**Note :  All Written Assignments & Project Files are to be completed as instructed in Class.**

**English :**

**A.    Answer the following questions in 150 words each :**
1.  What is the theme of the story 'The Last lesson' ?
2.  Character sketch of M. Hamel.
3.  What were the dreams of Sahib and Mukesh ? Were they fulfilled ?
4.  Mention the Hazards of working in the glass bangle industries.
5.  How did Douglas overcome his fear of water ?
6.  Justify the statement 'All we have to fear is fear itself' with context of the story Deep Water.
7.  Justify the metaphor 'The Rat Trap'.
8.  Compare and contrast Edla and her father.
9.  Justify the title 'The Third Level'.
10.  How was the Tiger King in danger of losing his kingdom and how did he save it ?
11.  Bring out the humorous points from the story 'The Tiger King'.
12.  Why is Antartica called end of the world ?
13.  Write a character sketch of Dr. Sadao.
14.  What is the role of General in the story 'The Enemy'.

**B.    Write the following articles in 200 words each :**
1.  Digital India.
2.  Environment Protection.
3.  Brain Drain
4.  Save Girl Educate Girl.

C.    Write five notice on Tour, Declamation, Contest, Tender Notice, Meeting Notice, to Attend a Talk.

**D.    Write five advertisements :**
1.  For sale
2.  To let
3.  Situation Vacant
4.  Situation Wanted
5.  Matrimonial.

**V.    Letter Writing :**
1.  Placing Order
2.  Complaint Letter
3.  Enquiry Letter
4.  Letter for Job
5.  Letter to Editor


**Biology :**

**A.    Prepare a project report discoursed in the class.**
Q.1.   Write complete process from germination of pollen grain till fertilization.
Q2.    Comment on Pollen pistil interaction.
Q3.    What are various out breeding devices.
Q4.    Comment on GIFT and ZIFT.
Q5.    What are the Natural Methods of birth control.
Q6.    Write common characteristics of contraceptives.
Q7.    Why IUD is advantageous Method.

Q8. Write various stages of menstrual cycle and the changes takes place of the ovary, uterus and Hormones.
Q9. Write various stages of development of embryo in plants.
Q10. Comment on Endosperm of coconut.
Q11. A) Write various stages of spermatogenesis.
b) Difference of spermiation and spermiogenesis.
Q12. Write the various steps of jaumention of 8 nocteated embryosac in Angisperm.
Q13. Draw diagram of microsporangium and write function of tapetum and endothesium.
Q14. Define parthenogenesis and partnenocarpy write their differences.
Q15. What is the significance of sporopollenin.
Q16. Write roles of various harmones in male reproductive system.
Q17. How "colostrum' is significant.
Q18. Write complete development from Zygote upto implantation in animals.
Q19. What do mean by polyembryony.
Q20. Write various events of oogenesis.

**Physics :**
1. Find an expression for the lateral displacement suffered by a ray when it passes through a rectangular glass slub.
2. Establish the relation : $\dfrac{n_2}{v} - \dfrac{n_1}{u} = \dfrac{n_2 - n_1}{r}$

   For refraction at a spherical surface.
3. Explain the formation of a mirage with a neat diagram.
4. Explain the phenomenon of total internal Reflection. What conditions are necessary for this phenomenon ? Explain the meaning of critical angle.
5. Draw a ray diagram to show the formation of the image of an object placed between the optical centre and the focus of a convex lens. Deduce the relation between the object distance, the image distance and the focal length of the lens under consideration.
6. Draw a ray diagram to show the formation of the image of an object placed between f and 2f of a concave lens. Deduce the relation between the object distance, the image distance and the focal length of the lens under consideration.
7. Explain with the help of diagram, how the principal of total internal reflection is used for the transmission of video signals using optical fibres.
8. Derive the lens formula.
9. Derive the lens maker's formula.
10. What is an equivalent lens ? Derive an expression for the equivalent focal length when two coaxial lenses are placed in contact.
11. Derive an expression for the deviation suffered by a ray when it passes through a lens.
12. Derive an expression for the equivalent focal length when two coaxial lenses are separated by a distance.
13. Find an expression for the position of the equivalent lens when two coaxial lenses are separated by a distance.
14. With the help of a diagram, explain the work of a simple microscope and find an expression for its magnifying power.
15. With the help of a labeled ray diagram show the image formation by a compound microscope. Derive an expression for its magnifying power.
16. Explain the construction and working of an astronomical telescope. Find an expression for its magnifying power and tube length when the final image is formed at the least distance of district vision.
17. Explain the construction and working of an astronomical telescope. Find an expression for its magnifying power and length when the final image is formed at infinity.

18. In a single slit diffraction pattern, how does the Angular width of the central bright maximum change when (a) the width of the slitt is decreased (b) the distance between the slitt and the screen is increased and (c) light of smaller wavelength is used ? Justify your answer.

19. State three characteristics features which distinguish the interference pattern due to two coherently illuminated sources from that due to diffraction at a single slit.

20. (a) Using Huygens Construction of Secondary wavelets explain how a diffraction pattern is obtained on a screen due to a narrow slit on which a monochromatic beam of light is incident normally.

    (b) Show that the Angular width of the first diffraction fringe is half that of the central fringe.

    (c) Explain why the maxima at $\theta = \left(n + \dfrac{1}{2}\right)\dfrac{d}{a}$ becomes weaker and weaker with increasing n.

21. (a) In young double slit experiment, deduce the conditions for obtaining constructive and destructive interference fringes. Hence deduce the Expression for the Fringe width.

    (b) Show that the Fringe pattern on the screen in actually a superposition of single slit diffraction from each slit.

    (c) What should be the width of each slit to obtain 10 maxima of the double slit pattern within the central maximum of the single slit pattern, for green light of Wavelength 500 nm. If the separation between two slits in 1 mm ?

22. (a) State Hygene's Principal. Using this principle draw a diagram to show how a place wave front incident at the interface of the two media gets repracted when it propagates from a rarer to denser medium. Hence verify snells law of Refraction.

    (b) When monochromatic light travels from a rare to a denser medium. Explain the following, giving reasons :

    (i) Is the frequency of Reflected and Refracted light same as the frequency of incident light ?

    (ii) Does the decrease in speed imply a reduction in the energy carried by light wave ?

23. (a) How does one demonstrate, using a suitable diagram, that unpolarised light when passed through a polaroid gets polarized ?

    (b) A beam of unpolarised light is incident on a glass air interface. Show using a suitable ray diagram that light reflected from the interface is totally polarized when u = tanib. Here u is refractive index and ib us the Breuester Angle.

24. (a) Draw a ray diagram to show refraction of a ray of monoshromatic light passing through a glass prism. Deduce the expression for the refractive index of glass in terms of angle of prism and angle of minimum deviation.

    (b) Explain briefly how the phenomenon of total internal reflection is used in fibre optics.

25. (a) Use the mirror equation to show that an object placed between f and 2f of a concave mirror produces a real image beyond 2f.

    (b) A convex mirror always produces a virtual image independent of the location of the object.

    (c) An object placed between the pole and focus of a concave mirror produces a virtual and inlarged image.

26. Find the position of the image formed of the object O by the lens combination given in the figure.
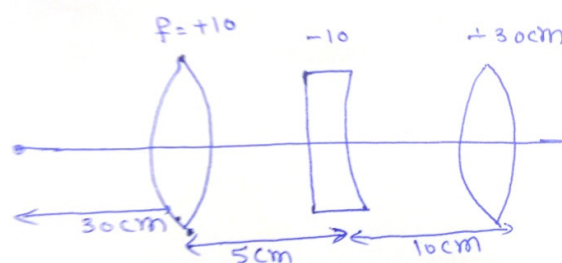
**Arts :**

**Projects :-**

- **All are compulsory**

1) Make one project of Fabric Painting.
2) Decorate one Pot with waste material.
3) Make one P.O.P Mask and decorate with colour or Beads.
4) Make one lamp with any material.
5) Submit one Photograph of Any view or any theme on A4 print.
6) Make ten tattoo designs on A3 sheet.
7) Make two hand of mehandi design on A3 sheet with Black colour.
8) Make one black and white illusion.
9) Make one doodle design on A3 sheet.
10) Make one scroll of 6 Sheets (vertical) (Paper Mural)
11) Make one Poster on (Blood donation) (Education for every one)

**Physical Education**

1. History
2. Latest general rules of Volleyball
3. Important Tournaments
4. Sports Personalities
5. Fundament skills of Volleyball.
6. Proper sports gears and their importance.
7. Specific exercise of warming up and conditioning.
8. Terminology related to Volleyball
9. Common sport injuries and their preventions.
10. Sports award

**Note :  All the work should b done scrapbook with photos.**

**Computer Science:**

1. Prepare an assignment on the following topics in your notebook :
   (i)   Constructor (need and its types (along with c++ codes)
   (ii)  Inheritance (need and its types (along with c++ codes)
2. Prepare a program file on various concepts of C++ i.e. Arrays, Structures, functions, default Arguments, function overloading, class (using access specifies), sql. Etc. (atleast 15 programs)
3. Prepare a Project File on any c++ mini project (i.e. library management system, games, school management system etc).

**Previous Year Questions :**

1. Why is char often treated as integer data type ?
2. What is reference variable ? what is its use ?
3. Consider the following two c++ statements are they equivalent ?
   char grade = 65;   char grade = 'A'
4. What is wrong with the following statement ?
   const int y;
5. How does a pointer variable differ from a simple variable ?
6. State one similarity and difference between break & continue statements ?
7. Is prototyping mandatory in c++ program ? Justify your answer.
8. What are the functions of these header files :
   (i)   iomanip. h  (ii) string. h   (iii) ctype.h   (iv) math.h

9. Distinguish between the following functions :
   (i) islower() and tolower()
   (ii) isupper() and toupper()

10. Encapsulation is one of the major properties of OOP. How is it implemented in c++ ? How are abstraction and encapsulation interrebted.

11. What is a compiler directive ? Why do we need # include in a c++ program ? Name the include file, to which following builtin function belongs to :-
    (a) strcmp()      (b) randomize()      (c) setw()      (d) isalnum()
    (e) sin()         (f) gotoxy()

12. What is the difference between # define and const ? Explain with suitable examples.

13. What is the purpose of using typedef command in c++ ? Explain with example.

14. Briefly describe the importance of iostream.h file.

15. What do you understand by default and constant arguments? Write short note on their usefulness.

16. How are objects implemented in c++ ?

17. How does a class enforce data-hiding, abstraction and encapsulation ?

18. What is the relationship of a class and its objects ? How is memory allocated to a class and its objects.

19. Explain why its almost a bad idea to declare the data members of a class to be public.

20. When you will make a function inline and why ? What are the advantages and disadvantages of inline functions ?

21. What do you understand about a member function ? How does a member function differ from an ordinary function ?

22. Give the output of the following program :-

```
# include < iostream.h >
# include < conio.h >
Void main()
{
clrscr();
char * str = "CALIFORNIA";
(int i = 0; str[i] ! = '\0' ; i++)
{
for (int j = 0; j < = i; j+ +)
cout << str[j] << endl ;
}
}
```

23. What will be the o/p :-

```
# include < iostream.h>
# include < conio.h>
void main()
{
clrscr();
int b= o;
int c [10] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 0}
for (int a = 0; a < 10 ; a ++)
{
If (c[a] % 2) = = 0)
B + = c [a];
}
cout < < "b" < < b;
}
```

24. Select the correct output :-

```
# include < iostream.h>
# include < stdlib.h>
const int LOW = 25;
void main()
{
randomize( );
int POINT = 5, Number ;
for (int I = I; I < 4; I – –)
{
Number = LOW + random (POINT) ;
cout << Number << ":" ;
POINT – – ;
}
}
```

(i)   29 : 26 : 25 : 28 :
(ii)   24 : 28 : 25 : 26 :
(iii)  29 : 26 : 24 : 28 :
(iv)  29 : 26 : 25 : 26 :

25. Study the following program & give the possible outcome for it :

```
# include < iostream.h >
# include < stdlib.h>
void main()
{
int U = 10, V = 20;
for (int I = I; I < = 2; I + +)
{
cout < < " [1]" < < U ++ < < "&" < < V – 5 < < endl;
cout < < " [2]" < < + + V < < " & " < < U + 2 < < endl.;
}
}
```

**Music :**

Definition & Introduction of all the mentioned things.

i)    Varan
ii)   Gram
iii)  Moorchana
iv)  Khatka
v)   Meed