JAWAHAR HIGHER SECONDARY SCHOOL, CBSE – NEYVELI

CLASS: XII **REVITION TEST – IV (2022 – 2023)** **MARKS: 40**

DATE: 26.08.2022 **ENGLISH** **TIME: 1 ½ Hrs**

SECTION – A (Reading)

Read the following passage carefully:

1. The role friends play in our lives has become significantly greater than at any other time in our history. Today many of us live and work great distances from where we were born or grew up and are separated from our original families. The pain we feel when we are away from our families can be significant.

2. The happiness of the individual relies on friendships which form a necessary human connection. It is perfectly normal to need and want friends and depression is more prevalent among those who lack friends. They lack the intimacy and richness friends can bring into their lives. Frequently friends reflect similar values to us. Yet these values are often different from the ones we grew up with; they are the values we created for ourselves in our adult lives.

3. Communication skills are fundamental in all friendships grpw. The more friends and acquaintances one has, the greater are one's communication skills. Some call these, people skills.

4. Like watering a plant, we make our friendships (and all our relationships) by nurturing them. Friendships need the same attention as other relationships, if they are to continue. These relationships can be delightfully non-judgmental, supportive, understanding and fun.

5. Sometimes a friendship can bring out the positive side that you never show in any other relationship. This may be because the pressure of playing a 'role' (daughter, partner or child) is removed. With a friend you are to be yourself and free to change. Of course you are free to do this in all other relationships as well, but in friendships you get to have lots of rehearsals and discussion about changes as you experience them. It is an unconditional experience where you receive as much as you give. You can explain yourself to a friend openly without the fear of hurting a family member. How do friendships grow? The answer is simple. By revealing yourself, being attentive and remembering. What is most important to your friend and asking them about it; putting yourself in their position; showing empathy; seeing the world through the eyes of your friend, all these will make you understand the value of friendship. All this means learning to accept a person from a completely different family to your own or perhaps someone from a completely different cultural background. This is the way we learn tolerance. In turn we gain tolerance and acceptance for our own differences.

6. Friendships are made by being considerate, which means all the communication skills come into play – active listening skills, questioning skills, negotiation skills, reflecting content skills, reflecting emotion skills, and editing yourself.

7. Friendships offer a great opportunity to learn about yourself because a friend can reflect back to you 'how you come across in the world'. They also allow you to practice skills in dealing with 'personal boundaries' by looking after yourself as well as your friend. They help you develop resilience in relation to the wider social world beyond your family.

A. On the basis of your reading of the passage, answer the following questions by choosing the most appropriate option:

i) Those who lack friends _____

a) need to be attended to
b) lack the intimacy and richness friends can bring into our lives.
c) will never have conditional experience
d) all of the above

ii) Friendships can be grown by _____

a) Encouraging him b) acting out a particular role
c) not willing to change d) not being attentive

B. Answer the following questions as passable. (1x6=6)

i) What are the two essential human values that help friendships grow?
ii) What are the communication skills that help in building friendships?
iii) For what reason is friendship considered an essential human need?
iv) Why do friends play a more significant role today than over before?
v) What can we do with a friend which cannot be done with a family member?
vi) How is friendship different from family relationships like child, parent, partner etc?

C) Find the words in the given passage which convey the opposite meaning to

i) unimportant (para -3) ii) inflexibility (para – 7)

SECTION – B (Writing)

2. On 30th November, your school is going to hold its annual sports day. You want Mr. Dhanraj Pillai, a noted hockey player to give away the prizes to the budding sportspersons of the school. Write a formal invitation in about 50 words requesting him to grace the occasion. You are Karuna/Karan. Sports Secretary, Sunrise Global School, Agra.

(5marks)

SECTION – C (Literature)

3. **Read the given extract and answer the questions that follow:**

" Instead of the sour faces which ordinarily met him, the owner, who was an old man without wife or child, was happy to get someone to talk to his loneliness" (6marks)

a) Who was with the old man?
b) Why was iron master so talkative and friendly with the peddler?
c) What hospitality did the peddler receive from the crofter?
d) What made the peddler friendly change his ways?
e) Why did the peddler think that the world war a rattrap?
f) Name the lesson

4. Read the given extract and answer the questions that follow:

" The down followed his orders. He four the right girl from a state which possessed a large number of tigers. Maharaja's Jung Jung Bahadur killed five on six tigers each time he visited his father – in – law. In this manner, ninety – nine tiger skins adorned the walks of the reception hall on the Pratibandapuram palace

a) Why did the Maharaja get married? (4marks)
b) What does the narrator mean by " Ninety – nine tiger skins adorned the wall'?
c) What was Maharaja preference for marrying a girl?
d) Name the lesson and author

5. Answer the following questions briefly? (5x2=10)

a) Why did the Peddler decline the invention?
b) Who is the tiger king? Why does he get that name?
c) When did the ironmaster realise his mistake?
d) What happened to the tiger provided by the Diwan Saheb?
E) Why was Edla happy to see the gift left by the peddler?

6. Answer in detail: (5marks)

a) Describe how the story, "The Rattrap" shows that basic human goodness can be brought out by understanding and love.

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JAWAHAR HIGHER SECONDARY SCHOOL – NEYVELI
REVISION EXAM – IV – 2022 - 2023

CLASS: XII **MATHEMATICS** **MARKS: 40**
DATE: 29.08.2022 **TIME : $1_{1/2}$ hrs**

SECTION – A **(2 X 2 = 4)**

1. If $2x + 3y = \sin x$. Find $\frac{dy}{dx}$

2. If $f(x) = 3\cos x + e^x$ Find $f^1(0)$

SECTION – B **(4 X 3 = 12)**

3. If $y = 3\cos(\log x) + 4\sin(logx)$ show that $x^2y_2 + xy_1 + y = 0$

4. If $x\sqrt{1+y} + y\sqrt{1+x} = 0$, for $-1 < x < 1$, Prove that $\frac{dy}{dx} = \frac{-1}{(1+x)^2}$

5. Differentiate $tan^{-1}\left(\frac{x}{\sqrt{1-x^2}}\right)$ with respect to $sin^{-1}\left(2x\sqrt{1-x^2}\right)$, when $x \neq 0$.

6. If $f(x) = \begin{cases} x^2 + 3x + a, & x \leq 1 \\ bx + 2, & x > 1 \end{cases}$ is everywhere differentiable, find the values of a and b.

SECTION – C **(6 X 4 = 24)**

7. For what value of λ the function defined by $f(x) = \begin{cases} \lambda(x^2 + 2), & x \leq 0 \\ 4x + 6, & x > 0 \end{cases}$ is continuous at $x = 0$? Hence the differentiability of $f(x)$ at $x = 0$.

8. If $y = a^{x^{a^{x^{\cdots\cdots\infty}}}}$ Prove $\frac{dy}{dx} = \frac{y^2 \log y}{x(1 - y\log x \log y)}$

9. Find all points of discontinuity of f, where f is defined by

$$f(x) = \begin{cases} |x| + 3, & if\ x \leq -3 \\ -2x, & if\ -3 < x < 3 \\ 6x + 2, & if\ x \geq 3 \end{cases}$$

10. Differentiate the functions with respect to x (i) $\sin(x^2 + 5)$ (ii) $\cos x^3 \times sin^2(x^5)$

11. Differentiate $(\sin x)^x + sin^{-1}\sqrt{x}$

12. If $x = a(cost + t\sin t)$ and $y = a(\sin t - t\,cost)$, find $\frac{d^2y}{dx^2}$

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JAWAHAR HIGHER SECONDARY SCHOOL – NEYVELI
REVISION EXAM – IV – 2022 - 2023

CLASS: XII **PHYSICS** **MARK: 35**
DATE: 02.09.2022 **TIME : $1_{1/2}$ hrs**

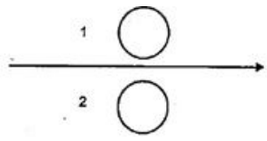
SECTION – A **(5 X 1 = 5)**

1. The core of transformer is laminated to
   (a) prevent it from moisture (b) prevent it from noise
   (c) prevent it from heat (d) reduce the loss of energy

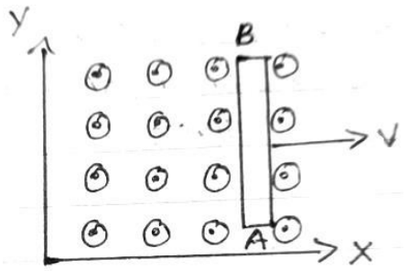
2. If $L = 100\ \mu\ H$, current changes by $1A$ in $0.1S$. What is the emf produced?
   (a) $1\ mv$ (b) $100\ mv$ (c) $10\ mv$ (d) $0.IV$

3. The frequency of a.c is doubled. How do X_L and X_C get affected?

4. What is the directions of induced current in metal rings and 2 when current I in the wire is increasing steadily?



5. A conducting rod AB moves parallel to the x-axis in a uniform magnetic field pointing in the positive z direction. What charge does end A of the rod gets.



SECTION – B **(5 X 2 = 10)**

6. (i) Discuss the various methods of generating induces emf.
   (ii) Two identical loops, one of copper and another of aluminium are rotated with the same speed in the same magnetic field. In which case the induced emf and induced current will be more and why?

7. (i) Draw a graph showing variation of amplitude of circuit with changing frequency of applied voltage in a series LCR circuit for two different values of resistance R_1 and R_2 $(R_1 > R_2)$
   (ii) Define the term 'sharpness of Resonance'. Under what condition, does a circuit become more selective?

8. The magnetic flux passing through a coil perpendicular to the plane is varying according to the relation. $\emptyset = \left(5t^3 + 4t^2 + 2t - 5\right) wb$. Calculate the induced current through the coil at $t = 2S$, if the resistance of the coil is $5\ \Omega$.

9. What is meant by self – induction? Write down the factors on which self – inductance depends.

10. Show that the voltage and current always vary in the same phase in a.c circuit containing resistance only. Draw the Phasor diagram for it.

SECTION – C **(5 X 3 = 15)**

11. (i) What is meant by the statement that the current through an inductor lags behind the emf across it by $\pi/2$
    (ii) A pure inductor of $25.0\ m\ H$ is connected to a source of $220\ V$. Find the inductive reactance rms current in the circuit if the frequency of the source is $50\ Hz$.

12. Define mutual inductance. Deduce an expression for the mutual inductance of two long coaxial solenoids having different radlii and different number of turns.

13. (i) State the principle of working of a transformer. Define the efficiency of a transformer.
    (ii) A transformer has 500 turns in the primary and 1000 turns in its secondary winding. The primary voltage is $200\ V$ and the load in the secondary is $100\ \Omega$. Calculate the current in primary assuming it to be an ideal transformer.

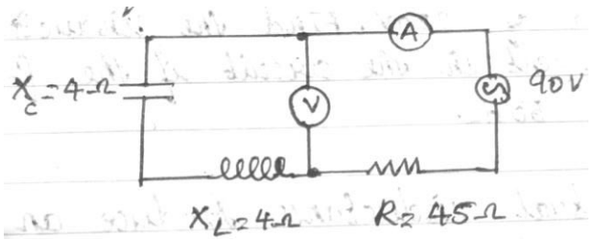
14. A sinusoidal emf is applied to a circuit containing capacitor only. Show that current leads the voltage by $\boldsymbol{\pi/2}$ radian. Draw the graph of $\boldsymbol{\varepsilon}$ and $\boldsymbol{I}$ verses ωt and phasor diagram for it.

15. (i) What is electromagnetic induction?
    (ii) State the laws of electromagnetic induction Express these laws mathematically.
    (iii) Find the magnetic flux linked with a rectangular coil of size $\boldsymbol{6\ cm \times 8\ cm}$ placed at right angle to a magnetic field of $\boldsymbol{0.5\ Wb\ m^{-2}}$.

SECTION – D **(1 X 5 = 5)**

16. (i) Using phasor diagram, derive an expression for the impedance of a series LCR – circuit. What do you mean by the resonance condition of a series $\boldsymbol{LCR}$ circuit?

(ii) What will be the readings in the voltmeter and ammeter of the circuit shown below.



(or)

(i) With the help of a labelled diagram, explain the principle and working of a.c generator. Derive the expression for the induced emf and current.

(ii) An ac generator consists of a coil of 2000 turns each of area $80\ cm^2$ and rotating at an angular speed of $200\ rpm$ in a uniform magnetic field of $4.8 \times 10^{-2}\ T$. Calculate the peak and rms values of emf induced in the coil.

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JAWAHAR HIGHER SECONDARY SCHOOL – NEYVELI
REVISION EXAM – IV – 2022 - 2023

CLASS: XII **CHEMISTRY** **MARK: 35**
DATE: 22.08.2022 **TIME : 1 hr**

I. Answer the following questions: **(5 X 2 = 10)**

1. What is meant by chelate effect? Give an example.
2. Define crystal field splitting energy? and Drw the crystal field splitting for octahedral complex.
3. A coordination compound with the molecular formula $\boldsymbol{CrCl_3 . 4H_2O}$ precipitate $\boldsymbol{AgCl}$ with $\boldsymbol{AgNO_3}$. Its molar conductivity is found to be equivalent to two ions. What is the structural formula and name of the compound?
4. Give reason for the following:
   (a) $\boldsymbol{CO}$ is a stronger ligand than $\boldsymbol{CI^-}$
   (b) Square planar-complexes with coordination number of four exhibit geometrical isomerism whereas tetrahedral complexes do not.
5. Give the formula of each of the following
   (i) $\boldsymbol{Co^{3+}\ ion}$ is bound to on $\boldsymbol{CI^-}$, one $\boldsymbol{NH_3}$ molecule and two bidentate ethylene diamine ($\boldsymbol{en}$) molecule
   (ii) $\boldsymbol{Ni^{2+}\ ion}$ is bound to two water molecules and two oxalate ions

II. Answer the following questions: **(5 X 3 = 15)**

6. Explain the following with two examples for each.
   (a) Amphidentate ligands, Homoleptic complex and co – ordination number
7. Using $\boldsymbol{IUPAC}$ norms, write the name of the following complex.
   (a) $[\ \boldsymbol{Co\ (NH_3)_6}\ ]\ \boldsymbol{Cl_3}$ (b) $\boldsymbol{K_3}\ [\ \boldsymbol{Cr\ (C_2\ O_4)_3}\ ]$ (c) $[\ \boldsymbol{Pt\ (NH_3)_2\ Cl_2}\ ]$

[P.T.O]

8. For the complex $[\ Pt\ (NH_3)\ (Br)\ (Cl)\ (Py)]$
   (a) How many possible optical isomerism and draw the structure.
   (b) Write its co – ordination number.
9. Using valence bond theory explain the $[\ Co\ (NH_3)_6\ ]^{3+}$ (i) Type of Hybridisation, (ii) Inner or outer orbital complex, (iii) Magnetic behavior, (iv) spin only magnetic moment value.
10. On the basis of crystal field theory. Write the electronic configuration of d^4 ion if $\Delta_0 < P$ and $\Delta_0 > P$.

III. Answer the following questions: **(2 X 5 = 10)**

11. (i) Mention the type of isomerism and draw the structure of the isomer in the following.
    (a) $[\ \boldsymbol{Co\ (NH_3)_6}\ ]\ [Cr\ (CN)_6]$ (b) $[\ Cr\ (NH_3)_5\ NO_2]^{2+}$ (c) $[Fe\ (H_2O)_5\ Cl\ ]SO_4$

    (ii) Account for the following:
    (a) $[\ Ti\ (H_2O)_6]^{3+}$ is coloured while $[Sc(H_2O)_6]^{3+}$ is colourless.

    (iii) $K_3\ [Fe\ (CN)_6]$ is more stable than $K_4\ [Fe\ (CN)_6]$

12. (a) Using crystal field thery, draw energy level diagram, write electronic configuration of the central metal / ion, and determine magnetic moment value in the following $[\ Fe\ (H_2O)_6]^{3+}$
    (b) Explain on the basis of valence bond theory that $[Ni(CN)_4]^{2-}$ ion with square planar structure is diamagnetic and the $[\ Ni\ Cl_4\ ]^{2-}$ ion with tetrahedral geometry is paramagnetic.

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JAWAHAR HIGHER SECONDARY SCHOOL – NEYVELI
REVISION EXAM – IV – 2022 - 2023

CLASS: XII **BIOLOGY** **MARK: 35**
DATE: 05.09.2022 **TIME : 1 hrs**

General instructions:

(i) All questions are compulsory
(ii) The question paper has four sections and 16 questions. All questions are compulsory.
(iii) Section A has 5 questions of 1 marks each, Section B has 5 questions of 2 marks each and Section C has 5 questions of 3 marks each and Section – D has 1 questions of 5 marks.
(iv) Wherever necessary, neat and properly labelled diagrams should be drawn.

SECTION – A

1. Give two examples of polygenic traits in human.
2. A colour blind boy is born to a couple with normal colour vision. Write the genotype of the parents.
3. Name the human genetic disorder due to the following
   (i) An additional X – Chromosome in male
   (ii) Deletion of one X – Chromosome in female
4. In a dihybrid cross carried out by T H. Morgan in Drosophila, F_2 ratio deviated from that of Mendel's dihybrid F_2 ratio. Give reason.
5. Mention the combination of sex chromosome in a male and female bird.

SECTION – B

6. Write the three basic facts that are highlighted in Mendel's Law of Dominance.
7. A haemophilic father can never pass the gene for haemophilia to his son. Explain.
8. Which chromosome carry the mutant gene causing thalassemia in human. What are the problems caused by these mutant gene?

9. "Phenylketonuria is a good example that explains pleiotropy". – Justify.
10. What is test cross? How can it decipher the heterozygosity of a plant?

SECTION – C

11. Explain haplodiploid sex determination with an example.
12. Why did T.H. Morgan select Drosophila melanogaster for his experiment.
13. Draw a monohybrid cross depicting the phenomenon of Incomplete dominance. Mention the phenotypic and genotypic ratio.
14. During a medical investigation, an infant was found to possess an extra chromosome 21. Describe the symptom, the child would develop later in the life.
15. In a family of 4 children, each has different blood groups. Write the blood groups of their parents and work out a cross to explain how it is possible.

SECTION – D

16. (a) Sickle called anaemia in humans is a result of point mutation. Explain.
    (b) Write the genotypes of both the parents who have produced a sickle celled anemic off spring.
    (c) Work out a cross to explain it and calculate the percentage of carriers and sufferers. (diseased)

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JAWAHAR HIGHER SECONDARY SCHOOL – NEYVELI
REVISION EXAM – IV – 2022 - 2023

CLASS: XII **COMPUTER SCIENCE** **MARK: 35**
DATE: 05.09.2022 **TIME : $1_{1/2}$ hrs**

SECTION – A **(6 X 2 = 12)**

1. Predict the output for the following: $n1 = [40, 20, 40, 60, 60, 20, 30]$
   (a) print (n1.count (20)) (b) print (n1.remove (40))
   (c) print (n1.index (40)) (d) print (n1.extend ([100 , 200])
2. Explain unpacking tuple with an example.
3. $n2 = [70, 50, 50, 80, 30, 60]$
   Sort the above list in ascending and descending order using suitable function.
4. How does clear( ) differ from del statement?
5. (a) Write the significance of try and except statement.
   (b) Mention the statement which replaces try and except.
6. What is deserialisation?

SECTION – B **(5 X 3 = 15)**

7. Differentiate append( ) and insert( ) with suitable example.
8. $n1 = [10, 20, 30]$ How do you create Shallow copy and deep copy of the above list?
9. Define tell( ) and seek( ) .
10. Predict the output for the following:

$d1 = \{'Emp.No' : 1001, 'Name' : 'Sam', 'Dept' : 'Sales'\}$
$d2 = \{$'Name' : $'Sam', 'Salary' : 70000\}$
(a) $print\ (d1.update\ (d2))$
(b) $print\ (d1.get('Dept')$
(c) $print\ (d2.items\ ())$

11. Predict the output for the following:

$str =' be\ good\ \ always'$
(a) $print\ (str.swapcase\ ())$
(b) $print\ (str.title\ ())$
(c) $print\ (str.capitalize\ ())$

SECTION – C **(2 X 4 = 8)**

12. Write a program to open the file “Student.dat” and search for records with roll no. 5 and 6. If records found, display the records.
13. (a) Using seek( ) and read() retrieve ‘Science’ from ‘Computer Science’ stored in file ‘File1.Txt’.
    (b) Predict the output for the following:

$n1 = [10, 20, 30, 40, 50, 60, 70, 80]$
(i) $print\ (n1[:: -2])$
(ii) $print\ (n1\ [1 : 8 : 3])$
(iii) $print\ (n1\ [-7 : -1 : 2\ ])$
(iv) $print\ (n1\ [2 : 10 : 4\ ])$

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