SUMMER ASSIGNMENT(2018-19)
CLASS XII

Subject - BIO

A- Work sheet-

Q-1 What is pollen pistil interaction and how is it mediated?
Q-2 Name the type of pollination in which genetically different types of pollen grains of the same species land on the stigma.
Q-3 Which factors are responsible for reproduction of any organism?
Q-4 The meiocyte of rice has 24 chromosomes. How many chromosomes are present in its endosperm?
Q-5 Why tubectomy is considered a contraceptive method?
Q-6 Name the phenomenon and the cell, responsible for the development of a new individual without fertilization as seen in honeybees.
Q-7 Name the vegetative propagules in the following
a) Agave b) Bryophyllum
Q-8 Mention one application of pollen bank. How are pollens stored in a bank?
Q9 How is the entry of only one sperm and not many ensured in an ovum during fertilization in humans?
Q-10 What measures government has taken to check the population growth rate?
Q-11 What is foetal ejection reflex? Explain how it leads to parturition?
Q-12 Why are mosses and liverworts unable to complete their sexual mode of reproduction in dry condition? Give reason.
Q-13 How do oral contraceptive pills act in a human female? Explain.
Q-14 Some angiosperms seeds are said to be 'albuminous', whereas few others are said to have a perisperm. Explain each with the help of an example.
Q-15 The cell division involved in gamete formation is not of the same type in different organisms.Justify
Q-16 In an angiosperm, the embryo sac is haploid, zygote is diploid and endosperm is triploid. Justify giving reasons for each stages.
Q-17 is the use of contraceptive justified? Give reason.
Q-18 a) Draw a diagram of the structure of a human ovum surrounded by corona radiate. Label the following parts
i)Ovum ii)plasma membrane iii) Zona Pellucida
b) State the function of Zona Pellucida.
Q-19 Describe the hormonal control of spermatogenesis in a human male.
Q-20 Mention any three advantages of seeds to the angiosperm plants.
Q-21 Name the units of vegetative propagation in water hyacinth. Explain giving reason why it has become the most invasive aquatic **weed**.
Q-22 a)Write the characteristic features of pollen and stigma of wind pollinated flower.
b)How do flowers reward their insect pollinators? Explain.
Q-23 a)Mention any four strategies adopted by flowering plants to prevent self pollination.

b) Why is geitonogamy also referred to as genetical autogamy?

Q-24 Draw various stages of development of mature ovule from megaspore mother mother cell.

Q-25 Explain the role of pituitary and ovarian hormones in menstrual cycle in human females.

Q-26 Suggest and explain any three ART to an infertile couple.

Q-27 Give a schematic labeled diagram to represent oogenesis.

Q-28 Give reason why-

i) Most zygotes in angiosperms divide only after certain amount of endosperm is formed.

ii) Groundnut seeds are exalbuminous and castor seeds are albuminous.

iii) Micropyle remains as a small pore in the seed coat of a seed.

iv) Integuments of an ovule harden and the water content is highly reduced, as the seed matures.

v) Apple and cashew are not called true fruits.

Q-29 Describe the development of a megaspore mother cell into a fully developed gametophyte, ready for fertilization. Show diagrammatically the final stage of development.

Q-30 a) Draw a labeled schematic diagram of the transverse section of a mature anther of an angiosperm plant

b) Describe the characteristic features of an insect pollinated flower.

Q-31 a) Describe the events of spermatogenesis with the help of a schematic representation.

b) Write two differences between spermatogenesis and oogenesis

Q-32 Give reason of following-

i) Cells of tapetum have dense cytoplasm and more than one nucleus

ii) Male gametes are produced in large numbers

iii) Pollen grains are well p;reserved as fossils

iv) Pollen tablets are in market.

V)Microspore mother cell undergoes meiosis

Q- 33 Describe the post zygotic events leading to implantation and placenta formation in human female. Mention any two function of placenta.

B- Prepare an investigatory project

SUBJECT – CHEMISTRY

1. Two liquids A & B boils at 145^{oc} & 190^{oc} respectively.Which of them has a higher V.P. at 80^{oc}?
2. Why is freezing point depreesion of 0.1 M NaCl nearly twice than that of 0.1 M glucose solution?
3. Out of 0.1 molal solution of glucose & NaCl respectively,which one will have higher boiling point?

4. Out of 1M urea solution & 1 M KCl solution, which one has a higher boiling point & why?
5. Out of 1M glucose & 2M glucose , which one has a higjer boiling point & why?
6. What happens when the external pressure applied becomes more than tha osmotic pressure of solution?
7. What type of deviation is shown by a mixture of ethanol & acetone?What type of azetrope is formed on mixing the two?
8. Two liquids A & B upon mixing form a warm solution.What type of deviation do they show from Raoult's law?
9. At 40^{oc},the average osmotic pressure of blood is 8.8 atm.Find the total concentration of the various constituents in the blood.Assuming that the concentration is the same sa the molarity,find the freezing point of solution.(Kf = 1.86K/m) [Ans= -0.63^{oc}]
10. The V.P. of pure water at 298 k is 23.88 mm Hg. 50 g of urea (NH_2CONH_2) is added to 250 g of water. Calculate the V.P> of water for this solution & also its relative lowering in V.P. [P_s= 23.39mm & relative lowering = 0.0172]
11. Calculate the freezing point of an aqueous solution containing 10.50 g of $MgBr_2$ in 200 g of water. (M.M. of $MgBr_2$ =184g/mol, Kf = 1.86K kg/mol) [Ans = 1.59K , 271.41K]
12. Calculate the amount of NaCl which must be added to one kilogram of water so that thw freezing point of solution is depressed by 3 k .[47.2g]
13. A solution prepared by dissolvinf 8.95mg of a given fragment in 35 ml of water has an osmotic pressure of 0.335 torr at 25^{oc}. Assuming that the given fragment is non-electrolyte, calculate its molar mass.
    Given;8.95mg=$8.95*10^{-3}$g, 0.335 torr=0.335mm Hg=0.335/760atm=$4.41*10^{-4}$ atm. [14186.5g/mol]
14. 0.90 g of a non-electrolyte was dissolved in 87.9 g of benzene. This raised the boiling point of benzene by 0.25^{oc}.If the molecular mass of the non-electrolyte is 103.0 g/mol.Calculate the molal elevation constant. [2.52K/m]
15. Differentiate : 1. Homopolymer & co-polymer
    2. Thermosetting & thermoplastic polymer
    3. Addition & condensation polymerization
16. Write mechanism of polymerization.

17. Write monomer & their uses: Bekelite, Nylon 6,6, PVC, PTFE, Buna-N, Buna_S, PHBV, Natural rubber, Caprolactum, Nylon2,6, Glyptal, Terylene,Polystyrene.

18.Write in short about Vulcanisation of rubber.

19. Write Raoult's law for volatile & non-volatile solute.

20. Write positive & negative deviations from Raoult's law.

Subject – Computer Science

1. What do you understand by function explain with the example?

2. What do you understand by inside the definition and outside the definition?

3.What do you understand by scope resolution operator?

4. Which type of s/w developed in cpp and why?

5. What are data types?

6. What do you understand by access specifiers ?

7. What is concept behind the use of predefined function?

8. How can we access private function? Explain with the help of example?

9. What is object? Why we use it?

10.Is it possible to increase the length of data types? If it is not possible than explain with example?

Subject : English

Q 1. Write down the question answers of –
Flamingo – Chapter 1. The Last Lesson.

Poem – 1 – My Mother at Sixty Six.

Vistas – 1. The Tiger King.

Writing Skill –

Q. Write a letter to the editor of a national daily to create awareness among the people not to indulge in the violence in the name of cast or other political issues.

Subject - Physics

1. *Define electric field intensity is it a scalar or a vector ? write its SI unit.*
2. *Give two properties of electric line of force.*
3. *What is the direction of electric field.*
4. *A force of 2.25N acts on a charge of 15 X 10^{-4}c. what is the intensity of electric field at that point.*
5. *When P.E of a dipole is minimum ($\theta = 0^{o}$) , the dipole is in stable equilibrium has more P.E. in all other position.*
6. *Solved ex. of NCERT page No.21 and 22.*
7. *If 300J of work is done in carrying a charge of 3C from a place where the potential is -10V another place where potential is V, Calculate the value of V.*
8. *The net intensity at o due to charges at B & D is E_1 along OB. Similarly the net intensity at o due to charges at A&C is E_2 along OA. A little reflection reveals that $E_1 = E_2$. Their resultant E is parallel to CB.*
9. *A point charge of 0.33 X 10^{-8}C is placed in a medium of relative permittivity of 5. Calculate electric field intensity at a point 10cm from the charge .*
10. *Define electric flux . Write its SI unit.*
11. *An electric dipole of dipole moment $\underset{P}{\rightarrow}$ is placed in a uniform electric field $\underset{E}{\rightarrow}$. Write the expression for the torque $\underset{\tau}{\rightarrow}$ experienced by the dipole . identify two pairs of perpendicular vectors in the expression . show diagrammatically the orientation of the dipole in the field for which the torque is (i) maximum (ii) half the maximum value (iii) zero.*
12. *A point charge +10μc is a distance 5 cm directly above the centre of a square of side 10cm as shown in fig. what is the magnitude of the electric flux through the square ?*
13. *When is the torque on a dipole in a field maximum ?*
14. *State Gauss's law in electrostatics .*
15. *Define electric flux . write its S.I unit .*