JUNE (Week-4)

Subject : Physics

Assignment 1

CHAPTER-2

Electric Potential and Capacitance

Q.1 Two large thin metallic plates are placed close to each other. The plates have surface charge densities of opposite signs and of magnitude
calculate the electric field intensity (a) in the outer region of the plates (b) in the interior region between the plates.

Q.2 Two uniformly large parallel thin plates having charge densities + and - are kept in the X-Z plane at a distance d apart sketch an equipotential surface due to electric field between the plates. If a particle of mass m and charge –q remains stationary between the plates what is the magnitude and direction of this field?

Q.3 The electric field components in the figure are calculate (i) the flux through the cube (ii) the charge within the cube take a=0.1 m.

Q.4 An early model for an atom considered to have a positively charged point nucleus of charge +ze, surrounded by a uniform density of negative charge upto a radius R. the atom as a whole is neutral. For this model, what is the electric field at a distance r from nucleus when (a) r>R (b) r<R.

Q.5 An electric dipole is held in a uniform electric field E.

(a) Show that the net force acting on it is zero.

(b) The dipole is aligned parallel to the electric field. Find the work done in rotating it through the angle of 180°.

JUNE (Week-4)

Subject : Physics

Assignment 2

CHAPTER-2

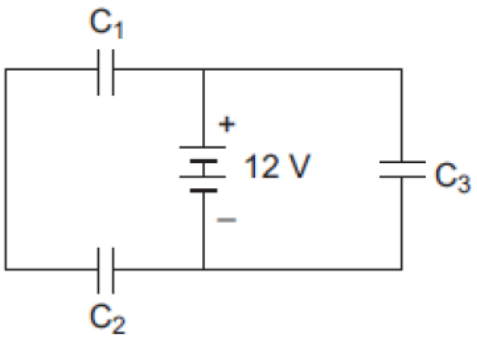
Electric Potential and Capacitance

Q.1 Two charges -q and + q are located at points A(0, 0, - a) and B(0, 0, + a) respectively.
How much work is done in moving a test charge from point P(7, 0, 0) to Q (-3, 0, 0)?

Q.2 The equivalent capacitance of the combination between A and B in the given figure is 4 μF . (i) Calculate capacitance of the capacitor C.
(ii) Calculate charge on each capacitor if a 12 V battery is connected across terminals A and B.

(iii) What will be the potential drop across each capacitor?

Q.3 Three identical capacitors C1 , C2 and C3 of capacitance 6 μF each are connected to a 12 V battery as shown.
Find:
(i) charge on each capacitor
(ii) equivalent capacitance of the network
(iii) energy stored in the network of capacitors



Q.4 A 800 pF capacitor is charged by a 100 V battery. After some time the battery is disconnected. The capacitor is then connected to another 800 pF capacitor. What is the electrostatic energy stored?

Q.5 A capacitor of unknown capacitance is connected across a battery of V volts. The charge stored in it is 360 μC. When potential across the capacitor is reduced by 120 V, the charge stored in it becomes 120 μC.
Calculate:
(i) The potential V and the unknown capacitance C.
(ii) What will be the charge stored in the capacitor, if the voltage applied had increased by 120 V?

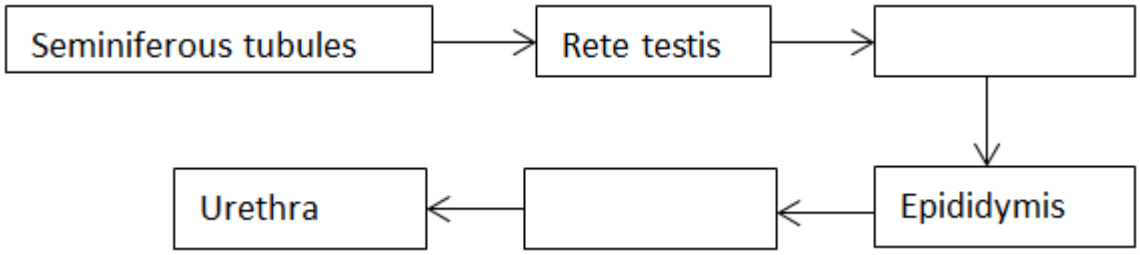
SANT NIRANKARI PUBLIC SCHOOL

WORKSHEET [june]

CLASS XII BIOLOGY [HUMAN REPRODUCTION]

Q.1. List the following events observed in human reproduction in chronological order. Fertilization, gametogenesis, insemination, gestation, parturition, implantation.

Q.2. Fill in the missing boxes exhibiting the route of sperm transport.



Q.3. State the significance of cervix in the female reproductive system.

Q.4. What is the reason for the absence of menstrual cycles during conception or pregnancy?

Q.5. Fill up the missing data in the table where Column A shows female reproductive organs and Column B shows its respective functions.

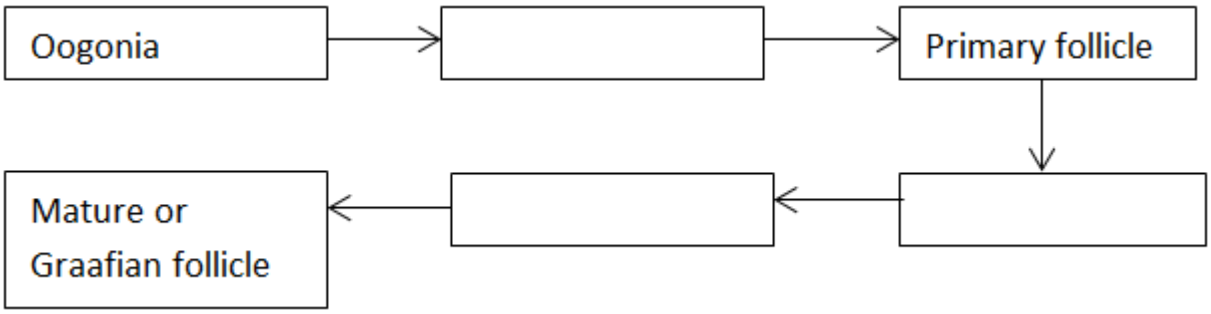
Column A (Organs)	**Column B (Corresponding Functions)**
Ovaries	Ovulation
Oviduct	
	Pregnancy
Vagina	Birth
Vagina	Birth

Q.6. Name the hormone crucial in parturition. Does the parturition signal originate from the mother or the fetus?

Q.7. State the role of the epididymis in male fertility.

Q.8. List the names of the hormones, endocrine glands along with functions of the hormones that are crucial in causing spermatogenesis.

Q.9. Fill in the missing boxes for the levels in the transformation of mother germ cells into a mature follicle.



Q.10. What are the events that cause the chromosome number of gametes to go from 2n, n, and again back to 2n during reproduction?

Q.11. How is a primary oocyte different from a secondary oocyte

Q.12. State the role of the ampullary-isthmic junction in the female reproductive tract.

Q.13. How is polyspermy checked by the zona pellucida of the ovum?

Q.14. What is the significance of LH surge through the menstrual cycle?

Q.15. During which stage of cell division are spermatids formed from the secondary spermatocytes?

SANT NIRANKARI PUBLIC SCHOOL

WORKSHEET [june]

CLASS XII BIOLOGY [HUMAN REPRODUCTION]

Q.1. State the significance of the following stages during the lifetime of a female.

1. **Menarche**
2. **Menopaus**

Q.2.a. How many spermatozoa does one secondary spermatocyte produce?

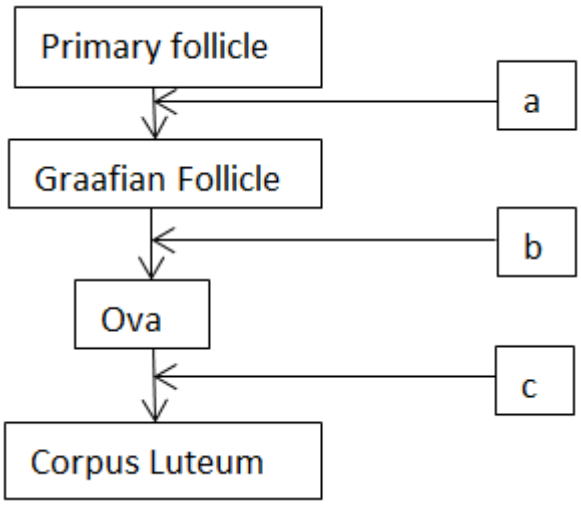
b. Where in zygote does the first cleavage division occur?
Q.3. Why does corpus luteum stay active throughout pregnancy and in the absence of fertilization, is active only for 10-12 days?
Q.4. What is foetal ejection reflex? How does it cause parturition?

Q.5. What are the functions of placenta other than its endocrine function?

Q.6. Why is breastfeeding recommended during the initial stages of infant growth?

Q.7. What are the different stages of the follicular phase of the menstrual cycle taking place in ovary and uterus?

Q.8. Mention the names of the hormones responsible for ovarian changes during the menstrual cycle in the boxes provided.



Q.9. Draw a schematic diagram depicting oogenesis. (Label without description
Q.10. Mention the changes taking place during the transition of a primary follicle to Graafian follicle in the oogonia.

Q.11 Define Parturition And Fertilization.

Q.12. Write the main functions each of testis and ovary?

Sant Nirankari Public School
Nirankari Colony
Class xii
Assignment- 1 (Week 4)
Subject: Computer
Topic: Functions

Q-1 Write statement to call the

functiondef add(x,y)

z=x+y

retur

n z

---

print("Total="C)

Q-2 Write a function definition EvenSum(numbers) to add those values in the list of numbers, which are odd.

Q-3

. Which Line Number Code will never execute and why?

```
def Check(num):              #Line 1
    if num%2==0:             #Line 2
        print("Hello")       #Line 3
       return True           #Line 4
       print("Bye")          #Line 5
    else:                    #Line 6
        return False         #Line 7
C=Check(20)
print(C)
```

Q-4

. Write definition of a method/function TenTimesEven(VALUES) to add and display the sum of ten times of the even values present in the list of VALUES .

For example,

If the Nums contain [5,2,3,6,3,4]

The method/function should display

Sum of Ten times of Even Numbers: 120

(i.e. 2x10 + 6x10 + 4x10)

Sant Nirankari Public School
Nirankari Colony
Class xii
Assignment- 2 (Week 4)
Subject: Computer
Topic: Modules

1. Which of these definitions correctly describes a module?

a) Denoted by triple quotes for providing the specification of certain program elements
b) Design and implementation of specific functionality to be incorporated into a program
c) Defines the specification of how it is to be used
d) Any program that reuses code

2. Which of the following is not an advantage of using modules?

a) Provides a means of reuse of program code
b) Provides a means of dividing up tasks
c) Provides a means of reducing the size of the program
d) Provides a means of testing individual parts of the program

3. Program code making use of a given module is called a _____ of the module.

a) Client b) Docstring

c)Interface d) Modularity

4. Which of the following is not a valid namespace?

a) Global namespace b) Public namespace

c)Built-in namespace d) Local namespace

5. What is the order of namespaces in which Python looks for an identifier?

a) Python first searches the global namespace, then the local namespace and finally the built-in namespace

b) Python first searches the local namespace, then the global namespace and finally the built-in namespace

c) Python first searches the built-in namespace, then the global namespace and finally the local namespace

d) Python first searches the built-in namespace, then the local namespace and finally the global namespace

6. The output of the snippet of code shown below is:

```
import datetime
d=datetime.date(2016,7,24)
print(d)
```

a) Error b) 2017-07-24 c) 2017-7-24 d) 24-7-2017

7. What is the output of the code shown below if the system date is 18th August, 2020? (d)

```
tday=datetime.date.today()
print(tday.month())
```

a) August b) Aug c) 08 d) 8

ENGLISH

ASSIGNMENTS 4TH WEEK

Assignment 1

VISTAS CH 2- THE TIGER KING

1. Who is the Tiger King? Why does he get that name?
2. What did the royal infant grow up to be?
3. What did the astrologer predict when the tiger king was born? What was the miracle that occurred 10 days after the birth of the tiger king?
4. What warning did the astrologer give the Tiger King when he killed the first tiger? Did the predictions of the astrologer came to pass?
5. What danger did the Tiger King face while hunting tigers?
6. What did the British officer's secretary tell the Maharaja? Why did the maharaja refuse permission?
7. Why was the Tiger King in danger of losing his throne?
8. How did the Tiger King retain or save his kingdom?

9. What hurdle did the Tiger King face in his mission to kill a hundred tigers?
10. How did the Tiger King make up the shortfall of tigers in his kingdom?
11. What was the fate of the Hundredth Tiger?

Assignment 2

FORMAL AND INFORMAL INVITATIONS

1. As the principal , Green Vallley Public, Hyderabad, design an invitation card to invite parents, guests and other invitees to the 25th Founder's Day Celebration at 4pm on Saturday 10th October, 20xx in the School Auditorium
2. You are Suraj Dwivedi, Your brother Manav from Mumbai is staying in a paying guest accommodation. Invite him to join Diwali celebrations with you a your residence.
3. You are Pankaj Gupta and have received an invitation card from shri A.K.Sinha, Principal of St.Xavier's School, Dehradun to attend the school's Annual function. Draft a formal reply of acceptance.
4. You are Anshika Kapoor, 646, Defence Colony, New Delhi and have received an invitation from the Secretary, Bharat Vikas Parishad to attend a function on 15th July,20xx. Draft a formal reply of refusal in not more than 5o words.
5. You have received an invitation to attend the prize giving ceremony on the occasion of the Regional social Science Exhibition. Write a letter to the Secretary, of "The World View"(the organizer of the exhibition)informing him about your inability to attend.

Sant Nirankari Public School
Nirankari Colony
Class xii
Assignment- 1 (Week 4)
Subject: MATHEMATICS
Topic: MATRICES

1. $Construct\ \ a_{2X2}\ matrix\ where\ \ (1)\ a_{2X2} = \frac{(i-2j)^2}{2}\ \ \ (2)\ a_{2X2} = |-2i+3|$
2. $Find\ the\ value\ of\ x\ [x\ \ 1]\begin{bmatrix}1 & 3 & 2\\ 2 & 5 & 1\\ 15 & 3 & 2\end{bmatrix}\begin{bmatrix}1\\ 2\\ x\end{bmatrix} = 0$
3. $Show\ that\ A = \begin{bmatrix}5 & 3\\ -1 & -2\end{bmatrix}\ satisfy\ the\ equation\ A^2 - 3A - 7I = 0\ and\ hence\ find\ the\ value\ of\ A^{-1}$
4. $Fiind\ A\ if\ \begin{bmatrix}4\\ 1\\ 3\end{bmatrix}A = \begin{bmatrix}-4 & 8 & 4\\ -1 & 2 & 1\\ -3 & 6 & 3\end{bmatrix}$
5. Show by example that $A\ \neq 0, B \neq 0\ and\ AB = 0$

6. $If\ \ A = \begin{bmatrix} 2 & 4 & 0 \\ 3 & 6 & 9 \end{bmatrix}\ and\ B = \begin{bmatrix} 1 & 4 \\ 2 & 8 \\ 1 & 3 \end{bmatrix}\ is\ (AB)' = B'A'$

Sant Nirankari Public School
Nirankari Colony
Class xii
Assignment- 2 (Week 4)
Subject: MATHEMATICS
Topic: MATRICES

1. $\boldsymbol{By\ elementary\ transformation\ find\ the\ value\ of\ A^{-1}}$

$(1)\begin{bmatrix} 1 & 3 \\ -5 & 7 \end{bmatrix}$ $(2)\begin{bmatrix} 1 & -3 \\ 2 & 6 \end{bmatrix}$

2 $\boldsymbol{.If\ A = \begin{bmatrix} 3 & -5 \\ -4 & 2 \end{bmatrix}\ then\ find\ A^2 - 5A - 14I\ \ hence\ find\ A^3}$

3 $\boldsymbol{If\ A = \begin{bmatrix} 1 & 2 \\ 4 & 1 \end{bmatrix}\ then\ find\ A^2 + 5A + 7I}$

4 $\boldsymbol{If\ possible\ using\ elementary\ \ transformation\ find\ the\ inverse\ of\ the\ folloing\ matrix}\ (1)\begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$

$(2)\begin{bmatrix} 2 & 3 & -3 \\ -1 & -2 & 2 \\ 1 & 1 & -1 \end{bmatrix}$ $(3)\begin{bmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{bmatrix}$

6. $\boldsymbol{Express\ the\ matrix \begin{bmatrix} 2 & 3 & 1 \\ 1 & -1 & 2 \\ 4 & 1 & 2 \end{bmatrix}\ as\ the\ sum\ of\ symmetric\ and\ skew\ symmetric}$ **Matrix**

7. $\boldsymbol{If\ matrix \begin{bmatrix} 0 & a & 3 \\ 2 & b & -1 \\ c & 1 & 0 \end{bmatrix}\ is\ a\ skew\ symmetric\ matrix\ then\ find\ the\ value\ of\ a, b, c}$

SANT NIRANKARI PUBLIC SCHOOL

SUBJECT – CHEMISTRY

CLASS – XII ASSIGNMENT – 3

1. Define the term specific resistance and give its SI unit.
2. State kohlrausch's Law?
3. Give the reaction taking place in lead storage battery when it is on charging?
4. What are fuel cells?
5. Depict the galvanic cell in which the reaction takes place. Further show: (i) Which of the electrode is negatively charged? (ii) The carriers of the current in the cell. (iii) Individual reaction at each electrode.

SANT NIRANKARI PUBLIC SCHOOL

SUBJECT – CHEMISTRY

CLASS – XII ASSIGNMENT -4

1. Define the term – standard electrode potential?

2. What is electromotive force of a cell?
3. Single electrode potential cannot be determined. Why?
4. What is SHE? What is its electrode potential?
5. What is an electrochemical series? How does it predict the feasibility of a certain redox reaction?
6. Write Nernst equation for a Daniel cell?
7. How is standard electrode potential of a cell related to :-
   (1) Equilibrium constant?
   (2) Gibbs free energy change.

SANT NIRANKARI PUBLIC SCHOOL -9

SESSION [2021-22] JUNE

PHYSICAL EDUCATION {SPORTS AND NUTRITION)

Class -12TH

JUNE WEEK-4(ASSINGMENT -1)

1.What do you mean by micro nutrients.

Q.2. what do you understand by dieting

Q.3. What is BMI,how do we calculate this

Q.4 what do you mean by healthy weight

Q.5 what is food intolerance

JUNE WEEK-4(ASSINGMENT -2)

Q.1 Define balance diet and mention the elements diet.

Q.2 Write down three objectives of Intramurals.?

Q.3.Explain any five sources each of vitamins and iron

4. Diet for sports persons is very important. What should be the aim of proactive

5. Diet for sports persons.

SANT NIRANKARI SCHOOL NIRANKARI COLONY

CHAPTER 4- CALCULATION OF NATIONAL INCOME

WORKSHEET – 5

Q.1. Calculate NDP at market price of a firm:

ITEMS	AMOUNT (IN LAKHS)
i. Interest received by the households	
600 ii. Consumption of fixed capital	
800 iii. Rent and Royalty	
700 iv. Net factor income from abroad	
100 v. Net indirect tax	
850 vi. Profit	
1,200	
vii. Social security contribution by employees	700
viii. Mixed income of self-employed	8,000 ix. Wages
and salaries	5,000 x.
Dividend	400

(Ans. 16350)

Q.2. Calculate Compensation of employees :

ITEMS	AMOUNT (IN CRORES)
i. Rent 20 ii. Interest 35 iii. Profits 15	
iv. Gross domestic product at factor cost	
250 v. Consumption of fixed capital	
60	

(Ans. 120 crores)

Q.3. Calculate (A) GDP at market price and (B) Factor income from abroad

ITEMS	AMOUNT IN CRORES
i. Gross national product at factor cost	6,150
ii. Net exports	(-)50
iii. Compensation of employees	3,000 iv. Rent
	800 v. Interest
	900 vi. Profit
	1,300 vii. Net indirect taxes
	300 viii. Net domestic capital formation
	800 ix. Gross fixed capital formation
	850 x. Change in stocks
	50 xi. Dividend
	300

xii. Factor income to abroad 80

(Ans. 130)

Q.4. Calculate (a) NNP at factor cost and (b) GDP at market prices

	ITEMS	AMOUNT IN CRORES
i.	Net indirect taxes	
38 ii.	Consumption of fixed capital	
34 iii.	Net factor income from abroad	(-) 3
iv.	Rent	
10 v.	Profits	25 vi.
Interest		20 vii.
Royalty		5 viii.
Wages and salaries		170 ix.
Employers contribution to social security schemes		30 (Ans.

257 crores and 332 crores)

SANT NIRANKARI SCHOOL NIRANKARI COLONY

CHAPTER 4- CALCULATION OF NATIONAL INCOME

WORKSHEET – 6

Q.1. From the following data, calculate 'NNP at MP' by a) Expenditure method B) Income method :

	ITEMS	(Rs. In crores)
i.	Personal consumption expenditure	
700 ii.	Wages and salaries	
700 iii.	Employers' contribution to social security schemes	
100 iv.	Gross business fixed investment	
60 v.	Gross residential construction investment	
60 vi.	Gross public investment	
40 vii.	Inventory investment	
20 viii.	Profit	
100 ix.	Government purchases of goods & services	
200 x.	Rent	
50 xi.	Exports	
40 xii.	Imports	
20 xiii.	Interest	
40 xiv.	Mixed income of the self-employed	
100 xv.	Net factor income from abroad	
(-) 10 xvi.	Depreciation	
0 xvii.	Indirect taxes	
20 xviii.	Subsidies	

(Ans. 1090)

Q.2. Given the following data, find the missing value of '**Govt. Final Consumption Expenditure**' and **'Mixed Income Of Self Employed'**

	ITEMS	(Amount in crores)
(i)	National income	71,000
(ii)	Gross Domestic Capital Formation	10,000
(iii)	Government final Capital Expenditure	?
(iv)	Mixed Income of Self-employed	?
(v)	Net Factor Income from Abroad	1,000
(vi)	Net Indirect taxes	2,000
(vii)	Profits	1,200
(viii)	Wages and Salaries	18,000
(ix)	Net Exports	5,000
(x)	Private Final Consumption Expenditure	40,000
(xi)	Consumption of Fixed Capital	3,000
(xii)	Operating Surplus	30,000

(Ans. 25,000, 20,000)

Q.3. Given the following data, find the missing value of 'Private Final Consumption Expenditure' and 'Operating Surplus':

	ITEMS	AMOUNT IN CRORES
i.	National income	50000
ii.	Net Indirect tax	1000
iii.	Private final consumption exp.	?
iv.	Gross domestic capital formation	17000
v.	Profits	1000
vi.	Govt. final consumption expenditure	12500
vii.	Wages and Salaries	20000
viii.	Dep.	700
ix.	Mixed income of self employed	13000
x.	Operating surplus	?
xi.	Net factor income from abroad	500
xii.	Ne exports	2000

(Ans. 19,700 and 16,500 crores)

Q.4. Calculate GNP at factor cost by income method and expenditure method from the following data:

	ITEMS	AMOUNT IN CRORE
i.	Factor income from abroad	10
ii.	Compensation of employees	150
iii.	Net domestic capital formation	50
iv.	Private final consumption expenditure	220
v.	Factor income to abroad	15
vi.	Change in stock	15
vii.	Employer's contribution to social security schemes	10
viii.	Consumption of fixed capital	15
ix.	Interest	40
x.	Exports	20
xi.	Imports	25

xii.	Indirect taxes	30
xiii.	Subsidies	10
xiv.	Rent	40
xv.	Government final consumption expenditure	85
xvi.	Net current transfers from abroad	(-) 80

xvii. Profits 100 xviii. Dividend 40

(Ans. 340 crores)

Q.5 Calculate from the following data, net national product at market price (a) income method (b) expenditure method:

ITEMS	AMOUNT IN CRORES
i. Compensation of employees	1,200
ii. Mixed income	800
iii. Gross fixed capital formation	430
iv. Consumption of fixed capital	30
v. Employers contribution to social schemes	100
vi. Operating surplus	1,000
vii. Net capital formation	450
viii. Exports	10
ix. Imports	40
x. Indirect taxes	140
xi. Subsidies	20
xii. Private final consumption expenditure	2,100
xiii. Govt. final consumption expenditure	600
xiv. Purchase by non-residential households in the domestic market	50
xv. Net factor income to abroad	20

(Ans. 3,100 crores)