SINDHI HIGH SCHOOL, HEBBAL
FIRST TERMINAL EXAMINATION 2015-16
SUBJECT:- ENGLISH CORE

Class XII **Max marks: 100**
Date: 21.07.2015 **Time: 3 hours**
General Instructions: **No. Of sides:- 06**

This paper is divided into three sections A, B and C. All the sections are compulsory.
Separate instructions are given with each section and question, wherever necessary.
Read these instructions very carefully and follow them faithfully.
Do not exceed the prescribed word limit while answering the questions.

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SECTION A (READING) (30 marks)

Q1. Read the following passage carefully and answer the questions that follow.

1. There is an inbuilt fuse in all of us that cuts off our supply of happiness unless we share it with others. This story came to me through mail. A reporter once asked a farmer why his corn won the state fair contest every year. The farmer revealed that it was because he shared his seeds with neighbours. The perplexed reporter wondered why. The farmer's answer: "Sir, don't you know? The wind picks up pollen from ripening corn and swirls it from field to field. If my neighbours grew inferior corn, cross-pollination would degrade the quality of my corn. If I am to grow good corn, I must help my neighbour do the same."

2. A simple lesson that nature teaches us, and we find difficult to imbibe. We pull down others in order to climb up. We clutch our possessions and refuse to share the good things of life. Rarely will you find a person readily sharing credit for a job well done. I have quoted this instance earlier – a senior colleague often talks about how at an interview, what went against the candidate was precisely his biggest achievement at the last job. The guy boasted about being a one-man army and took credit for everything good about the magazine he had launched. "Instead of conveying a good impression," said my colleague, "this told me that the guy was not a good team player!"

3. Contrary to common thinking, studies have repeatedly proved that rather than decrease what you have, sharing only succeeds in starting a circle that brings back multifold benefits. Spiritualists say this, astrologers say it, doctors say it, and now scientists and scholars have also proved it with studies. But more than anything else, our own instinct tells us the same, as does our experience after giving away to a needy person.

4. Sharing is the one big reason for the magnificent success of social media. Sites such as Facebook, Twitter, Pinterest, etc, enable people to share their thoughts, emotions, experiences, memories and even frustrations with thousands of others at one go. And instant 'likes', sympathy, empathy and consolation make for immediate brightening of spirits. Social interaction helps one's physical and mental health. Engaging in positive sharing of emotions and thoughts, and contributing to each others' feel-good experiences helps improve health and prolong life. A study by neuroeconomics researcher Paul Zak showed that people who share and feel gratitude release oxytocin, a feel-good hormone, and experience a reduction of stress hormones. Even 10 minutes of tweeting spikes a person's level of oxytocin.

5. Sharing is, in fact, a very natural instinct in humans. Can you imagine where we would have been if our ancestors had not co-operated and shared food, shelter and arrangements of security? Through sharing resources, information and knowledge, we save time and energy and create free time for ourselves. Google and Wikipedia have gained gigantic proportions by sharing knowledge for free. Sharing also helps create trust, which is a prerequisite for security and happiness. When

we share our feelings, knowledge and possessions with others, we create a relationship of trust, which in most cases flows back and helps us feel secure and happy.

6. Not just religions world over, but even top corporate leaders and thinkers believe in the benefits of giving and sharing. A survey at Harvard Business School in 2008 showed that when one gives away a sum of money, it helps lift his own well-being more than if he spends it on himself.

7. Not long ago, whenever any household prepared a special dish, invariably some of it would be sent to the neighbours. In turn, they would fill the dish with goodies before returning it. My mother remembers the many happy hours spent with neighbouring women baking, throwing away burnt dishes and then emerging triumphantly with successful ones. That is how we shared our experiences and our successes. There was always enough for everyone. Today, we make just enough for ourselves and have no time or inclination for sharing. As a result, most of us do not even know the people who live next door, leading to unsafe, insecure neighbourhoods and skirmishes over minor issues such as parking spaces or pets.

8. What is the use of an idea unless it is uttered? What good is a dream unless executed? What good are thoughts unless used to benefit others? What good is happiness or success unless shared? Those who wish to succeed must help others succeed, like the farmer on the corn field. Those who wish to live well must help others do so. And if it is happiness you want, start spreading the warmth and goodness to others around.

1.1. On the basis of your understanding of the above passage answer the following questions.

a. Why was the reporter perplexed? **(1)**

b. Which lesson taught by nature is tough to follow by humans? How does he act instead? **(2)**

c. 'The biggest achievement at the last job was a deterrent for the candidate at the interview.' What did his colleague refer to here? **(2)**

d. How is the feel- good- experience of the social media proven healthy scientifically? **(1)**

e. Complete this sentence: **(1)**

Not only did our ancestors (a) _____, they also helped in creating (b) _____

f. Unsafe and insecure neighbourhoods are a result of forgetting an action followed in the household. Explain what the narrator is citing. **(2)**

1.2. Identify the words from the passage which mean the same as the phrases listed below. **(3)**

a. takes in something mentally. b**.** Something needed as prior condition.

c. A tendency towards something.

Q2. Read the poem carefully.

A precious, mouldering[1] pleasure 't is
To meet an antique book,
In just the dress his century wore;
A privilege, I think,

His venerable hand to take,
And warming in our own,
A passage back, or two, to make
To times when he was young.

His quaint opinions to inspect,
His knowledge to unfold
On what concerns our mutual mind,
The literature of old;

His presence is enchantment,
You beg him not to go;
Old volumes shake their vellum[2] heads
And tantalize, just so.

He ate and drank the precious words,
His spirit grew robust;
He knew no more that he was poor,
Nor that his frame was dust.

He danced along the dingy days,
And this bequest[3] of wings
Was but a book. What liberty
a loosened spirit brings!

- Emily Dickinson

Word meanings for help
1. Slowly decay or disintegrate
2. Fine parchment made from calf skin.
3. Pass something on to someone else.

Q2.1Select the correct option: **(5x1=5)**

1. Identify the poetic device used here: *His presence is enchantment.*
   (a) Simile (b) Metaphor (c) Personification (d) Metonymy.
2. 'Bequest of wings' refers to
   (a) a book. (b) An old book (c) a Bird (d) The poet.
3. The reader is made rich because of
   (a) his wealth (b) his precious words.
   (c) his loosened spirits. (d) the knowledge derived from the book.
4. The tone of the poem is
   (a) rude (b) Sarcastic (c) optimistic (d) Sermonizing
5. What is meant by "dust frame"?
   (a) the mortality of man (b) The immortality of man
   (c) the dusty book (d) The frame which is dusty

Q2.2 Answer briefly:- **(5x1=5)**

1. What does the poet consider as a privilege?
2. What is the poet reminded of?
3. What made the reader dance even on gloomy days?
4. Pick out the antonym of 'Modern'.
5. Pick out the word that means the same as ' a feeling of great pleasure or delight'.

Q3. Read the passage.

In the democratic countries, intelligence is still free to ask whatever question it chooses. This freedom, it is almost certain, will not survive another war. Educationists should, therefore, do all they can, while there is yet time, to build up , the men and women of the next generation will be at the mercy of that skilful propagandist who contrives to seize the instruments of information and persuasion. Resistance to suggestion can be built up in two ways. First, children

can be taught to rely on their own internal resources and not to depend on incessant stimulation from without. This is doubly important. Reliance on external stimulation is bad for the character. Moreover, such stimulation is the stuff with which propagandists bait their books, the jam in which dictators conceal their ideological pills. An individual who relies on external stimulations thereby exposes himself to the full force of whatever propaganda is being made in his neighbourhood. For a majority of people in the West, purposeless reading, purposeless listening-in, purposeless listening to radios, purposeless looking at films have become addictions, psychological equivalents of alcoholism and morphinism. Things have come to such a pitch that there are many millions of men and women who suffer real distress if they are cut off for a few days or even a few hours from newspaper, radio, music or moving pictures. Like the addict to a drug, they have to indulge their vice, not because the indulgence gives them any real pleasure, but because, unless they indulge, they feel painfully subnormal and incomplete. Even by intelligent people, it is now taken for granted that such psychological addictions are inevitable and even desirable, that there is nothing to be alarmed at in that fact that the majority of civilized men and women are now incapable of living on their own spiritual resources, but have become abjectly dependent on incessant stimulation from without. How can children be taught to rely upon their own spiritual resources and resist the temptation to become reading addicts, hearing addicts, seeing addicts? First of all, they can be taught how to entertain themselves by making things, by playing musical instruments, by purposeful study, by scientific observation, by the practice of some art, and so on. But such education of the hand and the intellect is not enough. Psychology has its Gresham's Law; it is bad money that drives out the good. Most people tend to perform the actions that require least effort, to think the thoughts that are easiest to feel, the emotions that are most vulgarly commonplace, to give rein to the desires that are most nearly animal. And they will tend to do this even if they possess the knowledge and skill to do otherwise. Along with the necessary knowledge and skill must be given the will to use them even under the pressure of incessant temptation to take the line of least resistance and become an addict to psychological drugs. Most people will not wish to resist these temptations unless they have a coherent philosophy of life, which makes it reasonable and right for them to do so. The other method of heightening resistance to suggestion is purely intellectual and consists in training young people to subject the diverse devices of the propagandists to critical analysis. The first thing that educators must do is to analyze the words currently used in newspapers, on platforms by preachers and broadcasters. Their critical analysis and constructive criticism should reach out to the children and the youth with such clarity that they learn to react to forceful suggestions the right way at the right time.

1. On the basis of your reading of the above passage make notes on it using headings and sub-headings. Use recognizable abbreviations wherever necessary. **(5)**
2. Write a summary of the above passage in 80 words, also suggest a suitable title. **(3)**

SECTION B (WRITING) 30 marks

Q4. The International School is looking for a receptionist for the school. Write an advertisement on behalf of the administrative officer in the classified columns of the local newspaper giving necessary details. **Draft the advertisement in not more than 50 words**. **(4)**

Q.5. You are Shriram/Shrilekha , residing in Sterling Apartments. You consider the move of 'Digital India,' recently launched by our Prime Minister, as a great initiative to foresee a Developed India. **Write a letter to the editor of a leading daily expressing your views. (Word limit 150)**. **(6)**

Q6. Recently you read an article titled 'Have we become a world of critics?' You realise that positive values of cherishing and appreciating has become a forgotten issue. **Write a speech** on the same to be delivered in the morning assembly so as to bring a change in the mindset of the present generation. **(Word limit:200)** **(10)**

Q. 7. In this stressful world Yoga is indeed the best way to combat it and lead a balanced and healthy life. **Write an article** highlighting its importance as a wholesome physical activity. **(Word limit:200)** **(10)**

SECTION – C (TEXT BOOKS) (40 Marks)

Q8. Read the given extract and answer the questions that follow: **(4)**

"Far, far from the gusty waves, these children's faces,
Like rootless weeds, the hair torn around their pallor."

1. What are gusty waves symbolic of? Why are the children far away from the gusty waves? **(2)**
2. Why are the children referred to as rootless weeds? What is the poetic device used here? **(1)**
3. What is the hair torn around the pallor suggestive of? **(1)**

Q9. Answer any 4 in about 50-60 words. **(4x3=12)**

1. What is the childhood fear that the poet experienced? Why does she refer to it as a familiar ache now?
2. Bring out 3 instances which Franz observes in Hamel's last class as touching and overwhelming responses.
3. What changes does Anees Jung observe in the temple town of Udipi over the years? In what context is this anecdote elicited in the text?
4. "I shall cut off my tuft, crop my hair short and become an insurance agent……"What prompts the speaker to pass such a statement?
5. How did the instructor build a swimmer 'piece by piece'?
6. "My friend! Sadao always called his patients, and he did now, forgetting that this was his enemy." Bring out the element of dramatic irony in the statement, along with the doctor's intention in attending to the patient.

Q10. Answer in about 150 words: **(6 x 4 = 24)**

1. "Vive La France" is a phrase that brings out an effective conclusion to the Last Lesson. Elaborate.
2. Sketch the gradual but steady progression in the relationship between Dr sadao Hoki and General Takima.
3. What circumstances compelled Marner to relocate from Lantern Yard to Raveloe?
4. How does the place loom large to provide a contrast to Marner's brooding personality?

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SINDHI HIGH SCHOOL, HEBBAL
I TERM EXAMINATION 2015-16
SUBJECT: PHYSICS

CLASS: XII MARKS: 70
DATE :24.07.2015 TIME: 3hrs
General Instructions:- No. Of sides : 04

1. All Questions are compulsory.
2.Question numbers 1 to 8 carries 1mark each .
3.Question numbers 9 to 16 carries 2marks each.
4.Question numbers 17 to 25 carries 3marks each.
5.Question numbers 26 carries 4 marks.
6. Question numbers 27 to 29 carries 5 marks each.

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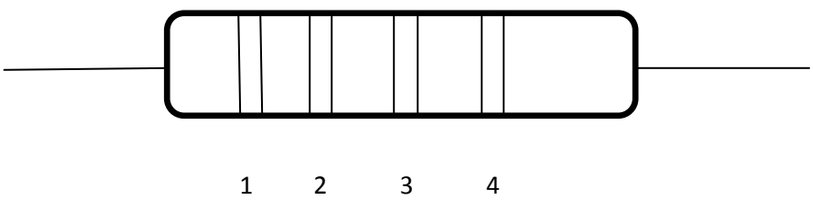
1. In Bohr's model of Hydrogen atom an electron moves around the nucleus in a circular orbit of radius 52.9pm. Calculate the electrostatic force on the electron.

2. Sketch the electric field lines for a system of two equal and opposite charges separated by a distance 'd'.

3. Estimate the resistance of carbon resistor given below, where---
1. GREY 2. WHITE 3. ORANGE 4. SILVER



4. Justify ,that if at a point in space where electric field is zero ,electric potential may not be zero.

5. For which colour the magnifying power of a simple microscope is highest.

6. Sun glasses are made of polaroids and not of coloured glasses. Why?

7. A biconvex lens made of a transparent material of refractive index 1.25 is immersed in water of refractive index 1.33. Will the lens behaves as a converging or a diverging lens? Give reason.

8. The diameter of the objective of a telescope is doubled. In what ratio will the intensity of the image increase?

9. 27 small drops of mercury coalesce to form a big drop. Find the ratio of capacitance of the big drop to small drop.

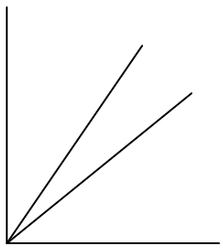
10. A conductor of length 'l' is connected to a d.c source of potential difference 'V'. If the length of the conductor is tripled by gradually stretching it and keeping V constant, how will i) drift velocity of electrons & ii) resistance of conductor be affected. Justify your answer

11. Three small sphere's carrying charge 'q' are placed at the circumference of

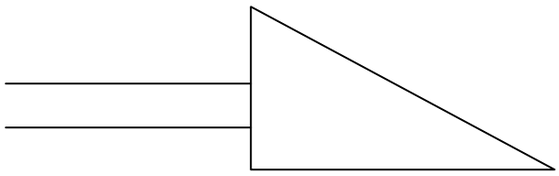
circle of radius 'R' to form an equilateral triangle. Find the electric field and potential at the centre.

12. Two charges 5nC and -2nC are placed at points (5cm,0,0) and (23cm,0,0) respectively in a region of space where there is no electric field. Calculate electrostatic potential energy of the system.

13. The graph shows the variation of voltage 'V' with charge 'Q' across two plates of a capacitor A and B.Which of the two capacitor has higher capacitance. Give reason for your answer. Also mention the factors on which capacitance of a capacitor depends.



14. Two monochromatic rays of light are incident normally on the face AB of an isosceles right angles prism ABC. The refractive index of the glass prism for the two rays '1' and '2' are respectively 1.35 and 1.45. Trace the path of these rays after entering through the prism.



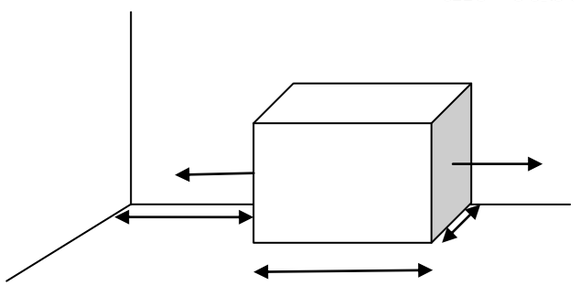
15. What type of wave front will emerge from a i) Point source and ii) Distant light source? Represent them with diagram.

16. Two slits are made 1mm apart and the screen is placed 1m away. What is the fringe separation when blue-green light of wave length 500nm is used?

17.(a) A thin conducting sphere of radius 'R' has a charge Q spread uniformly over the surface. Using Gauss's Law derive an expression for electric field at a point outside the shell.

(b) Draw a graph of E(r) with distance 'r' from the centre of shell for $0 \leq r \leq \infty$.

18. The electric field component in the figure shown below are $E_x=\alpha x^{1/2}$,$E_y=0$, $E_z=0$ where $\alpha=800 N/cm^{1/2}$.Calculate the electric flux through the cube and the charge within the cube.

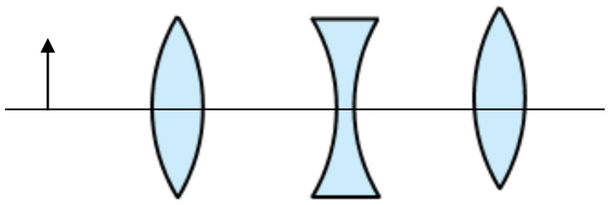


19. A 4μF capacitor is charged by 200V supply. It is then disconnected from the supply and is connected to another 2μF capacitor . How much electrostatic energy is lost in the form of heat?

20. An electric dipole is placed in uniform electric field. Explain with diagram its motion when it is placed i) parallel ii) antiparallel iii) perpendicular to the field. When is it said to be in stable equilibrium?

21. A bulb is placed at a depth of $2\sqrt{7}$ m in water and a floating opaque disc is placed over the bulb. So that the bulb is not visible from the surface. What is the minimum radius of the disc?

22. Find the position of the image formed by the lens combination given below.



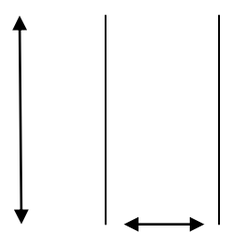
23. (a) Which of the following can be polarized i) X- rays ii) Sound waves. Give reason.
    (b) Two Polaroids are used to study polarization one of them (the polarizer) is kept fixed and the other (the analyzer) is initially kept with axis parallel to the polarizer axis. The analyzer is then rotated through angles of 45°, 90° and 180° in turn. How much the intensity of light coming out of the analyzer be affected for three angles of rotation, as compared to the initial intensity and why?

24. The objective of an astronomical telescope has a diameter of 150mm and a focal length of 4.0m. The eyepiece has a focal length of 25mm. Calculate the magnifying and resolving powers of the telescope. What is the distance between the objective and the eyepiece?

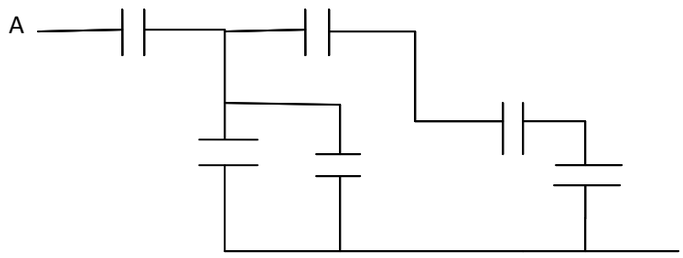
25. State and derive Brewster's law?

26. A group of friends went to Nandi Hills for picnic in a car . Suddenly it started raining accompanied by thunder and lightning. While few ran to take shelter under a tree, the others ran and sat in the car with their feet folded on the seat.
    (i) Who do you think was safe from lightning and why?
    (ii) When in a lift , mobile signals cannot be received .Name the phenomenon involved.

27. (a) Explain the underlying principle of parallel plate capacitor.
    (b) If two similar plates ,each of area 'A' and surface charge densities +σ and -σ are separated by a distance 'd' in air, derive an expression for -----
    (i) electric field at point 1, 2,3
    (ii) potential difference between the plates A
    (iii) capacitance of the capacitor



c) Find the equivalent capacitance of the following circuit . Calculate the total charge flowing in the circuit when potential difference across A & B is 100 V



28.(a) In Young's double slit experiment, deduces the conduction for constructive and destructive interference. Hence write the expression for the distance between the two consecutive bright or dark fringes. Also plot a graph of intensity distribution versus the position 'x' on the screen.

(b) In Young's double slit experiment using monochromatic light of wavelength λ, the intensity of light at a point on the screen. Where path difference is λ, is k units. What is the intensity of light at a point when path difference is λ \3. ?

29. (a) Draw a labeled ray diagram showing the formation of a final image by a compound microscope at least distance of distinct vision. Also derive an expression for its angular magnification.

(b) The total magnification produced by a compound microscope is 20. The magnification produced by the eyepiece is 5. The microscope is focused on a certain object. The distance between the objective and eyepiece is observed to be 14cm. If least distance of distance vision is 20cm, calculate the focal length of the objective and the eyepiece.

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SINDHI HIGH SCHOOL, HEBBAL
I TERM EXAMINATION 2015-16
SUBJECT: CHEMISTRY

CLASS: XII MARKS: 70
DATE :22.07.2015 TIME: 3hrs
General Instructions:- No. Of sides : 02

1. All Questions are compulsory.
2.Question numbers 1 to 5 carries 1mark each .
3.Question numbers 6 to 10 carries 2marks each.
4.Question numbers 11 to 22 -carries 3marks each.
5.Question numbers 23 carries 4 marks.
6. Question numbers 24 – 26 carries 5 marks each.

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1. Write down the reaction taking place at anode during the electrolysis of dilute sulphuric acid using platinum electrodes.

2. What do you mean by "edema"?

3. How many faradays are required for the conversion of one mole MnO_4^- to Mn^{2+}.

4. Arrange the following in order of reactivity towards S_N2 reaction:
1-bromo-3-methylbutane, 2-bromo-2-methylbutane, 2-bromo-3-methylbutane

5. Write the IUPAC name of:$CH_3CH_2CHBrCH_2CH_2CH(CH_3)CHO$

6. Give the names of the reagents to bring about the following transformations:
   (i) Cyclohexanol to cyclohexanone
   (ii) Phenol to salicylaldehyde

7.Explain Rosenmund's reaction with an example.

8. What are ambident nucleophiles? Explain with an example.

9. Explain why;
   (a) Zinc cannot be extracted by hydrometallurgy .
   (b) The reaction $Cr_2O_3 + Al \longrightarrow Al_2O_3 + Cr$, has $\Delta G^{\theta} = -421$ kJ , yet it does not take place at room temperature.

10. State Kohlrausch law of independent migration of ions.Calculate the $\Lambda^o m$ of water, if Λ^o m of NaAc, HCl ,NaOH, and NaCl are 91.0,425.9 ,249.2 and 126.4 S cm^2 mol^-

11. Give the principle used for
   (a) Zone refining (b) Chromatography (c) Froth floatation

12. On dissolving 2 g of benzoic acid in 25 g of benzene, the depression of freezing point of observed was 1. 62^0C.
(a) Benzoic acid under goes dimerisation in benzene, but not in water . Explain.
(b) Calculate van't Hoff factor and percentage association of the acid .
(K_f of benzene is 4.9 Kkgmol-) **(3)**

13.Give reason for;
(a) Copper metal doesnot react with hydrochloric acid, but reacts with nitric acid.
(b) For measuring the resistance of an ionic solution,aDC source of power is not preferred.
(c) At infinite dilution the Λ^o m of weak electrolytes cannot be obtained.

14. (a)Find the molarity and molality of a 15% (w/w)solution of sulphuric acid with density 1.1g cm^{-3}. **(2+1)**

(b) Derive an expression for relative lowering of vapour pressure of a solution

15. Mention the specific role of;

(a) Zinc in leaching of silver.

(b) Flourspar in the extraction of aluminium

(c) Iodine in van Arkel method

16.The electrical resistance of a column of 0.05 mol L^{-}NaOH solution of diameter 1 cm and length 50 cm is 5.55 x 10^3 ohm. Calculate the resistivity, conductivity and molar conductivity**.** **(3)**

17. How would you account for the following:

(i) Aldehydes are more reactive than ketones towards nucleophilic reactions.

(ii) Phenol is more acidic than cyclohexanol.

(iii) Among isomeric alkyl halides branched chain have low boiling point compared to straight chain alkyl halides.

18.Carry out the following conversion

(i) Cumene to Phenol (ii) Aniline to Chlorobenzene

(iii) Toluene to Benzaldehyde

19. Write the structure of the main products.

(i) Ethyl undecaonate is treated with DIBAL-H followed by hydrolysis.

(ii) Propene is treated with ozone followed by zinc dust and water.

(iii) Benzoyl chloride is treated with dimethyl cadmium

20. Explain the mechanism of acid catalyzed dehydration of an alcohol at 413 K.

21. Write the chemical equations to illustrate the following name reactions:

(i) Gatterman-Koch reaction(ii) Stephen reaction

(iii) Friedel-Crafts reaction

22.Define the following terms:

(i) Enantiomers (ii) Denatured Alcohol (iii) Racemisation

23. (a) Explain Hydroboration-oxidation of propene.

(b) While separating a mixture of ortho and para nitrophenols by steam distillation, name the isomer which is steam volatile. Give reason. **(2+2)**

24.(a) How is 1-propoxypropane synthesized from propan-1-ol?

(b) Explain the preparation of ethyl alcohol from molasses.

(c) What is Lucas reagent? **(2+2+1)**

25.(a)Plot suitable graphs representing the non idealsolutions, with suitable example of each. **(2+2+1)**

(b) Calculate the osmotic pressure in pascals exerted by a solution prepared by dissolving 1.0g of polymer of molar mass 185,000 in 450 mLof water at 37^0C.

(c) Define colligative properties.

26.(a)Calculate the emf and standard Gibbs free energy of the cell representedbelow at 25 ^{0} C; $E^{\theta}_{Fe^{2+}/Fe}$=- 0.44V

$Fe(s)\,|\,Fe^{2+}\,(0.001M)\,||H^{+}(1M)|\,H_2\,(1\ atm)\,|\,Pt$ **(3+2)**

(b) Describe the construction and working of SHE.

SINDHI HIGH SCHOOL, HEBBAL
I TERMINAL EXAMINATION 2015-16
SUB:- BIOLOGY

CLASS: XII MARKS: 70
DATE :23.07.2015 TIME: 3 hrs
No of sides:03

General Instructions:-

1. All Questions are compulsory.
2. Question numbers 1 to 5 are to be answered in one word or one sentence each carries 1mark .
3. Question numbers 6 to 10 are to be answered in approximately 20 to 30 words each- carries 2 marks.
4. Question numbers 11 to 22 are to be answered in approximately 30 to 50 words each-carries 3 marks.
5. Question numbers 23 are to be answered in approximately 60 to 80 words it carries 4 marks.
6. Question numbers 24 - 26 are to be answered in approximately 80-120 words each- carries 5 marks.

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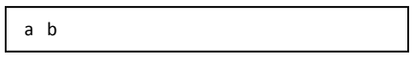
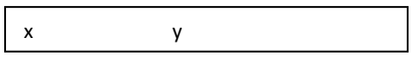
1. When and how does the ovum complete its formation.

2. Name the given picture and label “a” in it.

3.



(i)



(ii)

How is the linkage different in (i) & (ii).

4. Show the polarity of DNA strand which undergoes replication and mention the scientists who have identified the process.

5. Give one symptom of amoebiasis and name the pathogen of athelete’s foot disease.

6. Briefly explain the role of hormones in spermatogenesis.

7. Who explained the biochemical nature of the genetic material ? Describe the process.

8. (i) Define life span and mention the life span of elephant.
(ii) Show any two vegetative propagules.

9. Identify the type of immunity in the following along with one specific

reasoning:-

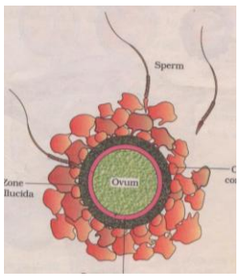
(a) Colostrum. (b) HCl secretion by stomach.

(c) BCG vaccine (d) Tetanus oxide

10. In the given picture explain the process which takes place in the shaded part.

11. (i) Give one example each of the following:-
Polygenic trait, female hetero gamety and sex linked inheritance.
(ii) Show the pedigree of transmission of blood group of a couple to their three children who are of A,(male) B(female) & AB(female).

12. Identify the given process and explain the post events in a detailed sequence.



13. Explain asexual reproduction in any three organisms.

14. HIV infects which cell? Describe the process in detail. Mention the modes of its transmission.

15.(i) Define mutations and comment on various types of it.
(ii) Give a brief note on Thalasemia.

16. What are STDs? How can one avoid such diseases?

17. Represent the life cycle of plasmodium and mention the preventive measures of its transmission.

18. Draw neat labeled diagrams of dicot and monocot seed and give examples of polyembryony and Apomixis.

19. Classify contraceptives and write which is the best contraceptive method? Why?

20. Differentiate between prokaryotic and eukaryotic transcription in detail.

21. (i) On what criteria is DNA called as the genetic material?
(ii) How does a bacteria regulate its metabolism when there is no lactose in its medium?

22. A tall pea plant with purple flowers was crossed with dwarf plant having white flowers. The progeny produced only Tall plants with purple flowers. On selfing, these plants, produced tall plants with purple flowers, dwarf plants with

purple flowers, tall plants with white flowers and dwarf plants with white flowers. What genetic mechanisms accounts for these results? Explain.

23. There was a debate going on between Ram & Shyam, Ram argues that awareness programmes about general health, children, family, STD along with reproductive health is encouraged only in the cities, thus only city people would be benefitted. Shyam argues that people in the villages and forests are also taken care of by the government. Who do you think is right in their argument? Support your answer with appropriate points.

24. (i) Give a detailed note on various steps involved in Megasporogenesis.
(ii) How do the post fertilization event's end products differ?

25. Ellucidate in detail the last step of central dogma of molecular biology.

26. (i) Explain the changes which take place when:
(a) Sperm doesn't reach the ovum.
(b) Sperms reach the abdomen through vas deferens.
(c) Zygote does not move from the fallopian tube.
(ii) With the help of a graph explain the events which take place in female in one reproductive cycle

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