Subject: ENGLISH

I. Answer the following in 60 words.

Q1. How did the hundredth tiger take the revenge?

Q2. Why did the peddler keep to the woods after leaving the crafter's cottage?

Q3. Why did Douglas go to lake Wentworth in New Hampshire? How did he make his terror flee?

Q4. What was the share cropping arrangement in the lesson Indigo?

Q5. What is the open prayer made by the country folk?

Q6. Why was Sophie jealous of Geoff's silence?

Q7. Why do you think the author was not happy to see Saheb going to the tea stall?

Q8. Why is Antarctica the place to go, to understand the earth's present, past and future.

II. Answer the following in 120-150 words

Q1. Imagine Zitkala Sa and Bama met each other and talked about their battle against discrimination. Write their conversation.

Q2. Do you agree with the statement that Elsa's large heartedness changed the stranger? Elaborate.

Q3. What did the French teacher tell his students in his last French lesson? What impact did it have on them? Write M Hanel's last lesson in the form of a speech?

Q4. What does the poet try to convey through the poem' A Thing of Beauty'?

III. Reference to context

And then, strangely, there was light. I was coming out of the awful yellow water. At least my eyes were. My nose was almost out too.

Then I started down a third time. I sucked for air and got water. The yellowish light was going out. Then all effort ceased. I relaxed. Even my legs felt limp; and a blackness swept over my brain. It wiped out fear; it wiped out terror. There was no more panic. It was quiet and peaceful. Nothing to be afraid of. This is nice... to be drowsy... to go to sleep... no need to jump... too tired to jump... it's nice to be carried gently... to float along in space...tender arms around me... tender arms like Mother's... now I must go to sleep...

I crossed to oblivion, and the curtain of life fell.

(i) What is the speaker describing about in the above extract?

(a) He is describing his ordeal how he sprang up to the surface.

(b) He is describing his swimming training with the instructor.

(c) He is recalling how he was almost drowned in a swimming pool and his struggle to come back to the surface.

(d) He is recalling the traumatic experience when his father had taken him to the beach in California.

(ii) "I crossed to oblivion." What does the speaker intend to say here?

a) He succeeded to come back to the surface.

(b) He was oblivious of everything around him in the pool.

(c) He was comfortable in the pool.

(d) He struggled hard and came to the surface of the water.

(ii) What did the speaker mean by 'the curtain of life fell'?

(a) He was almost dead.

(b) He was more confident being into the pool for quite some time.

(c) He was asleep drawing the curtain.

(d) He had no other dream but to overcome his fear.

(iv) When does the speaker feel that he was being carried gently?

Effort' in the extract means (v) '

(vi) The word from the extract which means 'feeling sleepy' is _____

2. While greedy good-doers, beneficent beasts of prey,
   Swarm over their lives enforcing benefits
That are calculated to soothe them out of their wits,
   And by teaching them how to sleep they sleep all day,

Destroy their sleeping at night the ancient way.
1. Select the phrase that suggests the following:
The so-called aids are not offered out of genuine care or consent but are imposed in a controlling and perhaps unwelcome manner.
2. What does the imagery of 'swarm' NOT represent in the given extract?
(a) Coordinated help (b) Overwhelming force (c) Discomfort and chaos (d) Neglect of individual needs
3.Complete the following suitably.
In the line, 'destroy their sleeping at night the ancient way,' the phrase 'the ancient way' refers to
4. Select the correct option from those given in brackets, to fill in the blank.
The poet has used phrases like 'greedy good doers' and 'beneficent beasts of pre to illustrate the
_____ (irony/satire) in the situation where those claiming to help the rural poor actually impose self-serving and detrimental actions on them.
5.Read the assertion and the reason below, with reference to the given extract.
Assertion: The poet criticizes the way the rural poor are treated by benefactors, suggesting it instils ambition.
Reason: The interventions are overwhelmingly calming and lead to a loss of critical thinking among the rural poor.
Choose the correct option regarding their relationship:
(a) Both the assertion and the reason are true, and the reason is the correct explanation of the assertion.
(b) Both the assertion and the reason are true, but the reason is not the correct explanation of the assertion.
(c) The assertion is true, but the reason is false.
(d) The assertion is false, but the reason is true.
6.State in one sentence, what cautionary advice your address to the rural poor from the extract, is most likely to include.

Subject: MATHEMATICS

1 Let A = {1, 2, 3, 4} and B = {a, b} be two sets. Write total number of onto functions from to B.

2 Find the principal value of $\cosec^{-1} (- 2)$.

3 If $\begin{vmatrix} x & 2 \\ 18 & x \end{vmatrix} = \begin{vmatrix} 6 & 2 \\ 18 & 6 \end{vmatrix}$ than x is equal to

4 Differentiate the function with respect to x: x^{sinx}

5 Find the maximum and minimum value, $f(x) = 9x^2 + 12x + 2$

6 Evaluate the integral: $\int \frac{1}{e^x + e^{-x}} dx$

7 The area between $x = y^2$ and x = 4 is divided into two equal parts by the line x = a find the value of a.

8 If the marginal cost of manufacturing a certain item is given by C'(x) $= \frac{dC}{dx} = 2 + 0.15$ x. Find the total cost function C (x), given that C(0) = 100.

9 A vector $\vec{r}$ is inclined to x - axis at 45° and y - axis at 60°. If $|\vec{r}|$ = 8 units, find $\vec{r}$.

10 Write the condition for the lines $\vec{r} = \vec{a_1} + \lambda\vec{b_1}$ and $\vec{r} = \vec{a_2} + \mu\vec{b_2}$ to be intersecting.

11 Maximize Z =4x + 9ysubject to the constraints x≥ 0, y ≥ 0, x + 5y ≤ 200,2x + 3y ≤ 134

12 Neelam is taking up subjects Mathematics, Physics and Chemistry. She estimates that her probabilities of receiving grade A in these courses are 0.2, 0.3 and 0.9 respectively. If the grades can be regarded as independent events, find the probabilities that she receives all A's.

Subject: PHYSICS

1. A small candle 2.5cm in size is placed 27 cm in front of concave mirror of radius of curvature 36cm. At what distance from the mirror should a screen be placed in order to receive a sharp image ? Describe the nature and size of the image. If the candle is moved closer to the mirror, how would the screen have to be moved?
2. A 4.5 cm needle is placed 12 cm away from a convex of focal length 15 cm . Give the location of the image and the magnification. Describe what happens as the needle is moved farther from the mirror.
3. A Double convex lenses are to be manufactured by from a glass of refractive index 1.55, with both faces of the same radius of curvature. What is the radius of curvature required if the focal length of the lens is to be 20 cm?

4. A small telescope has an objective lens of focal length 140 cm and an eyepiece of focal length 5.0cm. What is the magnifying power of the telescope for viewing distant objects when
   (a) the telescope is in normal adjustment
   (b) the final image is formed at the least distance of distant vision (25 cm)
5. In a Young's double slit experiment, the slits are separated by 0.28 mm and the screen is placed 1.4 m away. The distance between the central bright fringe and the fourth bright fringe is measured to be 1.2 cm. Determine the wavelength of light used in the experiment.
6. In a double slit experiment using light of wavelength 600 nm, the angular width of a fringe formed on a distant screen is $0.1A^0$ what is the spacing between the central slits?
7. Find the (i) maximum frequency,and (ii) minimum wavelength of X rays produced by 30 KV electron.
8. The energy flux of sunlight the reaching the the surface 1.388×10^3 Wm^{-2} How many photons per square meter are incident on the Earth per second? Assume that the photons in the sunlight have an average wavelength of 550 nm.
9. Light of wavelength 488 nm is produced by an argon laser which is used in the photoelectric effect. When light from this spectral line is incident on the cathode, the stopping potential of photoelectrons is 0.38 V. Find the work function of the material from which the cathode is made.
10. A hydrogen atom initially in the ground level absorbs a photon , which excites it to the n= 4 level. Determine the wavelength and frequency of photon

Subject: CHEMISTRY
Ch-8 Aldehydes, Ketones and Carboxylic Acids
1. How are the following conversions carried out?
a. Ethylcyanide to ethanoic acid
b. Butan-1-ol to butanoic acid
c. Benzoic acid to m-bromobenzoic acid
2. Why is Carboxyl group in benzoic acid meta directing? Support your answer with two examples.
3. An organic acid A $C_5H_{10}O_2$ reacts with Br_2 in presence of phosphorus to give B. Compound B contains an asymmetric carbon atom and yields C on dehydrobromination. Compound C does not show geometrical isomerism and on decarboxylation gives an alkene D which ozonolysis gives E and F. Give structures of A to F.
4. An organic compound (A) on treatment with ethyl alcohol gives a carboxylic acid(B) and compound (C). Hydrolysis of (C) under acidified conditions gives (B) and (D). Oxidation of (D) with $KMnO_4$ also gives (B). (B)on heating with $Ca(OH)_2$ gives (E) having molecular formula C_3H_6O. (E) does not give tollens test and does not reduce Fehling's solution but forms a 2, 4-dinitro phenyl hydrazone. Identify A to E.
5. Arrange the following in the increasing order of their property indicated:
a) Ethanal, Propanone, Propanal, Butanone (reactivity towards nucleophilic addition)
b) 4-Nitrobenzoic acid, Benzoic acid, 3, 4-Dinitrobenzoic acid, 4-Methoxy benzoic acid (Acid strength)
c) Acetaldehyde, Acetone, Methyl tert butyl ketone (reactivity towards NH_2OH)
d) Ethanol, ethanoic acid, benzoic acid (boiling point)
Ch 9- Amines
1. When benzene reacts with CH_3Cl in presence of $ALCL_3$ to give A (C_7H_8). A reacts with 1 mole of CL_2 in presence of sun light forms B (C_7H_7CL). B on reaction with KCN forms C. C on hydrolysis gives D. C on reduction with Na and C_2H_5OH gives E. Identify A to E and explain the reactions.
2. Give reasons for the following:
i) Aniline is acetylated before nitration reaction.
ii) Pk$_b$ of aniline is lower than m-nitroaniline.
iii) Primary amine on treatment with benzene sulphonyl chloride forms a product which is soluble in NaOH however secondary amine forms a product which is insoluble in NaOH.
iv) Aniline does not react with methyl chloride in presence of anhydrous $AlCl_3$ catalyst.
v) Ammonolysis of alkyl halides is not a good method to prepare primary amines.
vi) Although amine group is o-p directing in electrophilic substitution reactions yet aniline on nitration gives good yield of m-nitroaniline.
vii) Aromatic primary amines cannot be prepared by Gabriel Phthalimide synthesis.
viii) Aniline is a weaker base than alkyl amines.
3. An organic compound A having molecular formula C_3H_5N on hydrolysis gave another compound B. B on treatment with HNO_2 gave ethyl alcohol. B on warming with chloroform and alc potash gave an offensive smelling substance C. Identify A, B and C and write the reactions involved.
4. How are the following conversions carried out?

i) Ethanamine to N-ethyl ethanamide
ii) Chloroethane to methanamine
iii) Chloroethane to proan-1-amine
iv) Phenol to N-phenylethanamide
v) An alkyl halide to a quarternary ammonium salt
vi) Aniline to benzonitrile
vii) Nitrobenzene to benzoic acid
viii) Aniline to benzyl alcohol
ix) Benzene to m-bromoaniline
x) Nitrobenzene to phenol
5. Arrange the following in order of:
i) $C_6H_5NH_2$, $(C_2H_5)_2NH$, $(C_2H_5)_3N$, $C_2H_5NH_2$ (increasing order of Basic strength in water,
   decreasing order of basic strength in vapour phase)
ii) $C_6H_5NH_2$, $C_2H_5NH_2$, NH_3 (decreasing order of pk_b values
iii) $(C_2H_5)_2NH$, $C_2H_5NH_2$, $C_6H_5NH_2$ (increasing order of solubility in water)

Ch-10 Biomolecules
1. What is the essential difference between alpha glucose and beta glucose? Draw their pyranose
   ring structures.
2. How will you distinguish 1^0 and 2^0 hydroxyl groups present in glucose?
3. Which monosaccharide units are present in starch, cellulose and glycogen and which linkages
   link these units?
4. Define: Oligosacharide, Invert sugar, Peptide bond, Denaturation of protein, Zwitter ion
5. Why glucose does not give 2,4 DNP test?
6. Differentiate DNA and RNA.
7. What is the difference between (i) acidic amino acid and basic amino acid (ii) essential and non-
   essential amino acid? Give examples.
8. What are nucleotides? Write 4 functions of nucleotides in a cell.

Subject: ARTIFICIAL INTELLIGENCE
Q. What elements of data storytelling, when merged together can engage the audience?
Q. Visualize the following data on bar graph
Meals served over time

Campaign Year	Meals Served
2010	40,139
2011	1,27,020
2012	1,68,193
2013	1,53,115
2014	2,02,102
2015	2,32,897
2016	2,77,912
2017	2,05,350
2018	2,33,389
2019	2,32,797

Q. Why data storytelling has acquired a place of importance?
Q. What is data storytelling? Explain in detail.

Subject: PHYSICAL EDUCATION
Sai kehlo india fitness tests for age group 5-8 years and 9 to 18 years