

DAV PUBLIC SCHOOL, CHANDRASEKHARPUR, BHUBANESWAR-21
HOLIDAY HOMEWORK
For Class – XII (English)

Long Questions (100-120 words each)

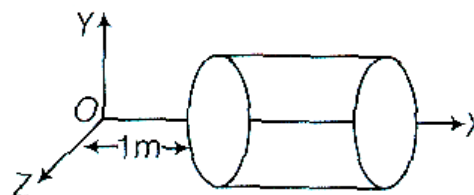
1. Sketch the character of M Hamel from *The Last Lesson*.
2. What changes did the order from Berlin bring to the feelings of the people () in the classroom?
3. Which qualities does Anees Jung want the children to develop in *Lost Spring* and why?
4. Discuss the steps that need to be taken to properly educate children in schools in slum area and stop social injustice against them.
5. List out the dramatic ironies employed by Kalki in *The Tiger King* and discuss them.
6. Discuss the moral dilemma faced by Dr Sadao in saving the life of wounded American soldier and how was it solved.
7. Discuss the suspicious behavior of the strange man in *Coach and Horses* with examples from the text.

CLASS-XII- PHYSICS
HOLIDAY ASSIGNMENT
ELECTROSTATICS

- Why do the electrostatic field lines not form the closed loops ? **(Delhi-2015)**
- What is the electric flux through a cube of side 1cm which encloses an electric dipole ? **(All India-2015)**
- Two equal balls having equal positive charge q coulombs are suspended by two insulating strings of equal length. What would be the effect on the force when a plastic sheet is inserted between the two ? **(All India-2014)**
- Why do the electric field lines never cross each other ? **(All India-2014)**
- Two charges of magnitudes $-2Q$ and $+Q$ are located at points $(a,0)$ and $(4a,0)$ respectively. What is the electric flux due to these charges through a sphere of radius $3a$ with its centre at the origin ? **(All India-2013)**
- Distinguish between a dielectric and a conductor **(All India-2012)**
- A charge q is placed at the centre of a cube. What is the electric flux passing through a single face to the cube? **(All India-2012)**
- An electric dipole of length 4cm, when placed with its axis making an angle of 60° with a uniform electric field, experiences a torque of $4\sqrt{3}\text{ N-m}$. Calculate the potential energy of the dipole, if it has charge $\pm 8\text{ nC}$ **(Delhi-2014)**
- Given a uniform electric field $\mathbf{E} = 5 \times 10^3 \hat{i} \text{ N/C}$, find the flux of this field through a square of 10 cm on a side whose plane is parallel to the XZ-plane. What would be the flux through the same square, if the plane makes an angle of 30° with the X-axis ? **(Delhi-2014)**
- An electric dipole is held in a uniform electric field **(All India-2012)**
 - Show that the net force facing on it is zero
 - The dipole is aligned parallel to the field. Find the work done in rotating it through the angle of 180°
- A hollow cylindrical box of length 1m and area of cross-section 25 cm^2 is placed in a three dimensional coordinate system as shown in the figure. The electric field in the region is given by $\mathbf{E} = 50 \times \hat{i}$, where E is in NC^{-1} and x is in metre. Find

(Delhi-2014)

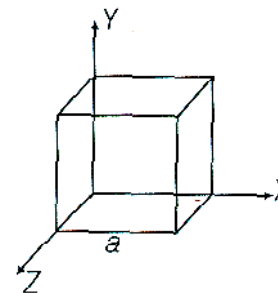
- Net flux through the cylinder
 - Charge enclosed by the cylinder
- (i) Define electric flux. Write its SI unit. Gauss' law in electrostatics is true for any closed surface, on matter what its shape of size is. Justify the statement with the help of a suitable example. **(Delhi-2015)**



- Use Gauss' law to prove that the electric field inside a uniformly charged spherical shell is zero.

- An electric dipole of dipole moment p consists of point charges $+q$ and $-q$ separated by a distance $2a$ apart. Deduce the expression for the electric field E due to the dipole at a distance x from the centre of the dipole on its axial line in terms of the dipole moment P . Hence, show that in the limit $x \gg a, E \rightarrow 2p / (4\pi\epsilon_0 x^3)$

- Given the electric field in the region $\mathbf{E} = 2 \times \hat{i}$, find the net electric flux through the cube and the charge enclosed by it.



14. Using Gauss' law, deduce the expression for the electric field due to a uniformly charged spherical conducting shell of radius R at a point (i) outside and (ii) inside the shell. Plot a graph showing variation of electric field as a function of $r > R$ and $r < R$ (r being the distance from the centre of the shell) **(All India-2013)**

15. (i) Define electric flux. Write its SI units. **(Delhi-2012)**

(ii) Using Gauss' law, prove that the electric field at a point due to a uniformly charged infinite plane sheet is independent of the distance from it.

(iii) How is the field directed if (a) the sheet is positively charged, (b) negatively charged ?

16. For any charge configuration, equipotential surface through a point is normal to the electric field. Justify your answer **(Delhi-2014)**

17. Two charges $2\mu\text{C}$ and $-2\mu\text{C}$ are placed at points A and B, 5cm apart. Depict an equipotential surface of the system **(Delhi-2013)**

18. A capacitor has been charged by a DC source. What are the magnitude of conduction and displacement current, when it is fully charged ? **(Delhi-2013)**

19. What is the geometrical shape of equipotential surfaces due to a single isolated charge ?

20. Why is electrostatic potential constant throughout the volume of the conductor and has the same value as on its surface? **(Delhi-2012)**

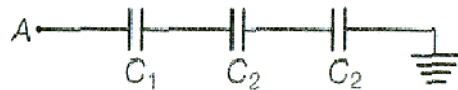
21. A parallel plate capacitor of capacitance C is charged to a potential V. It is then connected to another uncharged capacitor having the same capacitance. Find out the ratio of the energy stored in the combined system to that stored initially in the single capacitor **(Delhi-2014)**

22. An electric dipole of length 4cm, when placed with its axis making an angle of 60° with a uniform electric field, experiences a torque of $4\sqrt{3}$ N-m. Calculate the potential energy of the dipole, if it has charge $\pm 8\text{nC}$ **(Delhi-2014)**

23. A capacitor made of two parallel plate each of the plate A and separation d, is being charged by an external sinusoidal time varying source. Show that the displacement current inside the capacitor is the same as the current charging the capacitor. **(Delhi-2013)**

24. Calculate the potential difference and the energy stored in the capacitor C_2 in the circuit shown in the figure. Given potential at A is 90V. $C_1 = 20\mu\text{F}$, $C_2 = 30\mu\text{F}$, $C_3 = 15\mu\text{F}$

(Delhi-2015)



25. Two capacitors of unknown capacitances C_1 and C_2 are connected first in series and then in parallel across a battery of 100V. If the energy stored in the two combinations is 0.045 J and 0.25J respectively, then determine the value of C_1 and C_2 . Also, calculate the charge of each capacitor in parallel combination **(All India-2015)**

26. (i) Explain, using suitable diagram, the difference in the behavior of a **(All India-2015)**

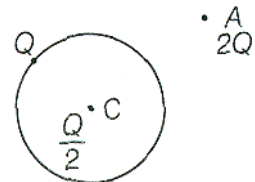
(a) Conductor and

(ii) Dielectric in the presence of external electric field. Define the terms polarization of a dielectric and write its relation with susceptibility. A thin metallic spherical shell of radius R carries a charge Q on its surface. A point

charge $\frac{Q}{2}$ is placed at its centre C and another charge $+2Q$ is placed outside the shell at a distance x from the centre as shown in the figure. Find (a) the force on the charge at the centre of shell and at the point A, (b) the electric flux through the shell

27. (i) Derive the expression for the energy stored in parallel plate capacitor. Hence, obtain the expression for the energy density of the electric field.

(ii) A fully charged parallel plate capacitor is connected across an uncharged identical capacitor. Show that the energy stored in the combination is less than stored initially in the single capacitor **(Delhi-2015)**



28. Calculate the work done to bring an electron from infinite to a point which is located at a distance r from an infinite thin charged sheet **(All India-2017)**

HOLIDAY HOME WORK

CLASS – XII (CHEMISTRY)

NCERT EXERCISES OF

1. Chemical Kinetics
2. Haloalkane and Haloarenes
3. Alcohol, Phenol and Ether
4. Assignment – 5 and 6

HOLIDAY HOME WORK

XII MATHEMATICS

NCERT :

Exe : 1.1, Exe : 1.2, Exe : 1.3, Exe : 1.4, Miscellaneous Exercise (Chapter-1),

Exe : 2.1, Exe : 2.2, Miscellaneous Exercise (Chapter-2)

Exe : 3.1, Exe : 3.2, Exe : 3.3, Exe : 3.4, Miscellaneous Exercise (Chapter-3)

Exe : 4.1, Exe : 4.2, Exe : 4.3, Exe : 4.4, Exe : 4.5, Exe : 4.6, Miscellaneous Exercise (Chapter-4)

NCERT Exemplar :

Exe : 1.3, Exe : 2.3, Exe : 3.3, Exe : 4.3

D.A.V. PUBLIC SCHOOL, CHANDRASEKHARPUR, BBSR-21

Holiday assignment

Class XII- Biology

NCERT Questions of

1. Principle of inheritance and variation.
2. Human reproduction.
3. Sexual reproduction in flowering plants.
4. Reproduction in organisms

NCERT Exemplar Questions of

1. Principle of inheritance and variation.
2. Human reproduction.
3. Sexual reproduction in flowering plants.
4. Reproduction in organisms

**D.A.V PUBLIC SCHOOL CHANDRASEKHARPUR.
BHUBANESWAR
HOLIDAY HOME WORK-2018 (P.E)
STD-XII.**

1. What does the word 'tournament' mean?
2. What is knock-out tournament?
3. What do you understand by seeding?
4. What do you mean by a 'bye'?
5. What do you mean by planning?
6. What do you mean by Nutrition?
7. Define balance diet.
8. Enlist the macro nutrients.
9. What do you mean by healthy weight?
10. Explain the importance of fluid intake during competition
11. What do you mean by obesity?
12. What is Asthma
13. What do you mean by Hypertension?
14. What do you mean by Back Pain?

DAV PUBLIC SCHOOL, CHANDRASEKHARPUR, BBSR-21
COMPUTER SCIENCE- STD-XII
HOLIDAY HOMEWORK-2018

1. What is the difference between the constructor function & normal function.
2. What is a constructor. What is its need. Explain with the help of an example.
3. Distinguish between the following two statements.

Time T1 (11, 12, 20);

Time T1 = time (11, 12, 20);

4. Answer the question (i) to (iv) after going through the following class:

```
class Test {
char paper [20];
int Marks;
public :
Test ()          // function 1
{ strcpy ( paper, "Computer");
Marks =0;      }
Test (char p [])// Function 2
{ strcpy (paper,P);
Marks = 0;     }
Test ( int M)    // Function 3
{ strcpy (paper, " Computer"); Marks =M:   }
Test (char p [], int M) // function 4
{ strcpy ( Paper, P);
Marks = M;     }
};
```

- i. Which feature of Object Oriented Programming is demonstrated using Function 1, Function 2, Function 3 and Function 4 in the above class test ?
 - ii. Write statements in C++ that would execute Function 2 and Function 4 of class Test.
 - iii. Name all the functions given in the code.
 - iv. Write statement to execute function 1 and 2
5. Answer the questions (i) and (ii) after going through the following class

```
#include <iostream. h>
#include< string. h>
class retail {
char category [20];
char item [20];
int Qty;
float price;
retail ()          // function 1
{ strcpy (category, "cereal");
strcpy (iteam, "rice");
Qty = 100;
price = 25;      }
public:
void show () // function 2
{ cout << category << "-." << item<< ":" << Qty<< "@" << price<< endl;}    };
void main () {
retail R;          // statement 1
R. show ();        // statement 2      }
};
```

- i. Will statement 1 initialize all the data members for object R with the values given in the function 1 ?
 - ii. What shall be the possible output when the program gets executed? (assuming if required, the suggested correction(s) are made in the program).
6. Given the following class, show how an object called ob that passes the value 100 to a and @ to c would be declared :

```
class sample {
int a;
char c;
```



```
public:
sample (int x, char ch) {
a = x;
c= ch ; };
```

7. Define a class travel plan in C++ with the following descriptions

Private Members

```
plancode                of type long
place                   of type character array (string)
Number_of_travellers   of type integer
Number_of_buses        of type integer
```

Public members :

A constructor to assign initial values of plancode as 1001, place as “ Agra”, Number_of_travellers as 5, Number_of_buses as 1.

A function new plan () which allows user to enter plancode, place and Number_of_travellers.

Also, assign the value of Number_of_buses as per the following conditions

Number_of_travellers	Number_of_buses
Less than 20	1
Equal to or more than 20 and less than 40	2
Equal to 40 or more than 40	3

A function show _ plan () to display the content of all the data members of screen

8. What will be the output of following

```
# include <iostream.h>
class MAIN{ public:
MAIN() { calculate();
cout << “\n”; }
void calculate ()
{ cout<< “\t” << “ calculating\n”; }
void show ()
cout << “ I am displayin “; } };
void main ()
{ MAIN one; }
```

9. Predict the output for the following code:

```
# include <iosteream.h>
class student_rec
{ int M1, M2, M3;
float percentage;
public ;
student_rec()
{ M1=M2=M3=0;
percentage = 0.0; }
void calc_perc (int x, int y, int z)
{ M1 = x; M2=y; M3=z;
percentage = (M1+M2+M3)/3.0;
display_perc();}
void display_perc ()
{ cout << endl<< “ percentage =”<< percentage<<”%”; } };
void main ()
{ student_rec S1;
S1. display_perc();
S1. calc_perc(35, 35, 35);
S1. display_perc(); }
```

10. Write statement to declare and define default constructor with parameters for class rectangle

```
{ int b; int l; };
```

Write the significance of such type of constructor.

DAV PUBLIC SCHOOL, CHANDRASEKHARPUR BBSR-21
CLASS – XII
ECONOMICS ASSIGNMENT -4
THEORY OF DEMAND

1. The price elasticity of demand of good X is double the price elasticity of demand of Good Y. A 10% rise in the price of good Y results in fall in its demand by 60 units. If original demand of commodity Y was 400, calculate percentage rise in quantity demanded of good X when its price falls from Rs. 10 to Rs. 8 per unit.
2. When the price of good changes to Rs. 11 per unit, the consumer's demand falls from 11 units to 7 units. The price elasticity of demand is (-) 1. What was the price before change? Use expenditure approach of price elasticity of demand to answer the question.(CBSE Delhi 2011)
3. A consumer buys a certain quantity of a good at a price of Rs. 10 per unit. When price falls to Rs. 8 per unit, she buys 40% more quantity. Calculate price elasticity of demand.
(CBSE, Foreign 2008)
4. At a price of Rs. 5 per pen, the demand is 40 pens. The elasticity of demand is 0.75 and increase in price is Rs. 1. Calculate the change in quantity of pens demanded.
5. The price elasticity of demand of commodity X is $\frac{1}{2}$ of price elasticity of demand of commodity Y. when price of X falls by 40%, its demand rises by 20 units. Calculate price elasticity of demand of commodity X and Y, if originally 100 units of X were demanded at price of Rs. 5 per unit.
6. If $\frac{\Delta P}{P} = 0.2$ and price elasticity is (-)2, calculate the percentage fall in demand. Also calculate the original expenditure if new expenditure is Rs. 180 at price of Rs.6.
7. A consumer buys 17 units of a good at a price Rs. 10 per unit. When price falls to Rs. 8 per unit the consumer buys 23 units. Using the expenditure approach, what will you say about price elasticity of demand of the good?
(CBSE, Foreign 2011(I))
8. A consumer buys 50 units of a good at the price of Rs. 2 per unit. When the price rises by 25%, demand falls by 40%. Indicate the price elasticity of demand by total expenditure method. (CBSE, All India 2011(III))
9. The price elasticity of demand of a commodity is -0.5. at a price of Rs. 20 per unit, total expenditure on it is Rs.2,000. Its price is reduced by 10 per cent. Calculate its demand at the reduced rate.
(CBSE, Delhi Comptt,2011)
10. A consumer buys 20 units of a good at a price of Rs. 5 per unit. He incurs an expenditure of Rs. 120, when he buys 24 units. Calculate price elasticity of demand using the percentage method. Comment upon the likely shape of demand curve based on this information.

11. Price elasticity of demand of a good is -0.75 . Calculate the percentage fall in its price that will result in 15 per cent rise in its demand.
(CBSE All India 2013(III))
12. Price elasticity of demand for flowers and toys are respectively $(-)$ 0.9 and $(-)$ 0.5 . Demand for which one is more elastic and Why?
(CBSE, Sample Paper 2014)
13. The quantity demanded of a good is 1,500 units at the price of Rs.10 per unit. Its price elasticity of demand is $(-)$ 1.5 . Calculate its quantity demanded, when its price falls to Rs. 8 per unit.
(CBSE, Delhi Comptt.2014)
14. The price elasticity of demand of a good is $(-)$ 0.5 . At a price of Rs. 20 per unit its demand is 300 units. At what price will its demand increase by 10 percent?
15. A consumer spends Rs.1000 on a good priced at Rs. 8 per unit. When price rises by 25 per cent, the consumer continues to spend Rs. 1,000 on the good. Calculate price elasticity of demand by percentages method.
16. A consumer buys 8 units of a good at a price Rs. 7 per unit. When price rises to Rs.8 per units. Calculate price elasticity of demand through expenditure method. Comment on the shape of demand curve based on this information
(All India 2012)
17. A consumer buys 10 units of a commodity at a price of Rs.10 per unit. He incurs an expenditure of Rs. 200 on buying 20 units. Calculate price elasticity of demand by percentage method. Comment on the shape of demand curve based on this information.
18. 8 units of a good are demanded at a price of Rs.7 per unit. Price elasticity of demand is (-1) . How many units will be demanded if the price rises to Rs. 8 per unit? Use expenditure approach of price elasticity of demand to answer this question.
19. Quantity demanded of a commodity rises by 6 units, when its price falls by Rs.1 per unit. Its price elasticity of demand is -1 . If the price before the change was Rs.20 per unit, calculate quantity demanded at this price.
20. A 5% fall in price of a good leads to 10% rise in its demand. A consumer buys 40 units of a good at a price of Rs.10 per unit. How many units will be buy at a price of Rs.12 per unit?
21. Price elasticity of demand of a good is -2 . The consumer buys a certain quantity of this good at a price of Rs. 8 per unit. When the price falls he buys 50% more quantity. What is the new price?
22. A consumer buys 80 units of a good at a price of Rs.5 per unit. Suppose price elasticity of demand is -2 . At what price will be buy 64 units?

HOLIDAY HOME WORK

CLASS –XII (Commerce)

ACCOUNTANCY-

1. Complete all the numerical s & theoretical questions from NCERT text book .
2. Complete the questions given in the scanner s of T.S. grewal
(Chapter- NPO, Partnership Basic Concept, Admission of partner)

BUSINESS STUDIES

1. Answer all the exercise questions from NCERT book of those chapters which were taught in the class.
2. Prepare a project on “ *Application of 14 Principles Of Management* ”.
(with minimum of 20 pages)