Green Valley Public School

VPO Badhni Kalan, Moga

Assignment for **Class 11th SCIENCE** (Session 2020-21)

Dear Parents,
As a parent it is important to invest your time with your little ones. We are sharing some tips for you to make these vacations a fruitful and happy period for them.

1. Let your child learn 5 new words daily in English.
2. Avoid your child to play outdoors.
3. Search some good story books with colourful pictures for your kids on internet.
4. Keep your children away from TV, Mobile phones, Computers and other electronic gadgets.

CHEMISTRY

1: Complete written revision of syllabus done on A4 sheets.
2: Make notes on vitamins, carbohydrates and chemotherapy (from Biomolecules chapter). well-equipped medical room – veterinary surgeon – green surroundings.

ENGLISH

1. You are Ramesh Kumar, Manager, Ekta Book House, Fort Road, Mumbai. You supplied a number of books to Prajapati Public School, Pune. The school complained that the books, received by it are not according to the order. Write a letter in 120-150 words to the Principal expressing regret, explaining the reasons why the error took place and promising a prompt and correct delivery.

2.Your school has opened a new activity wing for the kindergarten students for which you require play equipment. Write a letter in 120-150 words to Bright Sports Materials, Paharganj, Delhi placing an order for educational toys and other playing equipments. You are Principal, XYZ School, Delhi.

3. 'Grow more trees to reduce pollution.' Write an article in 150-200 words on the topic given above for your school magazine.

4.You are Sandhya/Sohan an active member of the Animal Lovers Club which works for the welfare of animals by preventing cruelty to them. Recently you visited Mahatma Gandhi Animal Care Home. You were pleasantly surprised to see the good treatment given to the animals. Write a report in 150-200 words on your visit. You may use the following points : injured dogs and cats – abandoned pets – very old animals – all very well cared for – well-equipped medical room – veterinary surgeon – green surroundings.

PHYSICAL EDUCATION

Q.1 What are the constraints of women participation in sports?
Q2. Write the physical benefits of exercise on children?
Q.3 Elaborate the benefits of asanas of sukasana, tadasana,sulabhasana.
Q.4 What are the causes of bad posture? Explain in detail.
Q.5 Why should macronutrients be essential part of our diet?

Mathematics

1. Show that (a) $\sin^{-1}\frac{3}{5} - \sin^{-1}\frac{8}{17} = \cos^{-1}\frac{84}{85}$.

(b) $2\tan^{-1}\frac{1}{5} + \sec^{-1}\frac{5\sqrt{2}}{7} + 2\tan^{-1}\frac{1}{8} = \frac{\pi}{4}$.

2. (a) If A=$\begin{bmatrix} 0 & -tan\frac{\alpha}{2} \\ tan\frac{\alpha}{2} & 0 \end{bmatrix}$, prove that I+A=(I-A)$\begin{bmatrix} \cos\alpha & -\sin\alpha \\ \sin\alpha & \cos\alpha \end{bmatrix}$

(b) Obtain the inverse of the following matrix using elementary operations:

A=$\begin{bmatrix} 0 & 1 & 2 \\ 3 & 2 & 1 \\ 1 & 1 & 3 \end{bmatrix}$.

3 . (a) If A=$\begin{bmatrix} 2 & 3 \\ 1 & -4 \end{bmatrix}$ and B=$\begin{bmatrix} 1 & -2 \\ -1 & 3 \end{bmatrix}$ then verify that $(AB)^{-1}=B^{-1}A^{-1}$.

(b) Show that by using properties of determinants;

$\begin{bmatrix} 1+a^2-b^2 & 2ab & -2b \\ 2ab & 1-a^2+b^2 & 2a \\ 2b & -2a & 1-a^2-b^2 \end{bmatrix} = (1+a^2+b^2)^3$.

4. Rakesh wants to invest at most Rs. 12000 in bonds A and B.

According to the rules he has to invest at least Rs. 2000 in bond A and at least Rs. 4000 in bond B. If the rate of interest on bond A is 8% per annum and on bond B, it is 10% per annum, how should he invest the money for maximum interest. Formulate it into in LPP.

5. Define function and discuss its different types with examples and diagrams.

6. (a) Given A=$\begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ and B=$\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$, find AB and use this result

In solving the following system of equations:
X – y + z=4, x – 2y – 2z=9, 2x + y + 3z=1 .

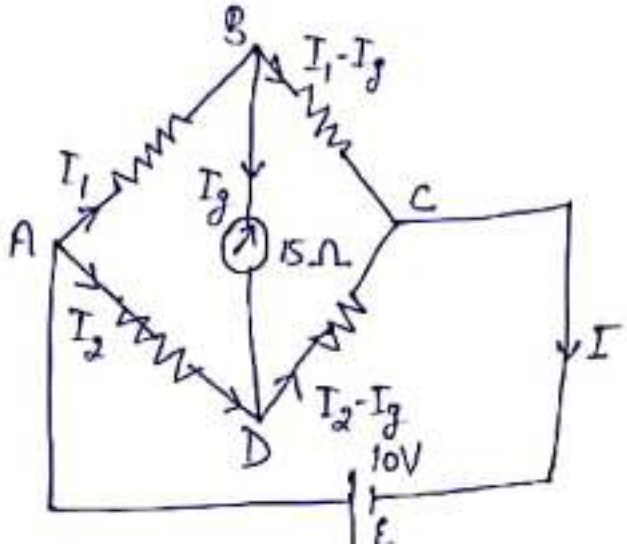
(b) If x, y, z are different and $\Delta = \begin{bmatrix} x & x^2 & 1+x^3 \\ y & y^2 & 1+y^3 \\ z & z^2 & 1+z^3 \end{bmatrix}$=0 then show that 1 + x y z = 0.

PHYSICS

1. Explain
    i) Projectile Motion
    ii) Time of Maximum height
    iii) Maximum height of a Projectile.
2. Define Dynamic lift and Magnus Effect.
3. Differentiate connection and radiation and explain trade wind.
4. A cylinder of fixed capacity 44.8 litres contains Helium gas at fixed temperature and pressure. What is the amount of heat needed to raise the temperature of the gas in the cylinder by 15.0^0C (R=8.31 J mol^{-1} k^{-1})
5. What are equipotential surfaces, Explain it with suitable diagrams.
6. Explain Principle and working of Van-De Graft generator.

Assignment 2

1. The four arms of a Wheatstone Bridge have the following resistances:
AB = 100Ω BC = 10Ω CD = 5Ω DA = 60Ω



A Galvanometer of 15Ω resistance is connected across BD. Calculate the current through the Galvanometer when potential difference of 10V is maintained across AC.

2. The storage battery of a car has an emf of 12V. If the internal resistance of the battery is 0.4Ω. What is the maximum current that can be drawn from the Battery?
3. Explain motional electromotive force and Eddy currents.
4. Explain the principle and working of AC generator.
5. Classify the Metals, Conductors, Semi-conductors on the basis of conductivity and energy bands.
6. Explain
    i) n type semiconductor
    ii) p type semiconductor
    iii) n-p-n type transistor
    iv) p-n-p type transistor

BIOLOGY

1. Complete Biology LabManual

2. Chapter 2nd and 4th Problems for Even roll numbers and 3rd and 5th chapter problems for Odd roll numbers which are given in the pages below.

Chapter-2.

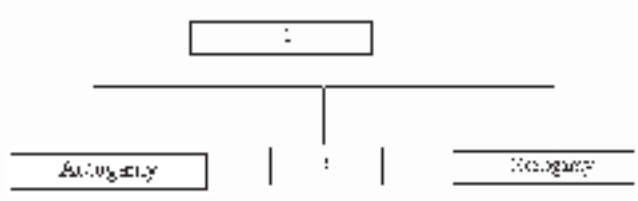
SEXUAL REPRODUCTION IN FLOWERING PLANTS.

1 marks

1) Do pollen grains survive in adverse conditions?
2) Non- albuminons seeds do not have endosperm, then from where do they take the food duringgermination?
3) T.S. of anther shows four layers in the wall-epidermis, endothelium, tapetum and middle layer, Arrange them from outermost to innermost.

4) Identify the figure given below and label the parts indicated in the figure.

5) Complete the flowchart.



6) If the number of chromosomes in the leaf cell of a flowering plant is 28, What number would you expect in the embryo and endo sperm?

2 marks

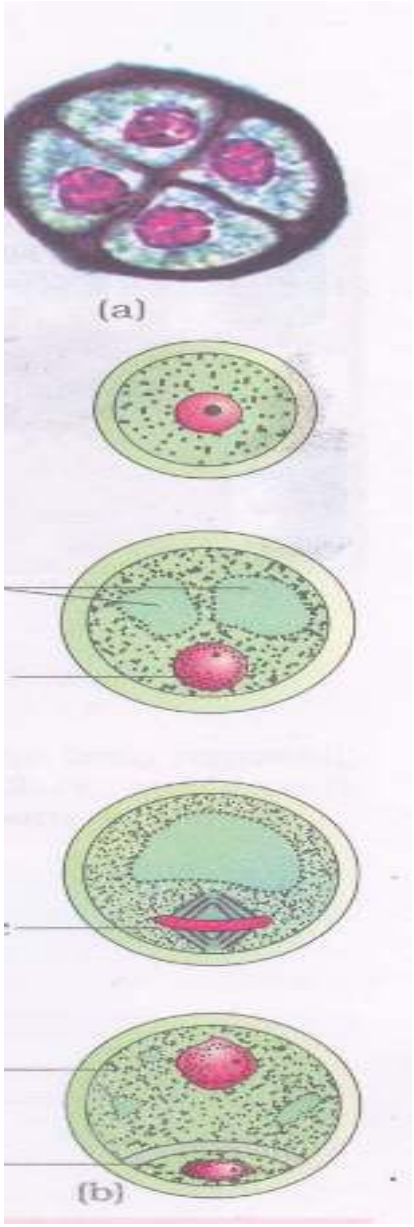
7) (a) "The microspore is haploid while that of microspore mother cell is diploid" comment. 2

(b) How many male gametes and female gamets are produced by?

(i) Five microspore mother cell (ii) Five megaspore mother cell

8) (a) what is the process shown in the diagram givenbelow?

(b)Namethestructureat(a)ofthefiguregivenbelow 2



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9) Whydoyouthinkthatthezygoteisdormantforsometimeinafertilizedovule? 2

0)What will be the fateofovuleifthesynergidsareabsentintheembryosac?

2

Chapter- 3-HUMAN REPRODUCTION

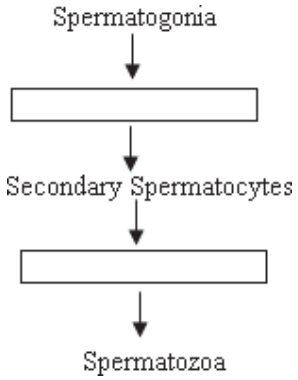
tmark

1) Zygote undergoes mitosis to form 6 celled stage of embryo. What is it knownas?

2) Name the important mammary gland secretions that help in resistance of the new bornbaby.

2 marks

1)Fill in the boxes 2



2) Whydoesfertilisationtakeplaceinfallopiantubeandnotinuterus? 2

3) Which cell organelle is present in the neck of the sperm? What is its significance? 2

4) Failureoffertilisationleadstomenstruation.Explain. 2

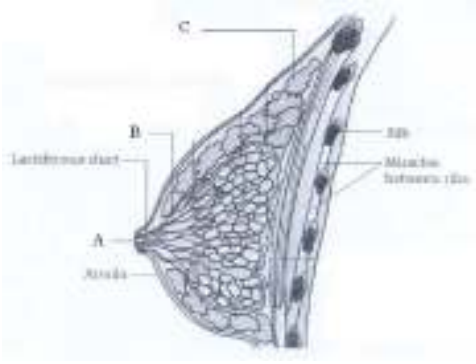
3 marks

1)Howdoestheovumensurethatonlyonespermfertilizesit? 3

2) Name the part of the female reproductive system where the embryo is implanted. Mention the type of tissue by which it is made up of and give their functions? 3

3) What is the fate of inner cell mass in the blastocyst? Mention their significance. 3

4) Labela,b,cinthefollowingdiagram. 3



5 marks

1) Give the term/reason 5

a) Mechanism responsible forparturition.

b) Roleofoxytocinduringexpulsionofthebabyoutofuterus

c) Whydoeszonapellucidalayerblocktheentryofadditionalsperms?

d) Sperm cannot reach ovum without seminalplasma.

e) Allcopulationsdonotleadtofertilizationandpregnancy.

2. Women are often blamed for giving birth to girl child in our society. Whatis yourview? 5

3. Furnishthetechnicaltermforthefollowing: 5

a) Cushion of fatty tissue covered by skin and pubic hair in female external genitalia.

b) Thefingerlikeprojectionswhichcollectovumafterovulation

c) The middle thick layer/wall ofuterus

d) Semen without sperm

e) The finger-like projections appearing on the trophoblast after implantation.

Chapter- 4

REPRODUCTIVE HEALTH

tMARK

1. A large number of couples are said to be infertile. The couples could be assisted to have children through certain special techniques. Name the techniques.
2. At what stage Zygote can be introduced in the fallopian tube in Zygote Intra Fallopian Transfer(Z.I.F.T)?
3. A woman's husband is infertile. So the lady has decided to have baby by taking sperms from sperm bank. Which technique will you suggest for her pregnancy?
4. A newly married couple does not want to produce children at least for one year and also not to use any contraceptives. Suggest a method to prevent pregnancy.
5. A doctor has been observed the chromosomal disorders in developing foetus and advised the couple to undergo abortion. suggest the technique by which doctorabsorbedthechromosomaldisorders.
6. Whatprecautionsaladycantaketopreventunwantedpregnancy?

   i) Name thebarrier

   ii) Mention the composition ofit.

2 marks

1.Duringlactationchancesofconceptionarealmostzero. +=2

(i) Give thereason

(ii) Give the term used to describe thephenomenon.

2.FollowingtablegivescertaintermsassociatedwithARTS ½+½+½+½

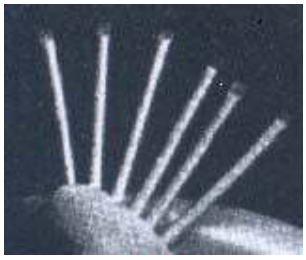
Fill in the spaces a,b,c and d.

S.NO	COLUMN I	COLUMN II
	IVF and ET	A
2	b	Introduction of Zygote or embryo with 8 blastomers Into Fallopian tube.
3	c	Introduction of ova ofa donor into Fallopian tube.
4	I.U.T.	D

3.A barrier method prevents conception is said to be, user friendly, easily available andpreventSTD's. +

3 marks

.(a)Identifythegivendiagram.Whatitisusedfor? 3



Chapter 5. PRINCIPLES OF INHERITANCE AND VARIATION

) The following table shows the genotypes for ABO blood grouping and their phenotypes .

Fillinthegapsleftinthetable.. 2

S.NO	Genotype	Blood Group
1	I^A I^A	A
2		A
3	I^B I^B	B
4		B
5	I^A I^B	
6		O

2)A homozygous green seeded plant is crossed with yellow seeded plant. The progenyobtainedwashalfyellowseededandhalfgreenseeded. 2

i)Writethegenotypeofyellowseededprogeny. ii)Write

the technical name of thecross.

3 MARKS

) In the following pedigree chart, state if the trait is autosomal dominant, autosomalrecessiveorsexlinked.Giveareasonforyouranswer 3

2) A man with blood group A married a woman with B group, they have a son with AB blood group and a daughter with blood group O, work out the possibilityofinheritancewiththehelpofaPunnetsquare. 3

3) Inahybridcrossthefollowingrecombinationfrequenciesareobserved,i.e.

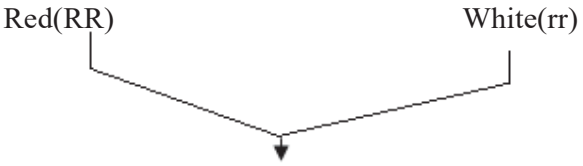
0%, 22% and 6%ofrecombinants. 3

i) How is this recombinant percentage related to the loci of the gene responsible forrecombinants.

ii) Which phenomenon is associated withthis?

5MARKS

) Two plants (snapdragon) with red flowers and white flowers are crossed and the following resultsareshown: 5



F generation: All pink flowers

i) What phenomenon is shown in Fgeneration?

ii) Write the genotype of F and phenotype of F_2generation.

iii) What is the phenotypic and genotypic ratio of the F_2generation?

With the help of a punnet square illustrate theresul