KENDRIYA VIDYALAYA BURHANPUR

HOLIDAY HOMEWORK

XII-ENGLISH

Q.1 Solution of 01 unseen passage (Any)?

Q.2 02 (Notice Writing)

Q.3 01 Formal Invitation.

Q.4 01 Letter of Complaint/ Inquiry

Q.5 Report of "Annual Day of Your School"

Q.6 Solution of Ques and Ans of lesson

    1.Lost Lesson

    2. Lost Spring

    3.My Mother at 66

HOLIDAY HOME WORK(SUMMER VACATION)-2023-24

SUBJECT:- MATHEMATICS   **CLASS:- XII A**

1	In the set of natural numbers N, define a relation R as follows: ∀ n, m ∈ N, nRm if on division by 5 each of the integers n and m leaves the remainder less than 5, i.e. one of the numbers 0, 1, 2, 3 and 4. Show that R is equivalence relation. Also, obtain the pairwise disjoint subsets determined by R
2	Let f, g : R → R be two functions defined as f (x) = |x| + x and g (x) = |x| − x ∀ x ∈ R. Then, find f o g and gof .
3	Given A = {2, 3, 4}, B = {2, 5, 6, 7}. Construct an example of each of the following: (a) an injective mapping from A to B (b) a mapping from A to B which is not injective (c) a mapping from B to A .
4	Let A = {1, 2, 3, ... 9} and R be the relation in A ×A defined by (a, b) R (c, d) if a + d = b + c for (a, b), (c, d) in A ×A. Prove that R is an equivalence relation and also obtain the equivalent class [(2, 5)].
5	Functions f , g : R → R are defined, respectively, by f (x) = x^2 + 3x + 1, g (x) = 2x − 3, Find (i) f o g (ii) g o f (iii) f o f (iv) g o g
6	Find the principal value of $\cos^{-1}x$, for x = $\frac{\sqrt{3}}{2}$.

| 7	Evaluate $\tan^{-1}[\sin(\frac{-\pi}{2})]$
8	Evaluate $\sin^{-1}\left[\cos(\sin^{-1}(\frac{\sqrt{3}}{2}))\right]$
9	Find the value of $\tan^{-1}\left(\tan\frac{5\pi}{6}\right) + \cos^{-1}(\cos\frac{13\pi}{6})$.
10	Evaluate $\cos[\cos^{-1}(\frac{-\sqrt{3}}{2} + \frac{\pi}{6}]$.
11	Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$
12	If A $= \begin{bmatrix} 3 & -5 \\ -4 & 2 \end{bmatrix}$ then find $A^2 - 5A - 14I$. Hence, obtain A^3 .
13	Find the values of a, b, c and d, if $3\begin{bmatrix} a & b \\ c & d \end{bmatrix} = \begin{bmatrix} a & 6 \\ -1 & 2d \end{bmatrix} + \begin{bmatrix} 4 & a+b \\ c+d & 3 \end{bmatrix}$
14	If A is square matrix such that $A^2 = A$, show that $(I + A)^3 = 7A + I$
15	If P (x) = $\begin{bmatrix} cosx & sinx \\ -sinx & cosx \end{bmatrix}$, then show that P (x) . P (y) = P (x + y) = P (y) . P (x).

Subject teacher

Ajay Sonawane

PGT (MATHS)

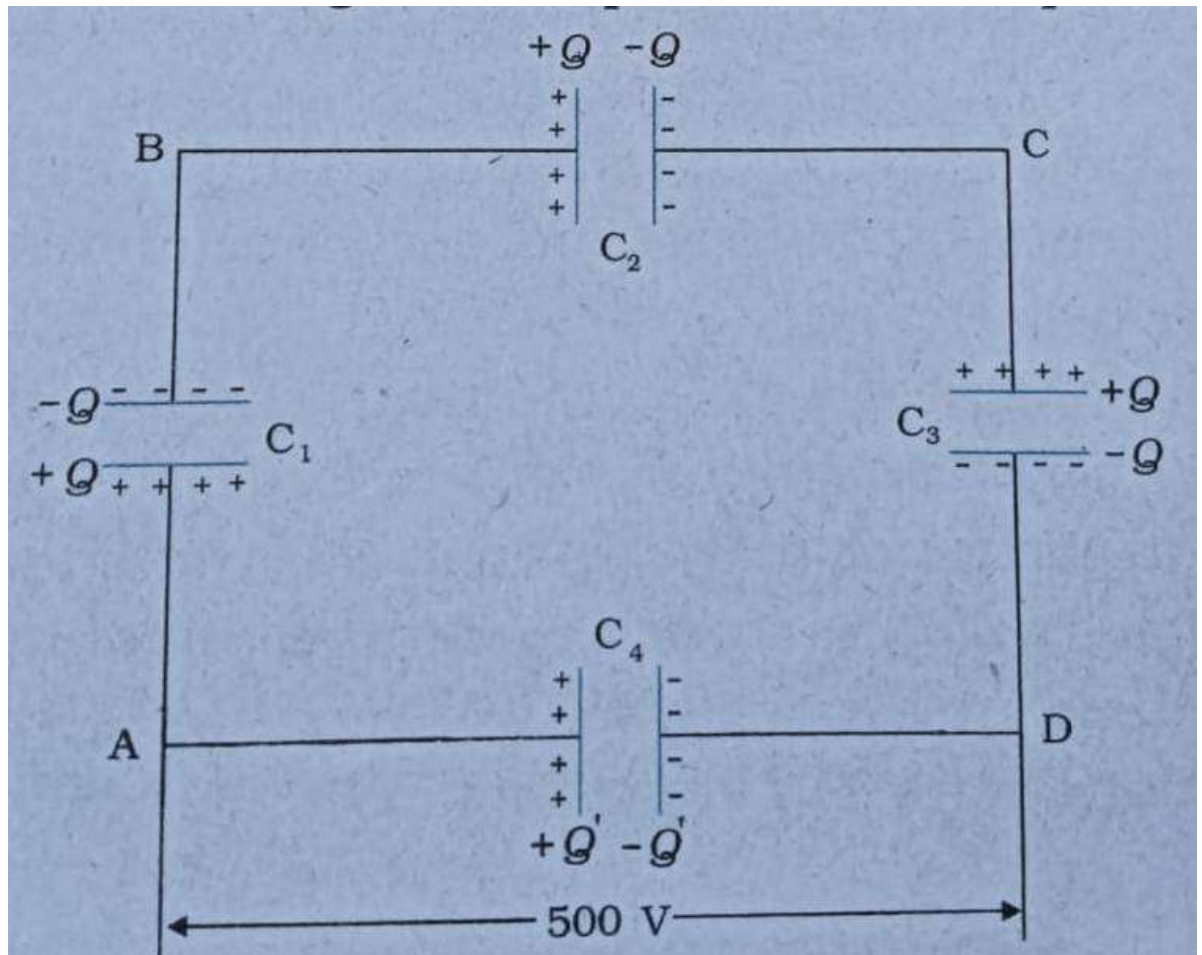**Subject:-** Physics   **Class:-** 12th

1. Write the characteristics of charge?
2. State coulomb's law and give the mathematical form it.
3. Write the value of electrostatic force constant and its unit also.
4. Differentiate charge and mass
5. Define relative permittivity? Give it unit and formula also.
6. Define electric field intensity at a point in a field give its formula and unit
7. Draw the diagram for electric lines of forces for positive charge, negative charge.
8. What do mean by the 1. Line charge density 2. Surface charge density and volume charge density
9. Define electric dipole, electric dipole moments and dipole field.
10. Derive an expression for electric field at any point along the axial line of an electric dipole.
11. Derive all expression for electric field intensity on the equatorial line of electric dipole and give the spherical cases.

12. Draw the diagram for electric line of force due to two line charges and two unlike charges.

13. Write the four characteristics of electric lines of force.

14. Derive and expression for torque acting on electric dipole placed in uniform electric field find max torque.

15. State gauss theorem and derive coulomb's law using grams Theorem.

16. Using gauss theorem derive an expression of electric field intensity due to a uniformly charged thin spherical shall at a point. a. outside the shell. b. on the surface of the shell. c. at the point inside the shell.

17. Practice the NCERT exercise of chapter 1 electric charges and field.

18. Obtain the equivalent capacitance of the network in Fig. for a 300 v supply determine the charge and voltage across each capacitor .
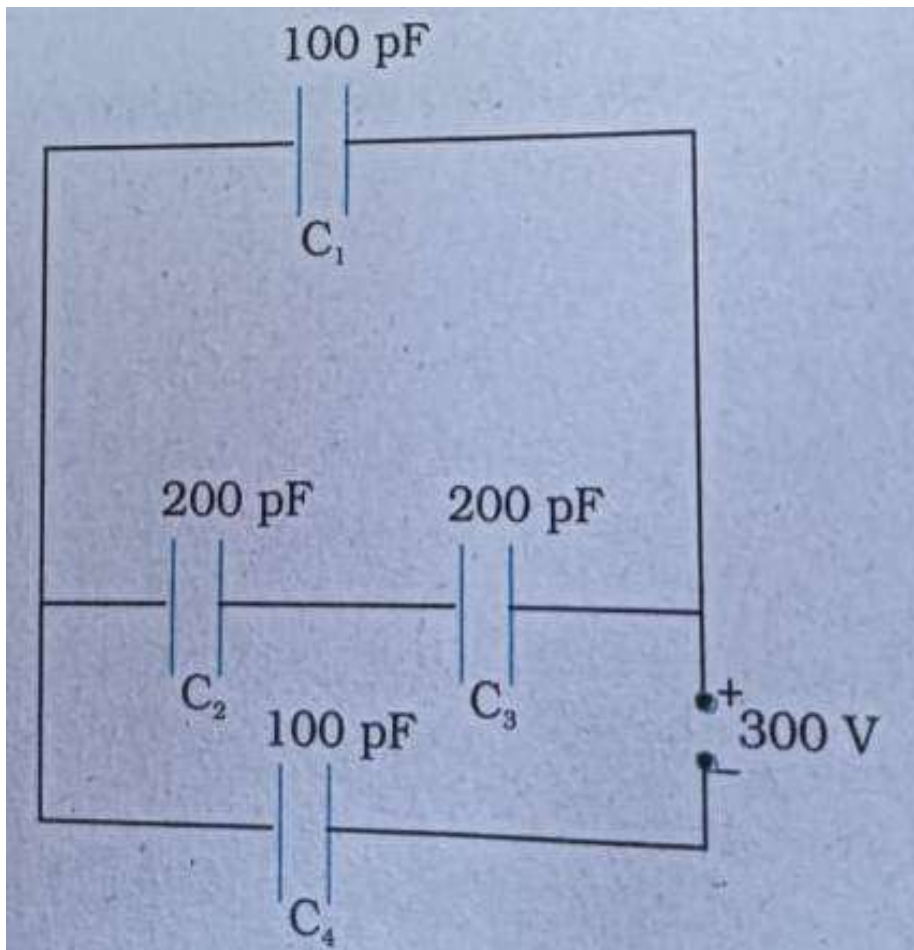
19. A network of four 10 uf capacitors is connected to a 500 V supply, as shown in Fig. 2.29 determine (a) the equivalent capacitance of the network

and (b) the charge on each capacitor. (Note ,the charge on a capacitor is the charge on the plate with potential, equal and opposite to the charge on the plate with lower potential)

19. What is equipotential surfaces and draw the equipotential surface for the electric dipole.

21. Derive an expression for the capacitance of a parallel plate capacitor.

Subject Teacher:-Priya Khairnar

(PGT Physics)

Class -12 - BIOLOGY

Q.1 Explain the functions of following the reproductive part of flower –

A) synergids.   B)Micropyle   C)Hilum

Q.2 Explain the events of normal woman during menstrual cycle on following days-

A) Ovarian event from 13 to 15 days.

B) Ovarian hormone level from 16 to 23 days.

C) Uterine event from 24 to 29 days.

Q.3 Define following term-

A)Sterilisation B) Tubectomy C) Vasectomy

Q.4 Explain the hormonal control of spermatogenesis in humans regulated by following hormones -
FSH and LH.

Q.5 Give reason of following-

a)Geitonogamy is functionally a cross pollination but genetically autogamy.

b)Flowering plants need to develop out breeding devices.

c)Banana is party no carpet whereas Turkey is parthenogenetic.

Q.6 Male and female gamut in human beings differ from each other in terms of both structure and function.Enumerate some major difference between the two along with their diagram.

Q.7 Explain the following phases in menstrual cycle of human female.

A) Menstrual phase B) follicular phase

C) Luteal phase

Q .8 Explain the functions of following structure in the human female reproductive system.a) ovaries   b)fallopian tube   c) female accessory gland.

Q.9 FSH is follicle stimulating hormone write it's- Site of secretion, target issues, functioning roll during menstrual cycle.

Q.10 Trace the changes occurring in the oogonia during the transition of a primary follicle to graafian follicle.

Q.11 Starting with the zygote, trace the appearance of different stages in the embryo development in dicot plants.

Q.12 Explain the following structure in the human male reproductive system –

A)Seminal vesicles B) Acrosome C) Scrotum

Q.13 Right the specific location of the following cells in human males-

A) Sertoli cells B)Leydig cells C) Primary spermatocytes

Q.14 Trace the development of embryo from a fertilised ovum till its plantation in the uterus.

Q.15 Although seeds in general are the product of fertilisation but a few flowering plants have evolved special mechanism to produce seeds discuss these mechanisms in brief.

Q.16.Name to in products of double fertilisation in angiosperm.how are they formed right there fed during the development of seed.

Q.17 How is apomixis different from parthenocarpy ?Describe any two modes by which appomictic seeds can be produced.

Q 18 Explain the development of primary endospermic nucleus into an endosperm and the development of the zygote into an embryo in a fertilised embryo sac all a dicot plant.

Q.19 Describe the process of megasporo genesis in angiosperm until 8 new create stage.

Q.20 A true breeding tall pea plant is crossed with a true breeding dwarf Variety of pea plant. With the help of punnet square show the above cross an mention the result obtained with respect to xeno type and phenotype in F1 generation.

Q.21 You are given tall P plant with yellow seeds whose genotype are unknown.

A)How would you find the genotype of this plant.

B) Explain with the help of a cross.

Q.22 Give reason for following-

1)Amniocentesis for sex determination has been banned in India.

2)Awareness about sex related aspects helped to improve health of human.

3)Play centre is also considered as an endocrine gland.

Q.24 Right the difference between incomplete dominance and codominance.

Q.25 Why did TH Morgan select Drosophila melanogaster to study sex-linked genes for his lab experiments.

Q 26Explain pleiotropy with the help of an example.

Q.27 The F2 progeny of a monohybrid cross showed phenotypic and genotypic ratio as 1 : 2 : 1, unlike that of Mendel's monohybrid F2 ratio. With the help of a suitable example, work out a cross and explain how it is possible.

Q.28 Write the type and location of the gene causing thalassemia in humans. State the cause and symptoms of the disease. How is sickle-cell anaemia different from this disease?

Q.29 Explain the sex-determination mechanism in humans. How is it different in birds?

Q.30 Write differences between pleiotropy and polygenic inheritance .

कक्षा: 12वीं, Informatics Practices (065)

1. What are protocols? Write some examples of protocols.
2. What is modulation? Explain different types of modulations.
3. What is the difference between bit rate and baud rate?
4. What are different types of transmission media?
5. Write at least 50 networking terms with their abbreviated and expanded form. For example: VoIP: Voice over Internet Protocol
6. Explain working of an email. Also write advantage and disadvantage of an email.
7. What do you mean by network topology? Explain different types of networking topologies.
8. What are switching techniques?
9. What is Cloud Computing? Write its benefits.
10. Explain 2G, 3G, 4G and 5G of mobile data communications.
11. Mention some advantages of networking.
12. Differentiate between Web browser and web server? Write any 03 popular web browser.
13. Compare e-mail and video conferencing.
14. Write difference between static and dynamic web pages.
15. Write short notes on: cookies, SPAM, SPIM, junk mail, MAC address, URL