was he resentful and confused?

3. How is George Pearson treated at the club?

4. What is the Middle Void ? Why is it important?

5. Answer the following questions in 120-150 words.

1. Why do you think the lesson has been named " Silk Road"

2. What perspective do you form of Taplow as a student?

3. Describe the character of Mrs Annie Pearson.

4. Why and how did Albert finally leave the school where he had spent five long years ?



**DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI** 

## Winter Assignment (Session 2021-22)

#### **Mathematics**

#### A. Co ordinate Geometry

- 1. Show that the straight lines given by x(a + 2b) + y(a + 3b) =
  - a + b for different values of a and b passes through a fixed point.
- 2. A ray of light is sent along the line x-2y-3=0 upon reaching the line 3x-2y-5=0, the ray is reflected from it. Find the equation of the line containing the reflected ray.
- 3. The equation of the base of an equilateral triangle is x + y = 2 and the vertex is (2,-1). Find the length and equation of its sides .
- 4. Find the equation of the circle which touches both the axes and the line 3x-4y+8=0 and lies in the third quadrant.
- 5. Find the equation of a circle whose centre is at (3,-1) and cuts off a chord of length 6 units on the line 2x-5y+18=0
- 6. A double ordinate of the parabola  $y^2=4ax$  is of length 8a. Prove that the lines from the vertex to its ends are at right angles.
- 7. Find the equations of the lines joining the vertex of the parabola  $y^2=6x$  to the point on it which have abscissa 24.
- 8. For the given ellipse  $\frac{x^2}{25} + \frac{y^2}{16} = 1$ , find the length of major and minor axes, co-ordinates of foci, vertices and eccentricity.
- 9. An arc is in the form of semi ellipse. It is 8 m wide and 2m high at the centre. Find the height of the arc at a point 1.5 m from one end.
- 10. Find the locus of the point of intersection of the lines  $\sqrt{3x} y 4\sqrt{3\lambda} = 0$  and  $\sqrt{3\lambda}x + \lambda y 4\sqrt{3}$ = 0 for different values of  $\lambda$ .
- 11. Find the equation of the ellipse with Vertices  $(0, \pm 13)$  and Focii  $(0, \pm 5)$ .
- 12. Find the equation of the ellipse with Major axis on the X-axis and passes through the points (4,3) and(6,2).
- 13. A man is running a race course notes that the sum of the distances from the two flag posts from him is always 10m and the distance between the flag posts is 8m. Find the equation of the track traced by the man.
- 14. A man is running a race course notes that the sum of the distances from the two flag posts from him is always 10m and the distance between the flag posts is 8m. Find the equation of the track traced by the man.
- 15. Find the Centre, Semi Transverse axis, Semi Conjugate axis, Eccentricity, Length of Transverse axis, Length of Conjugate axis, Focii, Directrices, Latus Rectum, Equation of auxillary circle and Parametric equation of following Hyperbola :

(i)  $\frac{x^2}{16} - \frac{y^2}{9} = 1$ , (ii)  $\frac{y^2}{9} - \frac{x^2}{27} = 1$ , (iii)  $16x^2 - 9y^2 = 576$ , (iv)  $5y^2 - 9x^2 = 36$ .

**16.** Find the equation of the hyperbola with Focii  $(0, \pm \sqrt{10})$  and passes through (2,3).

## **B.** Three Dimensional Geometry :

#### **Distance Formula:**

- 1. Verify the following
  - (0,7,-10), (1,6,-6) and (4,9-6) are the vertices of an isosceles triangle. (i)
  - (−2,3,5), (1,2,3)*and* ((7,0,−1) are collinear. (ii)
  - (-1,2,1), (1,-2,5), (4,-7,8) and (2,-3,4) are the vertices of a parallelogram. (iii)

## Section Formula:

- 1. Find the ratio in which the line joining the points (2,4,5) and (3,5,-4) is divided by the YZ-plane. Also, obtain the point of intersection of the line with the plane.
- 2. The centroid of a triangle ABC is at the point (1,1,1). If the co-ordinates of A and B are (3,-5,7) and (-1,7,-6) respectively, Find the co-ordinates of the point C.
- 3. Find the co-ordinates of the points , which divide the segment A(2,7,1) and B(8,-2,5)into three equal parts.
- 4. The mid points of the sides of a triangle are (1,5,-1), (0,4,-2) and (2,3,4). Find its vertices. Also find the centroid of the triangle.

## Locus:

- 1. Find the locus of the equidistant points from the points (1,2,3) and (3,2,-1).
- 2. Find the locus of the points P, for which the sum of the distances from A(4,0,0) and B(-4,0,0) is equal to 10.

## C. Limit and Derivatives:

## Limit:

Evaluate the limit

- Evaluate the limit 1.  $\lim_{x\to -1} \left\{ \frac{x^{10} + x^5 + 1}{x 1} \right\}$ 2.  $\lim_{x\to 2} \left\{ \frac{3x^2 x 10}{x^2 4} \right\}$ 3.  $\lim_{x\to 1} \left\{ \frac{x 2}{x^2 x} \frac{1}{x^3 3x^2 + 2x} \right\}$ 4.  $\lim_{x\to 0} f(x)$ , where  $(x) = \begin{cases} 2x + 3, x \le 0\\ 3(x + 1), x > 0 \end{cases}$ 5.  $\lim_{n\to\infty} \left\{ \frac{1^3}{n^4} + \frac{2^3}{n^4} + \frac{3^3}{n^4} + \dots + \frac{n^3}{n^4} \right\}$ 6.  $\lim_{x\to a} \frac{\sqrt{a + 2x} \sqrt{3x}}{\sqrt{3a + x} 2\sqrt{x}}$ 7.  $\lim_{x\to 0} \frac{\tan x \sin x}{\sin^3 x}$ 8.  $\lim_{x\to 0} \frac{\cos 7x \cos 9x}{\cos 3x \cos 5x}$ 9.  $\lim_{x\to 0} \sin \frac{1}{x}$ 10.  $\lim_{x\to 0} \sin \frac{1}{x}$ , where [1] is the greatest integeral fully here [1] is the 11.  $\lim_{x\to 0} \left[\frac{\sin x}{x}\right]$ , where [.] is the greatest integeral function. 12.  $\lim_{x\to 0} \left[\frac{\tan x}{x}\right]$ , where [.] is the greatest integeral function. **Derivative:** 1. Find the derivative of following functions using first principle

  - (i)  $x^n$  (ii)  $\sin x$  (iii)  $\cos x$  (iv)  $\tan x$  (v)  $\sec x$  (vi)  $\operatorname{Cosec} x$  (vii)  $\operatorname{Cot} x$  (viii)  $\frac{\sin x}{x}$  (ix)  $\frac{3x+5}{5x-8}$  (x)  $e^{f(x)}$  (xi)  $\{f(x)\}^n$  (xii)  $\sqrt{x} + \frac{1}{\sqrt{x}}$  (xiii)  $e^x$  (xiv)  $\ln x$
- 2. Differentiate the following functions
  - $x^2 \sin x$  (ii)  $\frac{\sin(x+a)}{\cos x}$  (iii)  $x^4 (5 \sin x 3 \cos x)$  (iv)  $\frac{x \sin x}{\sin x + \cos x}$  (v)  $x^3 e^x \sin x \sqrt{\sec x}$ . (i)

## HOLIDAY ASSIGNMENT PHYSICS CLASS XI (2021-2022)

- 1. A thick rope of density ρ and length L is hung from a rigid support. The Young's modulus of the material of the rope is Y. What is the increase in length of the rope due to its own weight?
- 2. A wire is made of a material of density 10 g/cm<sup>3</sup> and having breaking stress  $5 \times 10^9$  N/m<sup>2</sup>. What length of the wire will break under its own weight when suspended vertically?
- A composite wire of uniform diameter 3 mm consisting of a copper wire of length 2.2 m and a steel wire of length 1.6 m stretches under a load by 0.7 mm. Calculate the load, given that the Young's modulus for copper is 1.1 × 10<sup>11</sup> Pa and for steel is 2 × 10<sup>11</sup> Pa.
- Calculate the elongation of the steel and brass wire arrangement as shown in the figure. Unloaded length of steel wire is 1.5 m and of brass wire is 1m, diameter of each wire = 0.25 cm. Young's modulus of steel is 2 × 10<sup>11</sup> Pa and that of brass is 0.91 × 10<sup>11</sup> Pa.



- 5. A steel cable with a radius of 1.5 cm supports a chairlift at a ski area. If the maximum stress is not to exceed  $10^8 \text{ N/m}^{-2}$ , what is the maximum load the cable can support?
- 6. What is the density of ocean water at a depth where the pressure is 80 atm, given that its density at the surface is  $1.03 \times 10^3$  kg/m<sup>3</sup>? Compressibility of water =  $45.8 \times 10^{11}$ /Pa. Given: 1 atm =  $1.013 \times 10^5$  Pa.
- 7. A rod of length 1.05 m having negligible mass is supported at its ends by two wires of Steel (wire A) and Aluminium (wire B) of equal lengths as shown in the adjacent figure. The cross-sectional area of wires A and B are 1 mm<sup>2</sup> and 2 mm<sup>2</sup> respectively. At what point along the rod should a mass m be suspended in order to produce
  - (a) equal stresses and
  - (b) equal strains in both Steel and Aluminium wires.



- 8. (i) Prove that the work done in stretching a wire per unit volume is 1/2 X tension X extension.
  (ii) Prove that the work done per unit volume in stretching a wire for every type of strain = 1/2 X stress X strain
- 9. Two equal drops of water are falling through air with a steady velocity of 10 cm/s. If the drops recombine to form a single drop, what would be their terminal velocity?
- 10. A liquid is flowing through a non-sectional tube with its axis horizontally. If two points X and Y on the axis of tube has a sectional area 2.0 cm<sup>3</sup> and 25 mm<sup>2</sup> respectively then find the flow velocity at Y when the flow velocity at X is 10 m/s.
- 11. Water rises in a capillary tube to a height of 2 cm. In another capillary tube whose radius is one third of it, how much the water will rise? If the first capillary tube is inclined at an angle of 60° with the vertical then what will be the position of water in the tube.
- 12. Calculate the work done against surface tension in blowing a soap bubble from a radius 10 cm to 20 cm if the surface tension of soap solution is  $25 \times 10^{-3}$  N/m. Then compare it with liquid drop of same radius.
- 13. Calculate the work done in breaking a drop of water of 2 mm diameter into one thousand million droplets all of the same size. Surface tension of water is  $72 \times 10-3$  N/m.
- 14. A tank with a square base of area 1 m<sup>2</sup> is divided by vertical partition in the middle. The bottom of the partition has a small hinged door of area 20 cm<sup>2</sup>. The tank is filled with water and an acid (of relative density 1.7) in the other, both to a height of 4 m. Compute the force necessary to keep the door closed.



# DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI

#### **CHEMISTRY ASSIGNMENT**

#### CLASS- XI

#### **TOPIC-ALKYNE AND ARENE**

Q1. What happens when But-2-yne is treated with sodium in liquid ammonia ?Write chemical reaction for this.

Q2. Why does presence of a nitro group in benzene ring less reactive in comparison to the unsubstituted benzene ring?

- Q3. Convert Benzene to m-Bromobenzene.
- Q4. Alkynes do not undergo ozonolysis like alkene. Why?
- Q5. But-1-yne is weakly acidic but But-2-yne is not. Assign reason.
- Q6.Write short note on Friedel Craft's alkylation reaction. Write its mechanism.
- Q7. Convert Chlorobenzene to Toluene.
- Q8. Write conditions for a compound to be aromatic.
- Q9. What happens when
  - a) But-2-yne is trated with Baeyer's reagent
  - b) Acetylene is passed through red hot iron tube at 773K.
- Q10. How do you prepare acetylene in laboratory?

# **STATES OF MATTER (GASEOUS STATE)**

- 1. With the help of gaslaws, deduce an expression for the gas equation. What is the utility of the gas equation?
- 2. Value of universal gas constant (R) is same for all gases. What is its physical significance?
- 3. Two different gases 'A' and 'B' are filled in separate containers of equal capacity under the same conditions of temperature and pressure. On increasing the pressure slightly the gas 'A' liquefies but gas B does not liquify even on applying high pressure until it is cooled. Explain this phenomenon.
- Assertion (A): Three states of matter are the result of balance between intermolecular forces and thermal energy of the molecules.
   Reason (R): Intermolecular forces tend to keep the molecules together but thermal energy of molecules tends to keep them apart.
  - (i) Both A and R are true and R is the correct explanation of A.
  - (ii) Both A and R are true but R is not the correct explanation of A.
  - (iii) A is true but R is false.
  - (iv) A is false but R is true.
- Assertion (A): At constant temperature, pV vs V plot for real gases is not a straight line.
   Reason (R): At high pressure all gases have Z > 1 but at intermediate pressure most gases have Z < 1.</li>
  - (i) Both A and R are true and R is the correct explanation of A.
  - (ii) Both A and R are true but R is not the correct explanation of A.
  - (iii) A is true but R is false.
  - (iv) A is false but R is true.
- 6. The critical temperature (Tc) and critical pressure (pc) of  $CO_2$  are 30.98°C and 73 atm respectively. Can  $CO_2$  (g) be liquefied at 32°C and 80 atm p.
- 7. An open beaker at 27 C is heated to 477 C. what fraction of air would have been expelled out?
- 8. A vessel of 120mL capacity contains a certain amount of gas at 35 C and 1.2 bar pressure. The gas is transferred to another vessel of volume 180mL at 35 C. What would be its pressure?
- 9. For real gases the relation between p, V and T is given by van der Waals equation:

$$\left(p + \frac{\mathrm{a}n^2}{V^2}\right)(V - n\mathrm{b}) = n\mathrm{R}T$$

where 'a' and 'b' are van der Waals constants, 'nb' is approximately equal to the total volume of the molecules of a gas.

'a' is the measure of magnitude of intermolecular attraction.

(i) Arrange the following gases in the increasing order of 'b'. Give reason.

O<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>, He

(ii) Arrange the following gases in the decreasing order of magnitude of 'a'. Give reason.  $\rm CH_4,\,O_2,\,H_2$ 

10.State and explain Dalton's law of partial pressure. How is the law helpful in calculating the pressure of the gas which are collected over water?

11.Explain each of the following observations.

(i)It is not possible to achieve absolute zero temperature for a gas.

(ii) The size of weather balloon becomes larger and larger as it ascends into higher at altitudes.

12. What are ideal and real gases? What is the cause of deviation of real gases from the ideal gas behaviour?

13. The pressure of a mixture of H2 and N2 in a container is 1200 torr. The partial pressure of nitrogen in the mixture is 300 torr. What is the ratio of  $H_2$  and  $N_2$  molecules in the mixture?

14.At  $25^{\circ}$ C and 760 mm of Hg pressure, a gas occupies 600ml, volume. What will be its pressure at a height where the temperature is  $10^{\circ}$ C and the volume of the gas is 640 ml?

15. The density of a gas is found to be  $1.56 \text{ g dm}^{-3}$  at 0.98 bar pressure and  $65^{\circ}$ C. Calculate the molar mass of the gas.

#### Organic Chemistry Some Basic Principles And Techniques

- 1. Differentiate between homolytic and heterolytic cleavage.
- 2. What are electrophiles and why are Sulphur trioxide, carbenes referred to as electrophile?
- 3. What are nucleophiles ? Give examples of both charged and uncharged nucleophiles.
- 4. Why is inductive effect called a permanent effect but electrometric effect called a temporary effect? Explain with examples.
- 5. Explain the stability of carbocations on the basis of no bond resonance.
- 6. Why does phenol behave as a strong acid?
- 7. What are the various types of isomers which can be seen in pentanoic acid?
- 8. What are free radicals and how are they different from carbanions ?
- 9. Draw the resonance structures of Nitrobenzene to show that it undergoes nucleophilic substitution at metaposition .
- 10. Identify the functional groups in Ethyl-3-oxocyclohexanecarboxylate.

## WINTER VACATION HOME WORK [PHOTOSYNTHESIS]

#### GROUP – A [2 Marks]

- Q.1 What is PAR? Which of the wave length of light mostly absorbed during photosynthesis?
- Q.2 Write the empirical formula of chlorophyll-a & core metal of chlorophyll.
- Q.3 Write the first stable product of C<sub>3</sub> & C<sub>4</sub> plant during biochemical phase.
- Q.4 What is Hill reagent & RUBISCO?
- Q.5 What are the primary acceptor of  $CO_2$  in  $C_3$ ,  $C_4$  cycle & CAM path ways?
- Q.6 During photosynthesis how many ATP, NADPH<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>O molecules are required for the synthesis of one molecule of Glucose?
- Q.7 Why photosynthesis is called anabolic & endothermic reaction?
- Q.8 In pigment system of thylakoid which one is called primary electron acceptor of PS-1 & II.
- Q.9 Write the complete name of NAD, FAD, cAMP & CAM path ways.
- Q.10 What is quantum requirement? How many quanta are required for one molecule of O<sub>2</sub>?
- Q.11 Name the reaction centers of PS-I & PS-II as well as why they are called so as?
- Q.12 What is P.Q & Warburg effect?
- Q.13 Write the complete equation of photosynthesis and Hill reaction.
- Q.14 Write actual place of photochemical and Biochemical phase of photosynthesis.
- Q.15 What is plastidome and Pt DNA

#### **GROUP – B[3 Marks questions ]**

Q.16 Differentiate following (a) Light and Dark phase (b) C<sub>3</sub>, C<sub>4</sub> & CAM (c) PS-I & PS-II

Q. 17 (A) Match correctly between column A and B.

	COLUMN – A	COLUMN – B
(i)	PEP	(a) $CO_2$ acceptor in $C_3$ cycle.
(ii)	RUBP	(b) CO <sub>2</sub> acceptor in Hatch & Slack cyle.
(iii)	Hill reaction	(c) Law of limiting factor.
(iv)	Blackman	(d) Light reaction.

#### **HOME ASSIGNMENT - XI**



- (i) P<sub>700</sub>
- (ii) P<sub>660</sub>
- (iii) Grana
- (iv)Stroma
- Q.18 Identify following 1,2,3,4,5,6,& 7

COLUMN - B

(a) Fixation of CO<sub>2</sub>

(b) PS-I

(c) Photophosphorylation

(d) PS-II



GROUP – C[ 5 marks questions]

- Q.19 Define (a) Photon (b) Red drop (c) Emersion effect (d) Law of limiting factor (e) Absorption spectrum and action spectrum( Graphically)
- Q.20 (a) Kranz Anatomy and C<sub>4</sub> Cycle (b) Compensation point (c) Explain C<sub>2</sub> Cycle.

#### PLANT RESPIRATION

Group-A [2 Marks]

- Q.1 Why less energy is produced during anaerobic oxidation?
- Q.2 What is the place of oxidation[ Anaerobically/aerobically] for
  - (i) Pyruvic acid (ii) Acetyle -Co-A (iii) Glyceraldehyde/ Dihydroxy-acetone (iv) Fructose
- Q.3 What is the role of NAD+ in cellular respiration?
- Q.4 Explain the term "Energy Currency". Which substance acts as energy currency in plants and animals?

Q.5 Which of the following will release more energy on oxidation? Arrange them in ascending order.

- a. 1 gm of fat
- b. 1 gm of protein
- c. 1 gm of glucose
- d. 0.5 g of protein + 0.5g glucose

Group-B[ 3 marks]

Q.1 Pyruvic acid is the end product of glycolysis. What are the three metabolic fates of pyruvic acid under aerobic and anaerobic conditions? Write in the space provided in the diagram.



#### **HOME ASSIGNMENT - XI**

Q.2 The figure given below shows the steps in glycolysis. Fill in the missing steps A, B, C, D and also indicate whether ATP is being used up or released at step E?



- Q.3 Why is respiratory pathway referred to as an amphibolic pathway? Explain.
- Q.4 (i) We commonly call ATP as the energy currency of the cell. Can you think of some other energy carriers present in a cell? Name any two
  - (ii) ATP produced during glycolysis is a result of substrate level phosphorylation. Explain.
- Q.5 Given below is a diagram showing ATP synthesis during aerobic respiration, replace the symbols A, B, C, D and E by appropriate terms given in the box.



Group-C [5 Marks]

- 1. Differentiate between
- (a) Respiration and Combustion
- (b) Glycolysis and Krebs' cycle
- (c) Aerobic respiration and Fermentation
- 2. (i)What are respiratory substrates? Name the most common respiratory substrate.(ii) Give the schematic representation of glycolysis?
- 3. (i)What are the main steps in aerobic respiration? Where does it take place? (ii) Give the schematic representation of an overall view of Krebs' cycle.
- 4. (i)Explain ETS.
  - (ii) Distinguish between the following:
- (a) Aerobic respiration and Anaerobic respiration
- (b) Glycolysis and Fermentation
- (c) Glycolysis and Citric acid Cycle
- 5. (i)What are the assumptions made during the calculation of net gain of ATP?
- (ii)Discuss "The respiratory pathway is an amphibolic pathway."

#### [ Plant Growth & Development]

GROUP- A[ very short answer type] ]

- 1. Name growth regulator which was first isolated from corn kernel and coconut milk?
- 2. Name the hormone which is responsible for elongation of intermodal region of green plants.
- 3. Mention the names of two substances that cause seed dormancy.
- 4. Which hormone act as stress hormone?
- 5. Which is the causative agent for 'bakane'( foolish seedling) disease of rice seedling?

GROUP- B[ short answer type] ]

- 1. What is photoperiodism? Explain how photoperiodism effect on the concentration or level of phyto hormones.
- 2. Define vernalisation. Explain how it prevents precocious reproductive development.
- 3. What would happen to tissue culture of parenchyma if
  - (i)Auxin & cytokinin were present in equal quantities
  - (ii)More auxin than cytokinin was present
  - (iii) More cytokinin than auxin
- 4. Define heterophylly.

- 5. What is bloting? Which hormone is responsible for it?
- 6. What is bioassay? What are synthetic auxins & their use.
- 7. What is apical dominance?

#### GROUP- C [ long answer type]

- 1. What is growth? How plant growth is unique or different from animals?
- 2. What are the different parameter for measurement of plant growth? What are the different phases of growth in periodically?
- 3. Define Differentiation, dedifferentiation & redifferentiation.
- 4. Explain the growth rate in plant through mathematical expression [ Arithmetical and geometrical ] ,graphically and diagrammatically.
- 5. What do you mean by development? Explain sequence of the development of a plant cell/ tissue/ organ.
- 6. What are PGRs? Explain the role of different PGRs.

#### BREATHING & EXCHANGE OF GASES Group-A

1. Define vital capacity. What is its significance?

- 2. State the volume of air remaining in the lungs after a normal breathing.
- 3. Diffusion of gases occurs in the alveolar region only and not in the other parts of

respiratory system. Why?

- 4. What are the major transport mechanisms for CO ? Explain.
- 5. Explain the process of inspiration under normal conditions.

#### Group-B

- 6. How is respiration regulated?
- 7. What is the effect of pCO2 on oxygen transport?
- 8. What happens to the respiratory process in a man going up a hill?
- 9. What is the site of gaseous exchange in an insect?
- 10. Define oxygen dissociation curve. Can you suggest any reason for its sigmoidal

pattern?

11. Have you heard about hypoxia? Try to gather information about it, and discuss with your friends.

12. Distinguish between

(a) IRV and ERV

(b) Inspiratory capacity and Expiratory capacity.

(c) Vital capacity and Total lung capacity.

13. What is Tidal volume? Find out the Tidal volume (approximate value) for a healthy

#### MCQ

#### **BREATHING & EXCHANGE OF GASES**

- 1. Trachea is a straight tube extending up to the mid-thoracic cavity, which divides at the level of vertebrae
  - a. C<sub>7</sub> b. T<sub>3</sub>
  - c. T<sub>5</sub> d. T<sub>7</sub>
  - Q.2 Each bronchi undergoes repeated divisions to form the secondary and tertiary bronchi and bronchioles ending up in very thin terminal bronchioles. Some of them supported by incomplete cartilaginous rings. Which of the following part covered by such cartilage?
    - (a) Primary bronchiole (b) secondary bronchiole
    - (c) Tertiary Bronchiole (d) all of these
  - Q.3 Trachea is a straight tube extending up to the mid-thoracic cavity, which divides into numbers of bronchi and bronchioles. Which of the following part is not under the components of Lungs?
    - a. Primary bronchi b. Secondary Bronchi
    - c. Primary bronchioles d. Secondary bronchioles

Q.4 Which of the following is/are not involve in conduction or conducting in human Respiratory system:

(a) Alveolar epithelium	(b) Alveolar duct
(c) Alveolar sac	(d) None of these

Q.5 Which of the following fight against microbial action and clears it from foreign particles

(a) Tracheal epithelium, Nasal epithelium

- (b) Nasal epithelium
- (c) Bronchiolar epithelium
- (d) All of these
- Q.6 Gas exchange is one of the important event of respiration , which is the site of actual exchange part for diffusion of  $\rm O_2$  and  $\rm CO_2$ 
  - (a) In between blood and tissue media or vice versa
  - (b) In between Plasma & RBCs or Hemoglobin
  - (c) In between blood and atmospheric air
  - (d) In between tissue media and cell.
- Q.7 Which one is correct about Thoracic chamber
  - (a) chamber is formed ventrally by the vertebral column, dorsally by the sternum, laterally by the ribs and on the lower side by the dome-shaped diaphragm.
  - (b) chamber is formed dorsally by the vertebral column, ventrally by the sternum, laterally by the ribs and on the lower side by the dome-shaped diaphragm.
  - (c) chamber is formed dorso-ventrally by the vertebral column, anterior-posteriorlly by the sternum, laterally by the ribs and on the lower side by the dome-shaped diaphragm.
  - (d) chamber is formed ventrally by the vertebral column, anterior-posteriorlly by
- the sternum, laterally by the ribs and on the lower side by the dome-shaped diaphragm.
- Q.8 Which relation is/are correct about thoracic chamber & pulmonary cavity.
- (a) Thoracic cavity and pulmonary cavity volume is inversely proportional
- (b) Expansion of thoracic chamber followed by decrease in the volume of pulmonary cavity
- (c) Contraction and relaxation of thoracic cavity directly influence the pulmonary as same
- (d) both a & b
- Q.9 Which is the first step of Human respiration
  - (a) Pulmonary ventilation
  - (b) Breathing
  - (c) Diffusion of gases (O<sub>2</sub> and CO<sub>2</sub>) across alveolar membrane

(d) a & b both

Q.10 Which is true about expiration

- (a) by which the alveolar air is released out
- (b) by which the air of lungs is released out
- (c) by which the air of pulmonary chambrer is released out

(d) all of these

- Q.11 The movement of air into and out of the lungs is carried out by creating a pressure gradient between the lungs and the atmosphere, then which is/are correct about Breathing mechanism:
  - I. During Breathing, inhalation & exhalation is possible due to atmospheric air pressure is inversely proportional with intra pulmonary pressure.
  - II.During Inspiration Thoracic & Pulmonary volume ↑intra Pulmonary pressure↓atmospheric pressure↑
  - III. During expiration Thoracic & Pulmonary volume ↑intra Pulmonary pressure↓atmospheric pressure↑
  - IV. During Inspiration atmospheric pressure lower than intra pulmonary pressure where as expiration is due to high intra pulmonary pressure.
    - (a) I & II (b) I,II & III
    - (c) III & IV (d) I & IV
- Q.12 Inspiration is initiated by the contraction of diaphragm which increases the volume of thoracic chamber in the
  - (a) antero-posterior axis
  - (b) Drso-ventrally
  - (c) Laterally and transversely
  - (d) all of these
- Q.13 Clinical assessment of pulmonary functions doing by
  - (a) Oxymeter
  - (b) ECG
  - (c) Spirometer

(d) all of these

- Q.14 Which is correct about Tidal volume (TV)
  - (a) IRV RV(Residual volume)
  - (b) Vital capacity(VC) [ IRV + ERV]
  - (c) Total lung capacity(TLC) VC
  - (d) None of these
- Q.15 Inspiratory capacity is equal to
  - (a) VC ERV
  - (b) IRV + TV
  - (c) TLC- FRC[Functional residual capacity]
  - (d) All of these

Q.16 Exchange of gases also occur between blood and tissues.  $O_2$  and  $CO_2$  are exchanged in these sites by simple diffusion mainly based on

- (a) pressure/concentration gradient.
- (b) Solubility of the gases
- (c) thickness of the membranes involved in diffusion
- (d)All of the above
- Q.17 Whenever Blood deoxygenated then find out correct option about PO<sub>2</sub> & PCO<sub>2</sub> level
  - (a)  $PO_2 = 95 \text{ mmHg and } PCO_2 = 40 \text{ mmHg}$
  - (b)  $PO_2$ = 40 mmHg and  $PCO_2$  = 45mmHg
  - (c)  $PO_2$ = 45 mmHg and  $PCO_2$  = 40mmHg
  - (d)  $PO_2$ = 95 mmHg and  $PCO_2$  = 45mmHg
- Q.18 Although solubility of CO<sub>2</sub> is 20-25 times higher than that of O<sub>2</sub>, but oxygen only diffuse in from alveoli to blood :
  - (a) Affinities with Hb is greater than CO<sub>2</sub>
  - (b) Due to pH of blood
  - (c) Partial pressure

(d) a & c both

Q.19 Which is correct about diffusion unit of respiration from alveolar sac to blood

- (a) The diffusion membrane is made up of three major layers namely, the thin cuboidal epithelium of alveoli, the endothelium of alveolar capillaries and the basement substance in between them.
- (b) The diffusion membrane is made up of three major layers namely, the thin squamous epithelium of alveoli, the endothelium of alveolar capillaries and the basement membrane in between them.
- (c) The diffusion membrane is made up of three major layers namely, the thin squamous epithelium of alveoli, the endothelium of alveolar capillaries

and the basement substance in between them.

(d) The diffusion membrane is made up of three major layers namely, the thin cuboidal epithelium of alveoli, the endothelium of alveolar capillaries and the basement membrane in between them.

#### Q.20 What is the % of $CO_2$ transportation through $H_2CO_3$ form

- (a) 70% (b) 20-25%
- (c) 7% (d) 3-2-1-4-5

#### Q.21 Formation of carbamino-haemoglobin promoted by

- (a) High % of carbonic anhydrase of RBCs
- (b) Low % of carbonic anhydrase of plasma
- (c) Partial pressure of carbon dioxide
- (d) both a & c

Q.22 We know CO2 transportation is one interesting phenomena of blood, from following reaction find out chemical reaction takes place in tissue site:



(a) *1 & 2 both* 

(b) 1 only

- (c) *2 only*
- (d) Due to reversible both reaction are possible
- Q.23 If one parson's pulmonary artery contain 500ml deoxygenated blood and passes forcefully through alveolar wall then what amount of CO<sub>2</sub> can deliver to Alveoli?
  - (a) 0.3 ml CO<sub>2</sub>
  - (b) 4ml CO<sub>2</sub>
  - (c)  $20ml CO_2$
  - (d) 500ml CO<sub>2</sub> as equal to tidal volume
- Q.24 Which of the following of Human brain moderate the functions of the respiratory rhythm centre.
  - (a) Medulla oblongata (b) Cerebellum
  - (c) Pons veroli (d) all of these
- Q.25 In Human the rate of respiration or breathing can control by the action of a chemoreceptor which is highly sensitive to CO<sub>2</sub> and hydrogen ions. This chemosensitive receptor located:
  - (a) In Aortic arch of Heart
  - (b) adjacent to the rhythm centre
  - (c) carotid artery
  - (d) all of these
- Q.26 In a normal physiological condition if one parson's arterial blood contain 300ml of oxygenated blood and due to high PO<sub>2</sub> value in blood than tissue media than what amount of Oxygen can deliver from such blood to tissue media
  - (a) Around 100ml.
  - (b) Exactly 5ml
  - (c) Around 15ml
  - (d) 97% of 300 = 291ml
- Q.27 Role in the regulation of respiratory rhythm is insignificant:
  - (a) CO2 concentration
  - (b) Hydrogen ion concentration
  - (c) Concentration of oxygen

#### **HOME ASSIGNMENT - XI**

#### (d) a & b both



Answer the following question Q.28 to Q.31 on the basis of given Oxygen dissociation curve:

- Q.28 What is the % of saturation of oxygen with haemoglobin and PO2 level when deoxygenated blood returning from tissues:
  - (a) 97% and PO2 will be 70 mmHg
  - (b) 70% and PO2 will be 40mmHg.
  - (c) 40% and PO2 will be 40mmHg
  - (d) 75% and PO2 will be 40mmHg.
- Q.29 Oxygen dissociation curve shifting [Left to right or vice versa] not depend on
  - (a) Change in body temperature & PH of blood
  - (b) Change in CO2 concentration
  - (c) Change in Oxygen concentration
  - (d) Change in Hydrogen ion concentration
- Q.30 Whenever curve shifted towards left then which one is correct:
  - (a)  $Low P_{50}$  (b) pH rises
  - (c) Decrease  $PCO_2$  (d) all of these

#### **RESPIRATION IN PLANTS**

- Q.1 In cellular respiration or the mechanism of breakdown of food materials within the cell to release energy, and the trapping of this energy for synthesis of ATP.
  - In the above statement what is the trapping form of energy which release after breaking of food materials and use for synthesis of ATP?
  - (a) Solar energy or radiant energy
  - (b) The source of the **energy** required to regenerate ATP is the chemical **energy** stored in **food**
  - (c) Potential energy remain as chemical bond
  - (d) Both b & c

Q.2 Find out correct statement regarding oxidation of food and nature of utilization of energy:

(a) energy released by oxidation in respiration is used directly rather than stored (b)energy released by oxidation in respiration is used directly rather than processing

- (c) energy released by oxidation in respiration can't used directly rather than stored
- (d) energy released by oxidation in respiration neither used directly nor stored or processing it.
- Q.3 ATP acts as the energy currency of the cell. This energy trapped in ATP is utilised in various energy-requiring processes of the organisms where as biosynthesis of other molecules in the cell doing by:
  - (a) Free energy release from ATP hydrolysis
  - (b) Directly through stored ATP
  - (c) carbon skeleton produced during respiration
  - (d) Secondary metabolites release after oxidation.
- Q.4 Which one is correct about ATP
  - (a) ATP gaining and expense both are possible through expense of energy.
  - (b) ATP gaining is without any expenditure but its hydrolysis provide energy.
  - (c) ATP is called energy currency of a cell due its supply of energy in living system.
  - (d) Both b & c
- Q.5 The key is to oxidise glucose not in one step but in several small steps enabling some steps to be just large enough such that the energy released can be

coupled to ATP synthesis. In the story of respiration here reaction coupling is express through:

- (a) an energetically favorable reaction (like ATP hydrolysis) is directly linked with an energetically unfavorable (endergonic) reaction.
- (b) a product of one reaction is "picked up" and used as a reactant in the second reaction.
- (c) energy + ADP +  $Pi \rightleftharpoons ATP + H_2O$
- (d) All of these

From the following Schematic Flow chart answer the Q.6 to 8



Q.6 In Glycolytic pathways there is a step where 3-PGAL( 3 phosphoglyceraldehyde ) convert into 1,3 BPGA(1,3-Biphosphoglycericacid). 3-PGAL after removing two redoxequivalents it convert into 1,3-BPGA. Here two redox equivalents are:

- (a) 2NAD+
- (b) 2H+
- (c) NADH<sub>2</sub>
- (d) All of these

Q.7 Which of the following enzyme has not any role in Lactic acid fermentation

- (a) alcohol dehydrogenase
- (b) pyruvic acid decarboxylase

- (c) Zymase
- (d) All of these
- Q.8 Under the above chemical or metabolic path ways which is / are invariable extra cellular process.
  - (a) Glycolysis
  - (b) Ethyl alcohol and Lactic acid fermentation
  - (c) Lactic acid fermentation
  - (d) Alcoholic fermentation





- (a) ATP hydrolysis is an Endorganic
- (b) ATP generation is an Exorganic
- (c) ATP to ADP & ADP to ATP are exorganic and endorganic respectively
- (d) Dephosphorylation is the Exorganic reaction.
- Q.10 In beverage Industry mostly use fermentation method for their product such as Idli, Dhosa, Bread, jhilapi, Todi as well as wine etc. But most important that such fermentation through the Yeast powder must be doing through proper technique and through expertise man. In a incident one manufacturer lost his production all

of sudden( being all condition was optimum), and he found that during his production most of the yeast lost their living state.

- (a) Culture broth was non sterilized
- (b) Insufficient amount of alcohol can't supply the food for yeast
- (c) Excess production of alcohol (>13%)
- (d) Excess CO<sub>2</sub> production (> 0.03-0.04%)
- *Q.11* Which of the following is incorrect about complete oxidation or aerobic oxidation of pyruvic acid in Mitochondrial environment:
  - (a) Stepwise removal of all the three carbon atoms, leaving all hydrogen atoms.
  - (b) Stepwise removal of all the hydrogen atoms, leaving three molecules of CO<sub>2</sub>
  - *(c)* Electrons are harvested from hydrogen atoms to molecular O<sub>2</sub> with simultaneous synthesis of ATP.
  - (d) Last step of aerobic respiration only takes place in the inner membrane of Mitochondria
- Q.12 Under the following which is/are substrate level phosphorylation and coupled :
  - (a) energy + GTP +  $Pi \rightarrow GPP + H_2O$
  - (b) energy + ADP +  $Pi \rightarrow ATP + H_2O$
  - (c) energy + GDP +  $Pi \rightleftharpoons GTP + H_2O$
  - (d) energy + GDP + P $i \rightarrow$  GTP + H<sub>2</sub>O
- Q.13 How many substrate level phosphorylation in there in Glycolysis or for breakdown of one molecule of glucose to 2 molecules of pyruvic acid:
  - (a) 4 and generate 8 molecules of ATP molecules
  - (b) 2 and generate 4 ATP molecules
  - (c) 4 and generate 4ATP molecules
  - (d) 8 and generate 10 ATP where as used 2 ATP.

- Q.14 How many substrate level phosphorylation are there in TCA cycle and what are their contribution in total ATP:
  - (a) 3+1=4, and total contribution is 11 ATP for each cycle.
  - (b) Only one and total contribution is 1 ATP for each cycle
  - (c) Only one and total contribution is 2 ATP for each cycle
  - (d) As 3 NADH2 and 1 FADH2 total 12 ATP.
- Q.15 How many oxidative phosphorylation are there for complete oxidation of one molecule of glucose and total contribution of ATP:
  - (a) 12 and total ATP contribution is 34
  - (b) 12 and total ATP contribution is 36
  - (c) 10 and total ATP contribution is 38
  - (d) 6 and total contribution of ATP is 38
- Q.16 Which is the first member of the TCA cycle
  - (a) Citric acid
  - (b) Tricarbxylic acid
  - (c) Oxalo acetic acid
  - (d) a & b both
- Q.17 In aerobic respiration one molecule of glucose oxidized through 6 molecules of O<sub>2</sub>, here how many hydrogen are required for such oxidation?
  - (a) 6 hydrogen as proton should be utilized by  $O_2$
  - (b) 2 hydrogen as proton should be utilized by each O<sub>2</sub>
  - (c) 2 hydrogen as proton should be utilized by each oxygen atom
  - (d)12 hydrogen utilized by 6 oxygen atoms
- Q.18 Beside oxidation what are the other role of oxygen in aerobic respiration.
  - (a) Ultimate hydrogen acceptor
  - (b) Balance proton gradient / Chemiosmotic balance

- (c) Removing hydrogen from system
- (d) All of these
- Q.19 Which is the small protein attached to the outer surface of the inner membrane and acts as a mobile carrier for transfer of electrons between complex III and IV.
  - (a) ubiquinone (ubiquinol)
  - (b) Cytochrome c
  - (c) Cytochromes a and  $a_3$
  - (d) Cytochrome b
- Q.20 Which of following is correct about the amount of ATP evolve
  - (a) Amount of Oxygen supply
  - (b) Nature of the electron donor
  - (c) Length of Electron transfer chain
  - (d) Available amount of ADP and inorganic phosphate.
- Q.21 Which of the following provide exact platform for synthesis of ATP
  - (a) ATP synthase (complex V)
  - (b) Oxysome
  - (c) F<sub>0</sub>-F<sub>1</sub> particle
  - (d) F<sub>1</sub>[Farhandez of Morahan]
- Q.22 For Each ATP molecule what will be the number & form of redox potential?
  - (a) at least  $1/3^{rd}$  NADH<sub>2</sub> and form is Nicotinamide Adenine nucleotide with hydrogen
  - (b) at least 2 redox equivalent and form is Hydrogen ions
  - (c) at least 1/2 FADH<sub>2</sub> and form is Flavin Adenine nucleotide with hydrogen
  - (d) both a & c
- Q.23 Although all primary metabolites or substrate can participate in respiration but then they do not enter the respiratory pathway at the first step, select correct matching of substrate and their form of participation in intra cellular respiration.
  - (a) Fat Fatty acid (b) Fat- acetyl-CoA

- (c) Protein- Pyruvate (d) b & c both
- Q.24 When the organism needs to synthesis fatty acids then what should be used as raw material or that can be withdrawn from respiratory path ways.
  - (a) Fat or Triglycerides
  - (b) Acetyl CoA
  - (c) PGAL/ Glycerol
  - (d) Essential fatty acid only
- Q.25 What is important to recognise is that in living organisms respiratory substrates are often more than one R.Q:
  - (a) substrate should be pure protein
  - (b) substrate should be pure fat
  - (c) Substrate neither protein nor fat but it must be carbohydrate
  - (d) substrate should be organic acid[ ex.Malic acid]
- Q.26 Exact Determinant of the Value of R.Q greater than or less than one:
  - (a) Nature of substrate which have to be oxidized
  - (b) Nature of metabolites
  - (c) Value or amount of carbon present in constituent of substrate only.
  - (d) Value or amount of oxygen present in substrate or amount of O<sub>2</sub> utilized.
- Q.27 Amount of oxygen atoms are required for oxidation of single Acetyle CoA:
  - (a) 4 oxygen atoms where as 3 for  $NADH_2$  and 1 for  $FADH_2$
  - (b) 2 Oxygen atoms  $\frac{1}{2}$  for each hydrogen carrier
  - (c) 8 Oxygen atoms where as 6 for  $NADH_2$  and 2 for  $FADH_2$
  - (d) All of these
- Q.28 We know carbohydrate, Fat & protein can change into one another, they are proximate in nature as well as respiration follow amphibolic path so sources of Fatty acid synthesis also can possible from carbohydrate also. How many ATP can generate for synthesis of the raw material for Fatty acid from one Glucose molecule?

(a) 11 ATP

- (b) 4 from substrate level 12 from oxidative phosphorylation by the expanse of 2 ATP.
- (c) 14 ATP without any expenditure
- (d) 16 ATP
- Q.29 Find out incorrect comparison between fermentation and aerobic respiration:
  - I. Fermentation accounts for only a partial breakdown of glucose
  - II. In fermentation there is a net gain of only two molecules of ATP for each molecule of glucose degraded into pyruvic acid
  - III. NADH is oxidised to NAD+ rather slowly in fermentation, however the reaction is very vigorous in case of aerobic respiration.
  - IV.Aerobic respiration it is completely degraded glucose in to CO<sub>2</sub> and intermediates
  - V. 38 molecules of ATP are generated from 1 glucose, under aerobic conditions
  - (a) I,III,IV & V (b) II & IV
  - (c) II,IV & V (d) None of these
- Q.30 Which part of Oxysome remain in outer, Peri and Inner membrane as well as in matrix of Mitochondria



- (a)  $F_0$  in Perimitochondrial space, Stalk in inner membrane and  $F_1$  in matrix
- (b) F<sub>1</sub> in inner membrane where as F<sub>0</sub> in outer membrane where as stalk in perimitochondrial space
- (c)  $F_0$  in inner membrane where as  $F_1$  in matrix
- (d) F0 in outer membrane, Stalk in Perimitochondrial space and F1 in matrix

#### **HOME ASSIGNMENT - XI**



# **DELHI PUBLIC SCHOOL**

# SAIL TOWNSHIP, RANCHI

(Winter Assignment, 2021-2022). Computer Science, Class : XI.

# **Note:** Solve this assignment in Computer Science Practical Copy, only.

Qn(01) Discuss the Concepts & Characteristics of : List, Tuples & Dictionaries in Python. Along with examples, differentiate between them, in a tabular form.

Qn(02) Briefly explain the Concepts of Modules, in Python. Discuss the Concepts of:
(a) The import statement & (b) The from Statement, of Python modules.
Mention purpose & examples of : math module, random module & statistics module.

Qn(03) WAP to find all integers, in a range 5 to 50 (both inclusive), which are Perfect Squares AND sum of all digits in the number is less than 10. [Hint : Can use "import math module"].

Qn(04) WAP to convert a given decimal number from 1 to 50 (both inclusive), into its equivalent Roman Numerals. [Example : Provide a Decimal Number : 38 (say). Then desired Output should be like : The Roman Equivalent Numeral is : XXXVIII ].

Qn(05) WAP that prompts for a mobile number of 10 digits and two dashes. First dash, is after area code of 3 digits and the second dash is after next 3 digits. For example, 620-635-8807 is a legal output.

Exhibit, if the mobile number entered is valid format or not. Display, if the mobile number is valid or not, i.e contains just the digits and dash at specified places

Qn(06) WAP to read email IDs of n number of students and store them in a tuple. Create two new tuples, one to store only the usernames from the email ID and the second to store domain names from the email ids. Print all three tuples at the end of the program. [Hint : We may use the function split ()].

Qn(07) WAP to input any two tuples of integers and swap their values.

Qn(08) Write an interactive Program to create an integer list of 10 integers and sort the List in ascending order, implementing Bubble Sort Technique.

Also, show the Diagrammatic Representation of Passes, with the same 10 integers.

Qn(09) Write a Program to check if a string is a Palindrome or not.

Qn(10) Write an interactive Program to create an integer list of 08 integers and sort the List in ascending order, implementing Insertion Sort Technique. Also, show the Diagrammatic Representation of Passes, with the same 08 integers.

> Merry Christmas & Happy New Year, 2022. @ & & === & & @



**DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI** 

#### WINTER BREAK ASSIGNMENT OF IP FOR CLASS XI (2021-22)

- 1. List some of the cloud-based services that you are using at present.
- 2. What do you understand by the Internet of Things? List some of its potential applications.
- 3. Write a short note on the following:
- a) Cloud computing
- b) Big data and its characteristics
- 4. Explain the following along with their applications.
- a) Artificial Intelligence
- b) Machine Learning
- 5. Differentiate between cloud computing and grid computing with suitable examples.
- 6. Justify the following statement- 'Storage of data is cost effective and time saving in cloud computing.'
- 7. What is on-demand service? How it is provided in cloud computing?
- 8. Write examples of the following:
- a) Government provided cloud computing platform
- b) Large scale private cloud service providers and the services they provide
- 9. A company interested in cloud computing is looking for a provider who offers a set of basic services such as virtual server provisioning and on-demand storage that can be
- combined into a platform for deploying and running customised applications. What type of cloud computing model fits these requirements?
- a) Platform as a Service
- b) Software as a Service
- c) Infrastructure as a Service
  - Cloud computing allows resources located at remote locations to be made available to anyone anywhere. Cloud services can be Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).
  - Block chair technology uses a shared data base of chaired blocks where copies of data base exist on multiple computers.
- 10. Which is not one of the features of IoT devices?
- a) Remotely controllable
- b) Programmable
- c) Can turn themselves off if necessary
- d) All of the above
- 11. If Government plans to make a smart school by applying IoT concepts, how can each of the following be implemented in order to transform a school into IoT enabled smart school?
- a) e-textbooks
- b) Smart boards
- c) Online tests
- d) Wifi sensors on classrooms doors
- e) Sensors in buses to monitor their location
- f) Wearables (watches or smart belts) for attendance monitoring
- 12. Five friends plan to try a startup. However, they have a limited budget and limited computer infrastructure. How can they avail the benefits of cloud services tolaunch their startup?
- 13. Governments provide various scholarships to students of different classes. Prepare a report on how blockchain technology can be used to promote accountability, transparency and efficiency in distribution of scholarships?
- 14. How IoT and WoT are related?



# **DELHI PUBLIC SCHOOL, SAIL TOWNSHIP, RANCHI**

# ACCOUNTANCY ASSIGNMENT CLASS – XI – 2021-2022

1.	From the following balances taken from the books of Simmi and Vimmi Ltd. for the year ending March 31, 2014, calculate the gross profit.			
		(₹)		
Clos	sing Stock			
		2,50,000		
Net	t sales during the year			
		40,00,000		
Net	t purchases during the year			
0		15,00,000		
Ope	ening stock	15 00 000		
Dire	ect exnenses	15,00,000		
2		80,000		
2.	From the following balances extracted from the b	ooks of M/s Ahuja and		
	Nanda. Calculate the amount of :			
ā	a. Cost of goods available for sale			
k	b. Cost of goods sold during the year			
C	c.Gross Profit			
One	oning Stock	(₹)		
Ohe		25.000		
Cre	dit Purchases	_0,000		
		7,50,000		
Cas	h Purchases			
		3,00,000		
Cre	dit Sales			
<b>C</b>		12,00,000		
Cas	in Sales	4 00 000		
Wa	nes	4,00,000		
TT a	ges	1.00.000		
Sala	aries			
		1,40,000		
Clos	sing stock			
_		30,000		
Sale	es return	FA 000		
Derr	schococ roturn	50,000		
ruf		10 000		
		10,000		

3. Calculate the amount of gross profit and operating profit on the basis of the following balances extracted from the books of M/s Rajiv & Sons for the year ended March 31, 2014.

	(₹)
Opening Stock	50.000
Net sales	
Net purchases	11,00,000
Direct expenses	6,00,000
	60,000
Administration expenses	45,000
Selling and distribution expenses	65,000
Loss due to fire	20.000
Closing stock	20,000
4. Prepare a trading and profit and loss acco 31, 2014. from the balances extracted of M/s	70,000 unt for the year ending March s Rahul Sons. Also prepare a
Account Title	Amount₹
Stock	50,000
Sales	1.80.000
Wages	2 000
Purchases Return	3,000
Salary	2,000
Discount Received	8,000
Durchasse	500
Purchases	1,75,000
Provision for doubtful debts	2,500
Sales Return	3 000
Capital	5,000
Sundry Debtors	3,00,000

	82,000
Bills Payable	22,000
Discount Allowed	1 000
Commission Received	1,000
Insurance	4,000
Rent	3,200
Pont Pates and Taxes	6,000
Rent, Rates and Taxes	4,300
Loan	34,800
Fixtures and Fittings	20 000
Trade Expenses	1,500
Bad Debts	1,500
Drawings	2,000
Repairs and Renewals	32,000
	1,600
Travening Expenses	4,200
Postage	300
Telegram expenses	200
Legal fees	200
Bills Receivable	500
Building	50,000
5	1,10,000
Aiustments	5,51,600
1. Commission received in advance ₹ 1.000.	
2. Rent receivable ₹ 2,000.	
3. Salary outstanding ₹ 1,000 and insurance prepaid ₹ 800.	

4. Further bad debts ₹ 1,000 and provision for doubtful debts @ 5% on debtors and discount on debtors @ 2%.

5. Closing stock ₹ 32,000.

# 6. Depreciation on building @ 6% p.a.

5. Prepare a trading and profit and loss according the year ending March 31, 2014. from the fo	ount of M/s Green Club Ltd. for ollowing figures taken from his
trial balance :	
Account Title	Amount₹
Opening stock	35,000
Sales	2 50 000
Purchases	2,30,000
Purchase Return	1,25,000
	6,000
Return Inwards	25,000
Creditors	10.000
Postage and Telegram	10,000
Bills Payable	600
Salam	20,000
Salary	12,300
Discount	1.000
Wages	.,
Provision for bad debts	3,000
Rent and Rates	4,500
Kent and Kates	1,000
Interest received	5,400
Packing and Transport	500
Capital	500
General expense	75,000
	400
insurance	4,000
Debtors	50.000

Cash in hand	20.000
Cash at bank	20,000
Machinery	40,000
	20,000
Lighting and Heating	5,000
Discount	3 500
Bad debts	5,500
Investment	3,500
	23,100
Ajustments:	3,71,900

1. Depreciation charged on machinery @ 5% p.a.

2. Further bad debts ₹ 1,500, discount on debtors @ 5% and make a

provision on debtors @ 6%.

3. Wages prepaid ₹ 1,000.

4. Interest on investment @ 5% p.a.

5. Closing stock ₹ 10,000.

6. The following balances has been extracted from the trial of M/s Runway Shine Ltd. Prepare a trading and profit and loss account and a balance sheet as on March 31, 2014.

Account Title	Amount₹
Purchases	1 50 000
Sales	1,50,000
	2,50,000
Opening Stock	50.000
Return Outwards	50,000
<b>-</b>	4,500
Return Inwards	2.000
Interest Received	
Carriage Inwards	3,500
Carriage mwarus	4,500
Discount Received	100
	400

Cash in Hand	
Creditors	77,800
Cash at Bank	1,25,000
Bills Payable	60,800
Wages	6,040
Capital	2,400
Printing and Stationery	1,00,000
Discount	4,500
Bad Debts	400
	1,500
Invoctmont	2,500
Dobtors	32,000
Debtors	53,000
Bills Receivable	20,000
Postage and Telegraph	400
Commission	200
Interest	1,000
Repair	440
Lighting Charges	500
Telephone Charges	100
Carriage Outward	400
Motor Car	25,000
Adjustments:	4,89,440

1. Further bad debts ₹ 1,000. Discount on debtors ₹ 500 and make a provision on debtors @ 5%.

- 2. Interest received on investment @ 5%.
- 3. Wages and interest outstanding ₹ 100 and ₹ 200 respectely.
- 4. Depreciation charged on motor car @ 5% p.a.
- 5. Closing Stock ₹ 32,500.



# **DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI**

ASSIGNMENT (WINTER HOLIDAYS) SESSION: 2021-'22

CLASS XI

SUB: BUSINESS STUDIES

- 1. Explain the various services offered by wholesalers to manufacturers.
- 2. Differentiate between external trade and internal trade.
- 3. How are chain stores different from departmental stores?
- 4. Discuss the merits of departmental stores.
- 5. Differentiate between domestic business and international business
- 6. Discuss any three advantages of international business.
- 7. What is the purpose of "performance and credit rating" scheme launched by NSIC?
- 8. 'The small scale industries have provided multiple sources of income to the rural household.' Explain the statement with the help of examples.
- 9. Write short notes on :
  - (a) NSIC (b) DIC
- 10. How do small scale industries contribute towards development of rural and backward areas? Discuss briefly.
- 11. PROJECT WORK: (For annual exam)

Topic: Start up India scheme



# **DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI**

# HOLIDAY ASSIGNMENT OF ECONOMICS CLASS XI MICRO

1. Why any producer would like to operate in second stage even though total physical production is increasing at diminishing rate or marginal product is falling?

2. Following statements are true or false. Give reasons :

(a) Diminishing returns to a factor is applicable only when average product starts falling.

(b) AC and AVC curves do not intersect each other

3. Explain the effect on output when only one input is increased and all other inputs are held constant.

4. Why does MP curve cut AP curve from above?

5. Complete the following table

Output (units)		1	2	3	4
ATC	54			33	
A V C	30	24			
M C		30		24	

6. State whether following statements are true or false. Give reasons

- (i) When there are diminishing returns to factor, TP first increases & then starts falling
- (ii) TP will increase only when MP increases
- (iii) AP will increase only when MP increases
- (iv) When AP=MP, MP is at its maximum.
- 7. Give reasons for the following
- (i) AFC is rectangular hyperbola
- (ii) MC curve is U-shaped curve
- (iii) While MC rises, AC can be falling for some range

8.An industrialist is both the owner and manager of a shop taken on rent. Identify implicit cost and explicit coast from this information. Explain

- 9.What will be the elasticity of supply of an upward sloping straight line supply curve?
- 10. State whether the following statement are true or false. Give reasons
- (i) When MR is zero, AR is constant
- (ii) MR is always the price at which last unit of output is sold.
- (iii) When TR is Maximum, MR is also constant

(iv) When MR is positive and constant, AR and TR will increase at constant rate

11. From the following schedule calculate the level of output at which the producer maximises his profit. Also calculate the profit at that level. Give reasons.

Output :	1	2	3	4	5	6	7
Price (Rs) :	24	24	24	24	24	24	24
Total Cost (Rs.) :	26	50	72	92	115	139	165
12. explain MR-MC approach of producer equilibrium.							

#### STATISTICS

1) Construct histogram of unequal class interval from following data:-

<i>,</i>	· · · · · · · · · · · · · · · · · · ·				ē		
	Marks	0-10	10-20	20-30	30-40	40-60	60-80
	No.of students	6	10	26	22	10	8

2) Draw a blank table and mention different parts of a table.

- 3) The mean weight of 25 boys in a group A of a class is 61 kg and the mean weight of 35 boys in a group B of the same class is 58 kg find the mean weight of 60 boys.
- 4) The marks obtained by 15 students in statistics and economics are given below. Prepare a bivariate frequency distribution.

statistics	10	11	10	11	14	11	12	12	13	10	12	14	12	10	14
economics	23	24	24	17	25	20	21	23	24	21	20	18	21	25	23

- 5) Briefly explain the sampling and non sampling errors. How non-sampling errors are more serious than sampling error.
- 6) Prepare a' less than' and 'more than' cumulative frequency distribution of the following data:\_

Wages	140-150	150-160	160-170	170-180	180-190	190-200	
No. of	5	10	20	9	6	2	
workers							

7) Construct a Pie-diagram to represent the following data:-

Items	labour	bricks	Cement	steel	Timber	Supervision
Expenditure	25	10	20	15	10	15

- 8) Draw a flow chart to show different methods of sampling. Explain briefly the stratified sampling and systematic sampling.
- 9) Present the following information in a suitable table:-

In 1995 out of total 1750 workers of a factory 1200 worker were member of trade union. The number of women employed was 200 of which 175 did not belong to a trade union. In 2000 the number of trade union worker increased to 1580 of which 1290 were men on the other hand no of non trade union workers fell down to 208 of which 180 were men. In 2005, there were on pay rolls of a factory, 1850 workers of whom 1800 belong to trade union. of all the employee in 2005, 300 were women of whom only 8 did not belong to a trade union.

10) Define arithmetic mean. Calculate arithmetic mean of the following data:-

Wages	No. of workers
More than 150	150
More than 160	136
More than 170	119
More than 180	80
More than 190	67
More than 200	45

 11. Draw the histogram and estimate the value of mode from the following data:

 Marks: 0-10
 10-20
 20-30
 30-40
 40-50
 50-60
 60-70
 70-80
 80-90

 Students: 0
 2
 3
 7
 13
 11
 9
 2
 1



### WINTER ASSIGNEMENT

## SUBJECT HISTORY

#### CLASS 11

- 1. Define reformation.
  - 2. What are the two phonetic alphabets developed by the Japanese?
- 3. What does the 'Gold Rush' meant?

4.Explain san min chui
5.Explain the role of the Arab scholars in retrieval of classical culture during the renaissance
6.Discuss the meaning of Sama
7.Why the knights had important role in feudalistic Europe ?
8.Describe the development of art and architecture of humanistic Europe with sufficient examples.

9. What were the effects of industrial revolution?

10. How did Japan became a model in the modernization of its economy?



**DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI** 

#### WINTER ASSIGNMENT FOR POLITICAL SCIENCE

#### **CLASS XI**

#### **CHAPTER: JUDICIARY**

- 1) Why do we need an independent judiciary?
- 2) What is meant by rule of law?
- 3) How are the chief justice and other judges of the supreme court of India appointed?
- 4) Describe the original and appellate jurisdiction of the Supreme Court of India.
- 5) What is meant by Judicial Review?
- 6) Discuss the Supreme Courts power of Judicial Review.
- 7) What is meant by Judicial Activism?
- 8) How has Public Interest Litigation helped the poor?
- 9) How can the judges of Supreme Court be removed?
- 10) Describe the role of Supreme Court of India related to the enforcement of Fundamental Rights.

#### Rights chapter

- 1. What are rights and why are they important? What are the bases on which claims to rights can be made?
- 2. On what grounds are some rights considered to be universal in nature? Identify three rights which you consider universal. Give reasons.
- 3. Discuss briefly some of the new rights claims which are being put forward in our country today for example the rights of tribal people to protect their habitat and way of life, or the rights of children against bonded labour.
- 4. Differentiate between political, economic and cultural rights. Give examples of each kind of right.
- 5. Rights place some limits on the authority of the state. Explain with examples.



# **DELHI PUBLIC SCHOOL SAIL TOWNSHIP, RANCHI**

## Winter Assignment

## Class 11

## Subject - Sociology

#### V. Short Answer Type Questions:

- 1. What do you mean by cultural environment?
- 2. What do you understand by urban ecology?
- 3. Why is global environment considered as the world problem?
- 4. What do you understand by resource depletion?

#### Short Answer Type Questions:

- 1. What are the different characteristic features of urban ecology?
- 2. Write down the major elements of social ecology.
- 3. Why our natural resources are depleting rapidly?
- 4. Explain human intervention of nature and to what extent have humans modified the natural environment?

#### Long Answer Type Questions:

- 1. What are the major environmental issues associated with depletion of resources?
- 2. What do you mean by global warming? Suggest some measures to mitigate the consequences of global warming.



# DELHI PUBLIC SCHOOL, RANCHI WINTER ASSIGNMENT (2021-22)

#### Class:- XI

# Subject:- Fine Art- Graphics / Painting

#### PRACTICAL

#### Painting (049):- Colourful composition for Painting students

**Subjects of composition:-** Dream or fantasy imaginative composition, Any festival, Any social theme. Study room, Park, Any social theme, outdoor study, Architectural drawings. Human figure with composition, winter day, market, city life, village life etc.

Complete any two compositions with water colour for Final Exam...

**Graphics (050):-** Black and white composition and Linocut for Graphics Students

Woodcut block making and Black and white Layout composition using different line, dots, textures, forms. **Subjects of composition:-** Composition with flowers, birds, animals, Dream or fantasy imaginative composition, Any festival, Any social theme. Market, Daily life etc. Composition with human figures, portraits; Village life, City life etc.

Complete few complete work for Final Exam...



# <u>DELHI PUBLIC SCHOOL SAIL TOWNSHIP, DHURWA</u> <u>RANCHI</u>

WINTER VACATION ASSIGNMENT

# CLASS-11SESSION-2021-22

**SUBJECT- PHYSICAL EDUCATION** 

- **1.** What do you mean by Anatomy, Physiology and Kinesiology?
- 2. Briefly explain about the importance of Anatomy, Physiology and Kinesiology in Physical Education?
- 3. Mention briefly about freely movable joint?
- 4. Discuss the function and properties of muscles?
- 5. Briefly discuss the principle of stability?
- 6. Briefly explain the importance of Yoga?
- 7. Write short note on meditation?
- 8. Briefly explain the elements of yoga?
- 9. Elucidate any two asanas for improving concentration of mind?
- **10.** What do you mean by yoganidra? Explain the stages of yoganidra in detail.