READING SECTION

I.   **Read the following passage carefully. (12 marks)**

1.   That large animals require luxuriant vegetation has been a general assumption which has passed from one work to another, but I do not hesitate to say that it is completely false and that it has vitiated the reasoning of geologists on some points of great interest in the ancient history of the world. The prejudice has probably been derived from India, and the Indian islands, where troops of elephants, noble forests, and impenetrable jungles are associated together in everyone's mind. If, however, we refer to any work of travels through the southern parts of Africa, we shall find allusions in almost every page either to the desert character of the country or to the numbers of large animals inhabiting it. The same thing is rendered evident by the many engravings which have been published in various parts of the interior.

2.   Dr Andrew Smith, who has lately succeeded in passing the Tropic of Capricorn, informs me that taking into consideration the whole of the southern part of Africa, there can be no doubt of its being a sterile country. On the southern coasts, there are some fine forests, but with these exceptions, the traveller may pass for days together through open plains, covered by poor and scanty vegetation. Now, if we look to the animals inhabiting these wide plains, we shall find their numbers extraordinarily great, and their bulk immense.

3.   It may be supposed that although the species are numerous, the individuals of each kind are few. By the kindness of Dr Smith, I am enabled to show that the case is very different. He informs me that in one day's march with the bullock-wagons, he saw, without wandering to any great distance on either side, between one-hundred and one-hundred and fifty rhinoceroses—the same day he saw several herds of giraffes, amounting together to nearly a hundred.

4.   At the distance of a little more than one hour's march from their place of encampment on the previous night, his party actually killed eight hippopotamuses at one spot and saw many more. In this same river, there were likewise crocodiles. Of course, it was a case quite extraordinary to see so many great animals crowded together, but it evidently proves that they must exist in great numbers. Dr Smith describes that the country passed through that day as 'being thinly covered with grass, and bushes about four feet high, and still more thinly with mimosa trees'.

5.   Besides these large animals, anyone the least acquainted with the natural history of the Cape has read of the herds of antelopes, which can be compared only with the flocks of migratory birds. The numbers indeed of the lion, panther, and hyena, and the multitude of birds of prey, plainly speak of the abundance of the smaller quadrupeds. One evening, seven lions were counted at the same time prowling round Dr Smith's encampment. .As this, an able naturalist remarked to me, each day the carnage in Southern Africa must indeed be terrific! I confess that it is truly surprising how such a number of animals can find support in a country producing so little food.

6.   The larger quadrupeds no doubt roam over wide tracts in search of it; and their food chiefly consists of underwood, which probably contains many nutrients in a small bulk. Dr. Smith also informs me that the vegetation has a rapid growth; no sooner is a part consumed, than its place is supplied by a fresh stock. There can be no doubt, however, that our ideas respecting the apparent amount of food necessary for the support of large quadrupeds are much exaggerated. The belief that where large quadrupeds exist, the vegetation must necessarily be luxuriant is more remarkable because the converse is far from true.

7.   Mr. Burchell observed to me that when entering Brazil, nothing struck him more forcibly than the splendour of the South American vegetation contrasted with that of South Africa, together with the absence of all large quadrupeds. In his travels, he has suggested that the comparison of the respective weights (if there were sufficient data) of an equal number of the largest herbivorous quadrupeds of each country would be extremely curious. If we take on the one side, the elephants, hippopotamus, giraffe, bos caffer, elan, five species of rhinoceros; and on the American side, two tapirs, the guanaco, three deer, the vicuna, peccari, capybara (after which we must choose from the monkeys to complete the number), and then place these two groups alongside each other; it is not easy to conceive ranks more disproportionate in size.

8.   After the above facts, we are compelled to conclude, against the anterior probability that among the Mammalia there exists no close relation between the bulk of the species, and the quantity of the vegetation in the countries which they inhabit. Adapted from: Voyage of the Beagle, Charles Darwin (1890) [CBSE Sample Paper 2016]

A.   On the basis of your understanding of the passage, answer the following questions by choosing the most appropriate option. (1 × 5 = 5 marks)

1.   What is the primary concern of the author?
(a)   Discussing the relationship between the size of mammals and the nature of vegetation in their habitats
(b)   Contrasting ecological conditions in India and Africa
(c)   Proving that large animals do not require much food
(d)   Describing the size of animals in various parts of the world
2.   According to the author, what has led to the 'prejudice'?
(a)   Errors in the reasoning of biologists

(b)   False ideas about animals in Africa
(c)   Incorrect assumptions on the part of geologists
(d)   Doubt in the mind of the author
3.   Why are the flocks of migratory birds mentioned in the passage?
(a)   To describe an aspect of the fauna of South Africa
(b)   To illustrate a possible source of food for large carnivores
(c)   To contrast with the habits of the antelope
(d)   To suggest the size of antelope herds
4.   Why does Darwin quote Burchell's observations?
(a)   To counter a popular misconception
(b)   To describe a region of great splendour
(c)   To prove a hypothesis
(d)   To illustrate a well-known phenomenon
5.   What struck Mr Burchell, when he entered Brazil?
(a)   South African vegetation
(b)   Presence of all large quadrupeds
(c)   South American vegetation contrasted with that of South Africa
(d)   Equal number of the largest herbivorous quadrupeds

B. Answer the following questions briefly. (1 × 7 = 7marks)

1.   What prejudice has vitiated the reasoning of geologists?
2.   Why does Dr Smith refer to Africa as a sterile country?
3.   What is the 'carnage' referred to by Dr Smith?
4.   What does Darwin's remark, 'if there were sufficient data' indicate?
5.   To account for the 'surprising' number of animals in a 'country producing so little food', what partial explanation does Darwin suggest?
6.   Find a word from the passage (para-5) which means 'the violent killing of large number of people'.
7.   Find a word from the passage (para-6) which means 'animals that have four legs'.

WRITING SKILLS

1.   You are Arun/Anita Basu living at 1765, Sector 20, Chandigarh. You come across the following advertisement:
      Postal Classes—Diploma in Waste Water Management—duration one year—practicals arranged—minimum qualification SSCE, first division—prospectus free—Contact- Director, Eco-centre, P.B. 1037, Bengaluru-560019
      Write a letter to the Director asking for detailed information on the course, fee structure, assignments, personal contact programmes and job opportunities. Request for a prospectus and enclose a self-addressed envelope.

2.   Due to a sudden landslide and inclement weather, St. Francis School, Vasco has to be closed for a week. As Principal of that school, draft notice in not more than 50 words to be displayed at the school main gate notice board.

LITERATURE

1. Write a critique of Walt Whitman's "The Voice of the Rain."
2. Differentiate between mechanistic and holistic approach as described by Nani Palkhiwala.
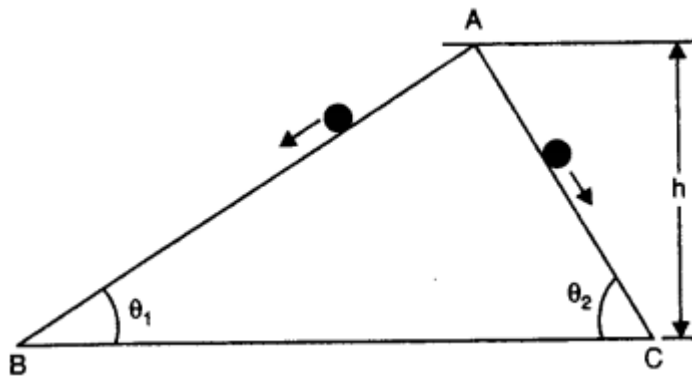
Holiday Assignment

Class - XI

Subject Mathematics

1. Find the domain of the real function f(x) defined $f(x) = \sqrt{\frac{\sqrt{1-|x|}}{2-|x|}}$

2. Find the domain and range of the function $f(x) = \frac{1}{2-\sin 3x}$

3. Prove that the value of $5\cos\Theta + 3\cos\Theta\ (\Theta+\frac{\Pi}{3}) + 3$ lies between -4 and 10.

4. Find the equation of the circle passing through the points (1, -2) and (4, -3) and whose centre lies on the line 3x + 4y = 7?

5. Find the orthocenter of the triangle the equation of whose sides are x + y = 1, 2x + 3y = 6, 4x - y + 4 = 0.

6. If the lines 3x + y - 2 = 0, px + 2y - 3 = 0 and 2x - y - 3 = 0, are concurrent, find the value of p.

7. A canal is $4\frac{1}{2}$ km from a place and the shortest route from this place to canal is exactly north east. A village is 3 km north and 4 km east from the place. Does it lie on the canal?

8. Show that the perpendicular drawn from the point (4, 1) on the line joining (6, 5) and   (2, -1) divides it internally in the ratio 8:5.

9. 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.

10. Find the area of the parallelogram whose sides are y = mx + a, y = mx + b, y = nx + c, y = nx + d.
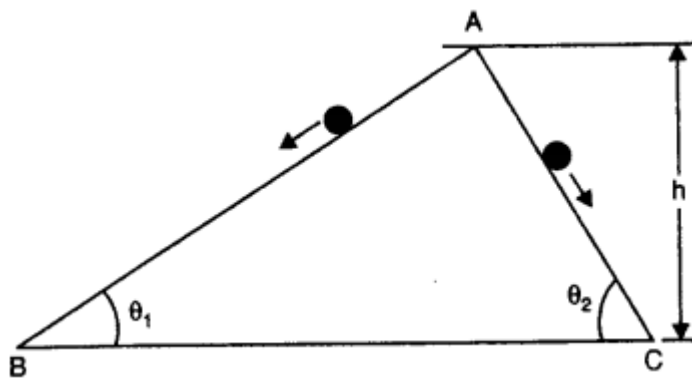
DELHI PUBLIC SCHOOL,

SAIL TOWNSHIP, RANCHI

PHYSICS ASSIGNMENT

1. **15. A pump on the ground floor of a building can pump up water to fill a tank of volume 30 m^3 in 15 min. If the tank is 40 m above the ground, and the efficiency of the pump is 30%, how much electric power is consumed by the pump?**

2. **A trolley of mass 300 kg carrying a sandbag of 25 kg is moving uniformly with a speed of 27 km/h on a friction less track. After a while, sand starts leaking out of a hole on the trolley's floor at the rate of 0.05 kg s^{-1}. What is the speed of the trolley after the entire sand bag is empty?**

3. **The bob A of a pendulum released from 30° to the vertical hits another bob B of the same mass at rest on a table as shown in Fig. How high does the bob A rise after the collision? Neglect the size of the bobs and assume the collision to be elastic.**

4. **The blades of a windmill sweep out a circle of area A. (a) If the wind flows at a velocity v perpendicular to the circle, what is the mass of the air passing through it in time t? (b) What is the kinetic energy of the air? (c) Assume that the windmill converts 25% of the wind's energy into electrical energy, and that A = 30 m^2, v = 36 km/h and the density of air is 1.2 kg m^{-3} . What is the electrical power produced?**

5. **A person trying to lose weight (dieter) lifts a 10 kg mass, one thousand times, to a height of 0.5 m each time. Assume that the potential energy lost each time she lowers the mass is dissipated, (a) How much work does she do against the gravitational force? (b) Fat supplies 3.8 x 10^7J of energy per kilogram which is converted to mechanical energy with a 20% efficiency rate. How much fat will the dieter use up?**

6. **A person trying to lose weight (dieter) lifts a 10 kg mass, one thousand times, to a height of 0.5 m each time. Assume that the potential energy lost each time she lowers the mass is dissipated, (a) How much work does she do against the gravitational force? (b) Fat supplies 3.8 x 10^7J of energy per kilogram which is converted to mechanical energy with a 20% efficiency rate. How much fat will the dieter use up?**

7. **. A molecule in a gas container hits a horizontal wall with speed 200 msA and angle 30° with the normal, and rebounds with the same speed. Is momentum conserved in the collision? Is the collision elastic or inelastic?**

8. **A raindrop of radius 2 mm falls from a height of 500 m above the ground. It falls with decreasing acceleration (due to viscous resistance of the air) until at half its original height, it attains its maximum (terminal) speed, and moves with uniform speed thereafter. What is the work done by the gravitational force on the drop in the first and second half of its journey? What is the work done by the resistive force in the entire journey if its speed on reaching the ground is 10 ms^{-1}?**

9. **Two inclined frictionless tracks, one gradual and the other steep meet at A from where two stones are allowed to slide down from rest, one on each track (Fig). Will the stones reach the bottom at the same time? Will they reach there at the same speed? Explain. Given θ_1 = 30°, θ_2 = 60°, and h = 10 m, what are the speeds and**

times taken by the two stones?

10. Two inclined frictionless tracks, one gradual and the other steep meet at A from where two stones are allowed to slide down from rest, one on each track (Fig). Will the stones reach the bottom at the same time? Will they reach there at the same speed? Explain. Given $\theta_1 = 30°$, $\theta_2 = 60°$, and h = 10 m, what are the speeds and times taken by the two stones?

Class XI Chemistry Assignment

1. Calculate the empirical formula of copper chloride which when analysed showed that its 4g sample contains 1.890g copper and 2.110g chlorine.

    (at mass of Cu=63.5u and at mass of Cl=35.5)

2. In a reaction $2A + 4B \rightarrow 3C + 4D$

    When 5 moles of A react with6 moles of B then,
    i. Which is limiting reagent?
    ii. Calculate the amount of C formed.
    iii. Calculate the amount of D formed.

4. i. An element with mass no 81 contains31.7% more neutrons as compared to protons.Assign the atomic symbol.
   ii. Derive De-Broglie equation.

5. The mass of an electron is 9.1×10^{-31} kg.If its K.E. is 3×10^{-5}J ,Calculate its wavelength?

6. i. Using s, p,d notations describe the orbital with following quatum numbers.

    a) n=4, l=3   and n= 2, l=1.

    ii.

7. i. Predict the position of the element in the periodic table having electronic configuration: $(n-1)d^6 ns^2$ and n=4
   ii. State the order of penetration effect in s,p,d and f orbitals.
   iii. How does the atomic radii vary in a period and in a group?
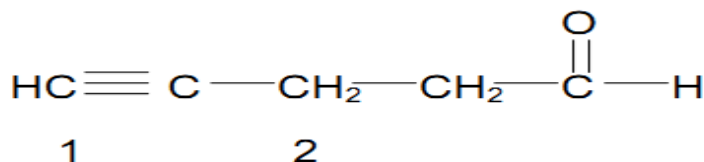   iv. What are isoelectronic species give two examples.

8. i. Write molecular orbital electronic configuration of N_2^+ molecule.
   ii. Give the shapes of the following :
   CH_4, $[Ni(CN)_4]^{2-}$, SF_4, PCl_5
   iii. Why is H_2O a liquid hen H_2S is a gas?

9. i. State the hybridization of carbon atoms in the fig below numbered 1and 2.

$$HC \equiv C - CH_2 - CH_2 - \overset{\overset{\displaystyle O}{\|}}{C} - H$$

    1   2

   ii. Arrange the following in the order of increasing ionic character:
   C-H,H-F,H-Br,Na-I,Li-Cl,K-F?

10 What type of isomerism is exhibited by following pair of compounds?
   (i) Ethanol and Methoxy methane
   (ii) Pentan-3-one and pentane-2-one
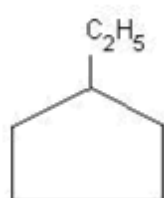
11. Explain the following with examples:
   i. Charged and Uncharged Electrophiles and Nucleophiles
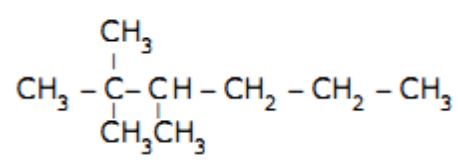   ii. Metamerism
   iii. Inductive effect

12. Explain why is $(CH_3)_3C^+$ more stable than $CH_3CH_2^+$ and CH_3^+ is the least stable cation.

13. Give the IUPAC names of the following compounds:

$$\underset{\underset{\underset{CH_3\,CH_3}{|\quad\ |}}{}}{\overset{\overset{CH_3}{|}}{CH_3-C-CH}}-CH_2-CH_2-CH_3$$

$$\overset{C_2H_5}{\underset{\bigpentagon}{|}}$$

CLASS: XI   **SUBJECT: BIOLOGY**

CELL CYCLE AND CELL DIVISION

1. Comment on the statement— Telophase is reverse of prophase.
2. What are the various stages of meiotic prophase-I? Enumerate the chromosomal events during each stage?
3. Differentiate between the events of mitosis and meiosis.
4. Write brief note on the following:
a. Synaptonemal complex
b. Metaphase plate
c. G_0 Phase
5. How does cytokinesis in plant cells differ from that in animal cells?
6. Explain interphase with its stages.

DELHI PUBLIC SCHOOL, RANCHI
Assignment-II   (2021-22)
Class:- XI   **Subject:- Fine Art- Graphics / Painting**

THEORY

1. Explain the panel 'Descent of Ganga' and its composition.

2. What is the story behind 'Decent of Ganga' rock cut sculpture? Where it is situated?

3. Which sculpture of Ellora or Konark attracted you the most? Appreciate its artistic features and moral values.

4. Describe the characteristics of Temple architecture with example.

5. Who is represented in the form of 'Trimurti' sculpture? What is represented in 'Trimurti'? Write in detail about this sculpture.

6. Explain the composition of the panel 'Descent of Ganga'.

7. Appreciate the famous sculpture 'Mother and Child' of Dilwara Temple, Mount Abu, Rajasthan on its (a) method and material used, (b) subject- matter and (c) composition..

8. Write a note on the compositional arrangement of Indian Temples.

9. Give a description of any one sculpture of Elephanta cave, included in your course of study.

10. Appreciate the temples of Chandela period giving example of one temple.

11. Discuss any one sculpture of Ellora or Konark.

12. How the social values are depicted by sculptures of Ajanta, Ellora, Elephanta caves.

13. Write a note on Magnificent Khajuraho temple & sculptures.

14. Describe the characteristics of Temple architecture giving one example of Chandela Period temple.

15. What are the social and moral values depicted in the sculpture 'Trimurti'. Explain in detail.

16. What is the contribution of Pallava period for Art? Explain any one sculpture of that period and its composition.

17. Write about the location of following:-

Cymbal Player

Ravana shaking Mount Kailash

Mother and Child

18. The mountain shape on top of temple is called _____ .

19. Khajuraho is famous for _____ temple.

20. Kailash is the biggest monument of _____ .

21. Elephanta caves are situated about 10 km from _____ .

22. _____ is one of the important sculpture of Ajanta.

23. Vimal Shah Temple is made up of _____ .

24. _____ is one of the important sculpture of Ellora.

25. Where is Lakshmi Narayana Kandariya Mahadev temple?

PRACTICAL

Painting Composition for Painting Students

Subjects of composition:- Different birds and animals composition, Dream or fantasy imaginative composition, Any festival, Any social theme.

Graphics Print for Graphics Students

Woodcut and Linocut printing in black and white distribution and 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.

1. The amount of money that is owed by an outsider is a/an
   a) Asset
   b) Liability
   c) Expense
   d) Capital

2. Fixed assets and Current assets are categorised as per concept of
   a) Going concern
   b) Separate entity
   c) Consistency
   d) Conservation

3. Book keeping means :-
   a) Keeping books
   b) Recording in books
   c) Recording of business transactions in the books
   d) All of the above

4. Current Liabilities do not include :
   a) Sundry Creditors
   b) Bills Payable
   c) Outstanding Salary
   d) Prepaid Insurance

5. The limitations of accounting are
   a) Influenced by personal judgments
   b) Based on historical costs
   c) Affected by window dressing
   d) All of these

6. In Cash basis, expenses are recorded
   a) When paid in Cash
   b) When not paid in Cash
   c) When paid or not paid in Cash
   d) None of the above

7. Income is measured on the basis of :
   a) Consistency Concept
   b) Matching Concept
   c) Cost Concept
   d) None of the above

8. **Trial Balance as on 31.03.2020**

Particulars	Dr. Amount (Rs.)	Cr. Amount(Rs.)
Machinery	100000	
Provision for Depreciation on Machinery	-	20000
9 % Fixed Deposit (01.04.2019)	100000	-
Interest on Fixed Deposit		6000

Adjustments : –

Depreciate Machinery by 20% p.a. on WDVM . How will you disclose the above information in Final Accounts of a trading concern for the year ended 31.03.2020.

9. **Pass journal entries in the books of Jain Brothers. Ranchi**

2021 Jan 1	Goods purchased for cash Rs. 100000. Cash discount received @ 10% GST 12% (goods purchased from Patna).
Jan 5 Jan 10 Jan 20	Goods sold for cash Rs. 50000 Cash discount allowed @10% , GST 12 % Car purchased Rs. 600000 GST 28%. Payment made by cheque **Salary paid Rs. 45000 after deducting tax @ 10 %**

10. **On 01.07.2020 A sold goods to B for Rs. 20000 GST 12% and received an acceptance for 2 months. On 03.07.2020 A discounted the bill with bank at Rs. 21000. On due date B paid the amount of bill. Pass journal entries in the books of A and B.**

ASSIGNMENT IN BUSINESS STUDIES XI

Answer The following questions:-

1. Make a detailed differentiation between –
    a. Equity and Debt
    b. Equity Shares and Pref Shares
2. Explain different sources of following in detail
    a. Owner's Funds
    b. Borrowed Funds
3. Explain in detail about
    a. ADR
    b. GDR
    c. IDR
4. Explain what is Entrepreneurship Development and its characteristics.
5. Write in your own words how does the Entrepreneurship Development benefit the country and economy?
6. Write a short note on start-ups, illustrating any two examples, of Indian start up making it big in the business world.
7. Explain different ways of funding a start-up.

DELHI PUBLIC SCHOOL

Diwali Vacation Assignment

Class XI
Subject- Economics

1. What is the relationship between TR and MR (when price falls with the rise in output)?

2. Complete the following table:

Price	Output	TR	MR
____	1	6	____
4	____	____	2
____	3	6	____
1	____	____	(-)2

3. Comment on the shape of the MR curve in case the TR curve is a horizontal straight line.
4. From the following table, find out the level of output at which the producer will be in equilibrium. Give reasons for your answer. Also, use diagram.

Output	Marginal Revenue	Marginal Cost
1	8	10
2	8	8
3	8	7
4	8	8
5	8	9

5. Differentiate between decrease in supply and contraction in supply.
6. Explain the impact of the following factors on supply of a commodity:
    (a) Price of factors of production
    (b) Imposition of taxes by the government
    (c) Number of firms
7. In a very short period market:
    (a) supply is fixed
    (b) The supply is inelastic

(a) Supply is elastic
(b) None of these

8. The price of a commodity is ₹12 per unit and its quantity supplied is 500 units. When its price rises to ₹15 per unit, its quantity supplied rises to 650 units. Calculate its price elasticity of supply. Is the supply elastic?

9. The price elasticity of supply of a price of commodity is 2.5. At a price of ₹5 per unit, its quantity supplied is 300 units. Calculate its quantity supplied at a price of ₹4 per unit.

10. State whether True or False. If false, correct the statement:
Elasticity of supply explains the qualitative relationship between price and supply.

Deewali Assignment 2021-2022

Class XI

Sub : History

1. Why Industrial Revolution started in Britain?
2. Who was Abraham Darbys? Explain their contribution to the iron industry
3. List down major inventors of the industrialization period with their inventions and year of inventions
4. What was the reason of Canal mania?
5. Explain Railway mania both little and big
6. What was the peculiarial factors connected with inventors of the period under discussion
7. Explain the general condition of the workers during the period of industrialisation
8. Explain Luddism (3 marks)
9. How did banks help in industrialisation in Britain
10. Was there an industrial revolution in Britain? Give your opinion and explain

Class- XI   **Subject- Political Science**

1. How did parliamentary system of government function in India?
2. Explain the discretionary powers of the President.
3. Which article of the Indian constitution indicates the position of the President?
4. What are the discretionary powers of the President?
5. Explain the position of the Indian President.
6. Why is the Prime Minister considered very powerful?
7. How has the rise of coalition governments since 1989 affected the working of Parliamentary executive?
8. Define Bureaucracy.
9. Explain the system of Indian bureaucracy.

Subject- Sociology

CLASS 11 DIWALI HOLIDAYS ASSIGNMENT:

A. **VERY SHORT ANSWER TYPE QUESTIONS:** (2 marks each)

1. How does Technology bring about social change in a society?

2. Define conformity.

3. What is gentrification?

4. What do you understand by the term ghettoisation?

B. **SHORT ANSWER TYPE QUESTIONS:**
   (4 marks each)

1. Define social change and mention its types.

2. Write a short note on Social Darwinism.

3. "Technological changes do not always ensure a significant impact". Justify.

4. Contestation, crime and violence are always present in a social order. Elaborate.

C. **LONG ANSWER TYPE QUESTIONS:**
   (6 marks each)

1. Write a short note on the following using examples.

   i. Political cause of social change
   ii. Cultural cause of social change

2. Explain the differences between rural and urban societies in detail.

DELHI PUBLIC SCHOOL SAIL TOWNSHIP, DHURWA RANCHI

HOLIDAY HOME WORK

CLASS-11   SESSION-2021-22

SUBJECT- PHYSICAL EDUCATION

1. Define Physical Fitness, Wellness and Lifestyle in detail?
2. Explain importance of Physical Fitness and Wellness?
3. Define Strength and types of Strength in detail?
4. Define Flexibility and explain its types?
5. Explain any two in detail?
   a. Body Composition
   b. Endurance
   c. Speed
   d. Coordinative abilities
6. Define Test, Measurement and Evaluation in detail?
7. Elucidate the importance of Test, Measurement and Evaluation in the field of sports?
8. Briefly explain about calculation of Waist-Hip Ratio?
9. Explain Harvard step test in detail?
10. Explain any two in detail?
    a. Push-ups
    b. Partial curl up
    c. Sit and reach
    d. Modified push ups
11. Define Sports Training? Explain the principles of Sports Training.
12. Explain Skill, Technique and Style?
13. Explain any six physiological basis of warming up?
14. Explain types of warming up in detail?
15. Explain Blood Doping in detail?