Delhi Public school Daulatpur

Class- XII -Summer Break Homework 2021-22

Subject- Biology

Revision Worksheet-1

Very short answer type questions-

1 Which individuals can be termed as clones?

2 How do the following organisms reproduce: a) Paramoecium b) Penicillium?

3 Which part of banana and ginger plants are used for vegetative propagation?

4 In Bryophyllum, leaf margins show green structures. What are these? Name anotherplant having such structure.

5 What is the vital link between two generations?

6 Give term for the condition in which a single organism possesses both sex organs.

Short answer type questions-

7 Why do hilly areas of Kerala, Karnataka and Tamil Nadu transform into blueStretches that attracts many tourists?

8 Define 'oestrus' and 'menstrual' cycles.

9 Differentiate between homogamete and heterogametes.

10 What regulates the reproduction processes and the associated behavioralexpressions in organisms?

Long answer type questions-

11 Give any three differences between asexual and sexual reproduction.

12 Enlist the changes that occur post- fertilization in plants.

Subject- Biology

Revision Worksheet-2

Very short answer type questions-

1. All the papaya plants bear flowers but fruits are seen only in some. Explain?
2. Banana is a true fruit, but is also a parthenocarpic fruit. Give a reason?
3. Why do corn cobs have long tessels?
4. How do pollen grains of Vallisneria protect themselves?
5. Pea flowers produce assured seed sets.Give a reason?
6. How are ovules technically referred to?
7. Mention one application of pollen Bank. How are pollen stored in a bank?
8. Why do you think the zygote is dormant for sometime in a fertilised ovule?
9. What is meant by monosporic development of female gametophyte?
10. Give the technical term for the type of pollination which ensure geneticrecombination?
11. Name the tallest flower?
12. Name the parasitic species of plants that produce many minute seeds in a fruit?
13. Name the plant species having pollen viability for
(a)few minutes
(b)several months
14. Name the seeds that have retained their viability for thousands of years?
15. What is cryopreservation?
16. Mention one advantage and disadvantage of a cleistogamous flower?
17. Give an example of a plant which came into India as a contaminant and is a cause of pollen allergy?
18. How is it possible in Oxalis and Viola plants to produce assured seed sets even in the absence of pollinators?
19. Papaver and Michelia both have multicarpellary ovaries. How do they differ from each other?
20. Mention two environmental factors that affect Pollen viability?
21. Why is an apple referred to as a false fruit?
22. Banana produces fruits but is propagated only by vegetative means. Why is it so?
23. A bilobeddithecous anther has 100 microspore mother cells per microsporangium. How many male gametophytes can this anther produced?

Subject- Chemistry

Revision Worksheet-1

Q1. A face-centred cubic solid of an element A has a largest sized guest atom B at the body centre octahedral hole if insertion of B doesn't affect the original unit cell dimension , determine the packing fraction of this solid .

Q2. An element A has BCC structure and another guest atom B, of largest possible size are present at each edge centres of unit cell of A but without disturbing the original unit cell dimension. Determining the void percentage of this solid .

Q3. An element A has a BCC structure and another guest atoms B, of largest possible size, are present at the face-centres, but without disturbing the unit cell dimension . Determine the packing fraction of this solid.

Q4. A uniform cylindrical , polymer molecule crystallizes in body-centred cubic array. Determine the packing fraction of this polymer in solid state assuming that molecules are in their closest contact .

Q5. Copper metal crystallizes in face-centred cubic arrangement and surface of adjacent atoms along the edge of unit cell are 1.6 pm apart . Determine the density of metal. Atomic mass of copper metal is 63.5 u .

Q6. An unknown substance that uses gas at room temperature can be condensed to a solid at – 80°C . As a solid , it is found to have a cubic unit cell, 5.15 A^{o} on eact side, containing four molecules. The density of solid is 0.73 g/cm^{3}. What is the density of the substance as a gas at 27°C and at a pressure of 1.00 atmosphere ?

Q7. The mineral hawleyite, one form of CdS, crystallizes in one of the cubic lattice, with edge-length of 5.87 A^{o} . If density of mineral is 4.63 g/cm^{3} , determine type of unit cell and Schottky defect in g/cm^{3} (M : Cd = 112 , S = 32).

Q8. AgCl has NaCl type of unit cell and the edge length is 555 pm. If observed density of AgCl is 5.55 g/cm^{3}, determine the percentage of vacant sites in the given AgCl unit cell .

Q9. Diamond and solid rhombic sulphur both are covalent solids but the

latter has very low melting point than the former . Explain why .

Q10. How temperature affects the frequency of point defects ?

Q11. Out of SiO_2(s) , Si (s) , NaCl (s) and Br_2(l) which is the best electrical conductor?

Q12. Sodium metal is quite soft whereas sodium chloride crystals are quite hard. Explain why .

Q13. Why is coordination number of 12 not found in ionic crystals ?

Q14. What is the arrangement of atoms in the lattice structure of diamond and give contribution of each C atom ?

Q15. A Compound consisting of the monovalent ions A^+, B^- crystallizes in the body-centred cubic lattice.
(i) What is the formula of the compound ?
(ii) If one of A^+ ions from the corner is replaced by a monovalent ion C^+, what would be the simplest formula of the resulting compound ?

Q16. Calcium metal crystallizes in a face-centred cubic lattice with edge length of 0.556 nm. Calculate the density of the metal if it contains
(i) 0.5 % Frenkel defects
(ii) 0.2% Schottky defects

Q17. Metallic magnesium has a hexagonal close-packed structure and a density of 1.74 g cm^{-3}. Assuming magnesium atoms to be spherical, calculate the radius of magnesium atom . (Atomic mass of Mg = 24.3)
Q18. In face-centred cubic (fcc) crystal lattice, edge length of is 400 pm. Find the diameter of the greatest sphere which can be fitted into interstitial void without distortion of the lattice .

Q19. Iron changes its crystal structure form body-centred to cubic close-packed structure when heated to 916°C. Calculate the ratio of the density of the bcc crystal to that of ccp crystal, assuming that the metallic radius of the atom does not change .
Q20. By X-ray diffraction methods, the unit length of NaCl is observed to be 0.5627 nm. The density of NaCl is found to be 2.164 g cm^{-3}. What type of defect exists in the crystal ? Calculate the percentage of Na^+ and Cl^- ions missing .

Subject- Chemistry

Revision Worksheet-2

Q1. If 'a' is the edge length of the side of a cube, the distance between the body- centred atom and one corner atom in the cube will be :

(a) $\frac{\sqrt{3}}{2}a$ (b) $\frac{2a}{\sqrt{3}}$

(c) $\frac{4}{\sqrt{3}}a$ (d) $\frac{\sqrt{3}}{4}a$

Q2. A solid compound contains X , Y and Z atoms in a cubic lattice with X atom occupying the corners, Y atom in the body centred position and Z atoms at the centres of faces of unit cell. What is the empirical formula of the compound ?

(a) XY_2Z_3 (b) XYZ_3

(c) $X_2Y_2Z_3$ (d) X_8YZ_6 (e) XYZ

Q3. Lithium metal crystallizes in a body centred cubic lattice. If the edge length of unit cell of lithium is 351 pm, the atomic radius of lithium will be :

(a) 151.8 pm (b) 75.5 pm

(c) 300.5 pm (d) 240.8 pm

Q4. Copper crystallizes in a face cubic lattice with unit cell length of 361 pm. What is the radius of copper atom ?

(a) 157 pm (b) 181 pm

(c) 108 pm (d) 128 pm

Q5. AB crystallizes in body centred cubic lattice with edge length 'a' equal to 387 pm. The distance between two oppositely charged ions in the lattice is :

(a) 335 pm (b) 250pm

(c) 200 pm (d) 300 pm

Q6. The edge length of a face centred cubic cell of ionic substance 508 pm. If the radius of the cation is 110 pm, the radius of anion is :

(a) 618 pm (b) 249 pm

(c) 288 pm (d) 398 pm

Q7. Lithium forms body centred cubic structure. The length of the side of its unit cell is 352 pm. Atomic radius of lithium will be :

(a) 75 pm (b) 300 pm

(c) 240 pm (d) 152 pm

Q8. A metal crystallizes with a face centred cubic lattice. The edge of unit cell is 408 pm. The diameter of the metal is :
(a) 288 pm (b) 408 pm
(c) 144 pm (d) 204 pm

Q9. Structure of a mixed oxide is cubic closed packed . The cubic unit cell of mixed oxide is composed of oxide ions. One fourth of tetrahedral voids are occupied by A^{2+} and octahedral voids are occupied by monovalent metal B^{+}. The formula of mixed oxide is :
(a) ABO_2 (b) A_2BO_2
(c) $A_2B_3O_4$ (d) AB_2O_2

Q10. A metal has a fcc lattice . The edge of the unit cell is 404 pm. The density of the metal is 2.72 g cm^{-3}. The molar mass of the metal is :
[N_A = Avogadro's constant = 6.02×10^{23}]
(a) 30 g mol^{-1} (b) 27 g mol^{-1}
(c) 20 g mol^{-1} (d) 40 g mol^{-1}

Q11. Which of the following exists bas covalent crystals in the solid state ?
(a) Sulphur (b) Phosphorus
(c) Iodine (d) Silicon

Q12. Experimentally it was found that a metal oxide has formula $M_{O.98}O$. Metal M , is present as M^{2+} and M^{3+} on its oxide . Fraction of the metal which exists as M^{3+} would be :
(a) 6.05 % (b) 5.08 %
(c) 7.01 % (d) 4.08 %

Q13. Sodium metal crystallizes in a body centred cubic lattice with a unit cell edge length of 4.29 A^o . The radius of sodium atom is approximately :
(a) 0.93 A^o (b) 1.86 A^o
(c) 3.22 A^o (d) 5.72 A^o

Q14. A given metal crystallizes out with a cubic structure having edge length of 361 pm . If there are four metal atoms in one unit cell , what is the redius of one atom ?
(a) 40 pm (b) 127 pm
(c) 80 pm (d) 108 pm

Q15. Lithium has bcc structure. Its density is 530 kg m^{-3} and its atomic mass

is 6.94 g mol^{-1}. Calculate the edge length of a unit cell is Lithium metal .
[$N_A = 6.02 \times 10^{23}$ mol^{-1}]

(a) 264 pm (b) 154 pm
(c) 352 pm (d) 527 pm

Q16. The ionic radii of A^+ and B^- ions are 0.98×10^{-10} m and 1.81×10^{-10} m . The coordination number of each ion in AB is :

(a) 2 (b) 6
(c) 4 (d) 8

Q17. Which of the following compound is metallic and ferromagnetic ?

(a) CrO_2 (b) VO_2
(c) MnO_2 (d) TiO_2

Q18. If the unit cell of the mineral has cubic close packed (ccp) array of oxygen atoms with 'm' fraction of octahedral holes occupied by aliminium ions and 'n' fraction of tetrahedral holes are occupied by magnesium ions, 'm' and 'n'
respectively are :

(a) $\frac{1}{2}, \frac{1}{8}$ (b) $1, \frac{1}{4}$

(c) $\frac{1}{2}, \frac{1}{2}$ (d) $\frac{1}{4}, \frac{1}{8}$

Q19. A metal crystallizes in a face centred cubic structure . If the edge length of its unit cell is 'a' , the closest approach between two atoms in metallic crystal will be:

(a) 2 a (b) $2\sqrt{2\,a}$

(b) $\sqrt{2a}$ (d) $\frac{a}{\sqrt{2}}$

Q20. Iron exhibits bcc structure at room temperature. Above 900°C , it transforms to fcc structure. The ratio of density of iron at room temperature to that at 900°C (assuming molar mass and atomic radii of iron remains constant with temperature is :

(a) $\frac{1}{2}$ (b) $\frac{\sqrt{3}}{\sqrt{2}}$

(c) $\frac{3\sqrt{3}}{4\sqrt{2}}$ (c) $\frac{4\sqrt{3}}{3\sqrt{2}}$

Q21. Which type of 'defect' has the presence of cations in the interstitial sites ?

(a) Schottky defect (b) Vacancy defect

(d) Frenkel defect (d) Metal deficiency defect

Q22. Formula of nickel oxide with metal deficiency defect in its crystal in $Ni_{0.98}O$. The crystal contains Ni^{2+} and Ni^{3+} ions . The fraction of nickel existing as Ni^{2+} ions in the crystal is

(a) 0.96 (b) 0.04

(c) 0.50 (d) 0.31

Q23. A compound is formed by cation C and anion A . The anions form hexagonal close packed (hcp) lattice and the cation occupy 75 % of octahedral voids . The formula of the compound is

(a) C_2A_3 (b) C_3A_2

(c) C_3A_4 (d) C_4A_3

Q24. The ratio of number atoms present in simple a cubic body centred cubic and face centred cubic structure are respectively :

(a) 1 : 2 : 4 (b) 8 : 1 : 6

(c) 4 : 2 : 1 (d) 4 : 2 : 3

Q25. The radius of the largest sphere which fits properly at the centre of the edge of the body centred cubic unit cell is (Edge length is respectively by 'a')

(a) 0.134 a (b) 0.027 a

(c) 0.067 a (d) 0.047 a

Class-12: English Worksheet #1

THE LAST LESSON

1. For the last two years, where did all the bad news come from?

(a) the bulletin board
(b) town hall
(c) school
(d) M. Hamel's house

2. Who asked Franz not to hurry to school?

(a) old Hauser
(b) former Mayor
(c) former Postmaster
(d) blacksmith Watcher

3. What was M. Hamel going to question Franz about?

(a) participles
(b) adjectives
(c) old primer
(d) None of the above

4. What was unusual about M. Hamel's dress?

(a) wore clean clothes
(b) wore a brand new outfit
(c) wore clothes he wore on prize days
(d) wore traditional French clothes

5. Who sat on the back bench on the last lesson?

(a) Franz
(b) Prussians
(c) The village people
(d) The new teacher

6. What order had come from Berlin?

(a) to close the school
(b) teach German in schools of Alsace and Lorraine
(c) to open a new school in Alsace and Lorraine
(d) that Hamel would have to leave

7. Why did Hamel blame himself?

(a) not having taught them enough French
(b) not being strict
(c) giving students a holiday at times
(d) not being responsible

8. What does the last lesson taught by Hamel symbolize?

(a) no more teaching of French
(b) domination of Prussia
(c) learning of German
(d) loss of language and loss of freedom

9. What is the moral that the Alphonse Daudet wants to bring out?

(a) not to put off things that one can do that day
(b) old order changed to new
(c) one should accept everything that happens
(d) teachers should be respected

10. What does the marching of soldiers under the windows represent?

(a) the departure of Hamel
(b) dawn of Prussia in France
(c) freedom for Franz
(d) sorrow of the villagers

11. What does M. Hamel's motionless posture reflect?

(a) the school is dismissed
(c) changing order of life
(b) sense of finality
(d) feeling of nostalgia

12. Why does Hamel blame the parents?

(a) they preferred children to work in farms
(b) they were not strict
(c) they did not come to M. Hamel's class
(d) they did not love the French language

13. Franz thinks- will they make them sing in German- even the pigeons? What couldthis mean?

(a) German would use brutal force over everyone
(b) harsh orders will be passed
(c) when people are deprived of their essence even the surroundings are affected
(d) the Germans will rob France of its language

14. Why does the author urge the reader to respect his language?

(a) It is what makes you respect your countrymen

(b) It is the key to freedom

(c) You can express yourself

(d) It is unique and reflects literature and art

15. M. Hamel is introduced as a ruler-wielding teacher. This demonstrates that:

(a) he is concerned

(b) he is adamant

(c) he is unfeeling

(d) he is a hard taskmaster

16. M. Hamel emerges as a when he teaches his last lesson.

(a) meek person

(b) true patriot

(c) repentant man

(d) defeated the man

17. What was Franz banking on to enter the class as he was late?

(a) M. Hamel's teaching on the blackboard

(b) commotion in the class

(c) Hauser helping him sneak in

(d) to quietly walk in when everyone was preoccupied with participles

18. Which district came under the Prussian rule?

(a) Alsace and Berlin

(b) Berlin and Lorraine

(c) Alsace and Lorraine

(d) the southern districts of France

19. Franz looked for opportunities to skip school to do what?

(a) work on mills

(b) go fishing

(c) water the plants

(d) collect birds eggs

20. 'Viva la France' became an emotional evidence of M. Hamel's?

(a) sadness and patriotism

(b) finality and depression

(c) nostalgia and emotional outburst

(d) love for the school and teaching as a profession

Class-12: English Worksheet #2

THE THIRD LEVEL

1. Charley was quite an ordinary man from
a) Chicago
b) Seattle
c) New York
d) Galesburg

2. The incident that happened with Charlie took place at the
a) Central Railway Station
b) Illinois Railway Station
c) New York Station
d) Grand Central Station

3. He was in a hurry to get home to his wife
a) Helen
b) Sarah
c) Louisa
d) Hannah

4. The third level platform was
a) well lit and big
b) very large
c) very dark
d) small and ding

5. The people were dressed in
a) shabby clothes
b) party clothes
c) old fashioned clothes
d) torn clothes

6. A man pulled out a_____from his pocket.
a) a watch
b) a handkerchief
c) a derby hat
d) a pen

7. The area was lit up with _____
a) gas lamps
b) bulbs
c) candles
d) fireplaces

8. There were spittoon made of _____
a) steel
b) brass
c) wood
d) iron

9. A newspaper said it was the year
a) 1859
b) 1589
c) 1894
d) 1855

10. People had got into tunnels in the past that lead to places such as the
a) Roosevelt Hotel
b) Central Park
c) Times Square
d) Illinois Avenue

11. Charley asked for two tickets to
a) 1894 Galesburg
b) 1855 Illinois
c) 1859 Galesburg
d) 1895 New York

12. The ticket clerk suspected Charley for
a) tendering old currency
b) tendering real currency.
c) tendering fake currency.
d) (a) and (c)

13. His friend Sam told him he was
a) escaping from the struggles of life by fantasizing.
b) struggling to keep up his lifestyle.
c) struggling to maintain a good marital relation.
d) fantasizing about his life in Galesburg.

14. Philately is a hobby of
a) collecting old stamps
b) selling old stamps
c) collecting stamps
d) buying and selling stamps

15. Charley was not able to get to Galesburg because:
a) He had less old money.
b) The clerk did not want to sell him the tickets.
c) The third level had vanished.
d) He could find the third level again.

16. How did Sam reach Galesburg?
a) Sam took the St. Curry and Ives train from the second level.
b) Sam had learnt from Charley's mistakes.
c) Sam bought a ticket with his currency.
d) All the above

17. Sam reached the old Galesburg_____
a) and settled himself as a musician.
b) and settled himself as a doctor.
c) and settled himself as a psychiatrist.
d) and settled himself as a trader.

18. In Galesburg…
a) people had not experienced wars.
b) people were insecure and anxious and required a psychiatrist.
c) people kept to themselves and did not interfere.
d) All the above.

19. The genre of the lesson 'THE THIRD LEVEL' is:
a) historical fiction
b) tragedy
c) science fiction
d) fantasy

20. What evidence did Charley have that the third level existed?
a) It was his birth place.
b) The stamp collection
c) His trip to the third level.
d) The cover letter from Sam.

Revision worksheet-1

Class XII- IP

Q1. Why is a switch called an intelligent hub?

Q2. What is the use of Repeater in a network?

Q3. State two advantages of networking computers instead of having standalone computers

Q4. Write one advantage each of star and bus topology used in networking

Q5. Mr. Chandervardhan is not able to identify the Domain Name in the given URL. Identifyand write it for him.

http.//www.cbsenic.in/aboutus.htm

Q6 Gyan Deep International School is planning to connect all computers, each spread over a distance within 40 m. Suggest an economical cable type having high-speed data transfer, which can be used to connect these computers

Q7. Beauty Lines Fashion Inc. is a fashion company with design unit and market unit 135 m away from each other. The company recently connected their LANs using Ethernet cable to share the stock related information. But after joining their LANs, they are not able to share the information due to loss of signal in between. Which device out of the following should you suggest to be installed for a smooth communication?

(i) UPS

(ii)Modem

(iii) Repeater

Q8. Which of the following is not a feature of networking?

(i) Resource sharing

(ii) Uninterrupted Power Supply (UPS)

(iii) Reduced cost

(iv) Reliability

Q9. What is a protocol? Which protocol is used to search information from Internet using an Internet browser?

Q10. What is the difference between LAN and WAN? **Q11.**

How are co-axial cable different from optical fiber?**Q12.**

Name two transmission media for networking.

Q13. Identify the following devices:

(i) Devices that are used to connect different types of networks. It performs the necessarytranslation so that the connected networks can communicate properly.

(ii) A device that converts data from digital bit stream into an analog signal and vice-versa.

Q14. Identify the following devices:

(i) An intelligent device that connects several nodes to form a network and redirects thereceived information only to intended node(s).

(ii) A device that regenerates (amplifies) the received signal and re-transmits it to itsdestination.

Q15. Expand the following terms with respect to networking

(i) MODEM
(ii) SMTP
(iii) FTP
(iv) TCP/IP

POLITICAL SCIENCE (CLASS XII)
CH-3, POLITICS OF PLANNED DEVELOPMENT

1. What is 'Development'?
2. What is Planning?
3. Why is Planning Commission called an extra-constitutional body?
4. Which are the two models of development? Which model of development was adopted by India?
5. Who was P.C. Mahalanobis?
6. What was 'Bombay Plan'?
7. In which year Planning Commission was established and who was the first chairman of the Planning Commission?
8. How many plans have been completed so far in India?
9. What is meant by Decentralised Planning?
10. Mention two main advantages of having Economic Planning.
11. Who was popularly known as 'the milkman of India'?
12. Mention any two merits of the Green Revolution.
13. What was the main objective of the second Five Year Plan?
14. Who is the ex-officio chairperson of the Planning Commission of India?
15. What are the objectives of planning?
16. Differentiate between the capitalist and socialist models of development.
17. Critically examine the major outcomes of the Indian model of mixed economy.
18. What were the key controversies regarding development in India?
19. How was the Planning Commission of India set up? Mention its scope of work.
20. What do you know about land reforms in India during planning period?
21. Write a short note on major outcomes of the Indian model of a mixed economy.
22. State any two differences between the First Five Year Plan and the Second Five Year Plan.
23. What was Green Revolution? Examine any two positives and two negative consequences of the Green Revolution.
24. Examine the different areas of agreement and disagreement with respect to the model of economic development to be adopted in India after independence.

25. Describe briefly the composition and any four functions of the Planning Commission of India .
26. What were the early initiatives taken by the Planning Commission for building a new India ?

SUBJECT: Physics

Summer vacation work

Q-1 A 500 μC charge is at the centre of a square of side 10 cm. Find the work done in moving a charge of 10 μC between two diagonally opposite points on the square .
Q-2. Derive an expression for the electric field at a point
a. the axial position of an electric dipole.
b. on the equatorial position of an electric dipole.

Q-3 Derive an expression for the torque on an electric dipole in a uniform electric field.

Q-4 State Gauss theorem and apply it to find the electric field due to a uniformly charged spherical conducting shell at a point
a. Outside the shell
b. Inside the shell
c. on the shell
Also Draw a graph showing a variation of electric field E with distance r from center of the uniformly charged spherical conducting shell

Q-5 State Gauss theorem and apply it to find the electric field intensity due to a infinitely long straight wire of linear charge charge density sigma.
Q-6 State Coulomb's law and express it in vector form. Derive it using Gauss theorem.
Q-7 A charge q is uniformly distributed over a ring of radius r. Derive an expression for electric field at a point on the axis on the ring. Also shows that for point at large distance from center of the ring, it behaves like a point charge only.
Q-8 The electric field intensity at a point situated 4 meters from a point charge is 100 N/C. If the distance is reduced to 1 meters, the field intensity
Q-9 Three positive charges of equal value q are placed at the vertices of an equilateral triangle. The resulting lines of force and magnitude of force.

Q-10 The force between two charges is 120 N. If the distance between the charges is doubled, the magnitude of force.

Very short

Q-11The lines of force due to charged particles are
Q-12 An arbitrary surface encloses a dipole. What is the electric flux through this surface?
Q-13 SI unit of electrical permittivity of Space
Q-14 Dimensional Formula for electrical permittivity of Space

Q-15 Which is of these is not vector quantity :Electric Field, Electric Dipole Moment, Electric Flux, Force.

Q-16 Dimensional Formula for electric Field.
Q-17 Two point charges placed at a distance R in air exert a force F on each other. At what distance will these experience the same force F in a medium of dielectric constant K?

Q-18 Let F is the force between two equal point charges at some distance. If the distance between them is doubled and individual charges are also doubled, what will be force acting between the charges?

Q-19 The electric field due to a uniformly charged sphere of radius R as a function of the distance from its Centre is represented graphically by_____

Q-20 Which of the following graphs shows the variation of electric field E due to a hollow spherical conductor of radius R as a function of distance from the Centre of the sphere
Q-21 A certain region has spherical symmetry of electric field. Name the charge distribution producing such a field.

Q-22 Represent graphically the variation of electric field with distance, for a uniformly charged sphere.