KATHMANDU

DON BOSCO COLLEGE (10+2)

1st Terminal Examination -2058

Stream : Science | **Time : 3 hrs.**
Class : XII | **F.M. : 75**
Subject : Chemistry | **P.M. : 30**

Group "A"

Attempt any 10 questions: [10x3=30]

(1) Distinguish between (a) Normality and Molarity.
(2) Calculate the equivalent weight of $KMn0_4$ in acidic and alkaline medium.
(3) Calculate the weight of solute in gm present in 100ml of N/5 Na_2CO_3.
(4) Define the terms (a) Hydrolysis (b) Normality factor
(5) What is the ph of 0.45M H_2SO_4 ?
(6) What happens when $CHCl_3$ is heated with Ag powder ?
(7) What products are obtained when ozonolysis is carried out in 2 pentene ?
(8) Acetone is highly soluble in water but acetophenone is not, why ?
(9) Identify X, Y and Z in the following sequence of reaction:

$$C_6H_50Na + \xrightarrow{CH_3Br} \mathbf{X} \quad \frac{HBr\ (excess)}{100°C}\ Y + Z$$

(10) Complete the reaction:

$$CH_3CHO \xrightarrow{C_2H_5MgI} ? \xrightarrow{H_2O/H^+} ?$$

(11) What is oxonium salt ?
(12) How is Grignard's reagent formed ?
(13) Distinguish between acetaldehyde and acetone.
(14) Predict the geometry of the BeF_2, BF_3 and CH_4 molecule on the basis of VSEPR theory.
(15) Draw the schematic representation of (a) sp (b) sp^2 (c) sp^3 hybrid orbital.

Group "B"

Attempt any five questions: [5x5=25]

(1) Give Lewis concept for acid and bases.
(2) 20ml of decinormal solution of NaOH neutralises 25 ml of the solution of dibasic acid containing 6.0gm of acid per litre. Find the molecular weight of acid.
(3) Write a short note on Arrhenius Theory of Ionisation.
(4) How would you prepare diethyl ether in laboratory ?
(5) Compound C_5H_{10}(A) forms phenyl hydrazone and gives a negative Tollen's test and Iodoform test. Compound A on reduction gives n-pentane. Write down the structure of compound A and explain the reactions.
(6) Write in brief Aldol Condensation.
(7) In methane, Ammonia and water, the bond angle is decreasing. Explain giving the reason.

Group "C"

Attempt any two questions: [10x2=20]

(1) (a) Explain solubility product principle with reference to 2nd group analysis.
(b) The [Aq+] of a solution is $4x10^{-3}$M. Calculate the [Cl^-] that must be exceeded before AgCl can precipitate. The solubility of AgCl at 25°C is 1.8×10^{-10}.
(2) Write nucleophilic addition reactions in Carbonyl Compound.
(3) Describe the laboratory method of preparation of Iodoethane. How does it react with
(a) alcoholic KOH solution.
(b) metallic sodium in presence of ether ?

Best of Luck !

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DON BOSCO COLLEGE (10+2)

1st Terminal Examination -2058

Stream : Science | **Time : 3 hrs.**
Class : XII | **F.M. : 100**
Subject : Extra Math | **P.M. : 40**

Group "A" [15x3=45]

Attempt all questions:

1. Define circle, write different equation of a circle.
2. What is the condition that a general equation of second degree in n & y may represent a circle.
3. Define comic section, what is the condition for a comic section to be a parabola ?
4. What is the condition that a general equation of second general m, n & y they represent a parabola ?
5. Find the coordinates of the focus, the refer and the equation of the directrix of the parabola
   $y^2+yx+2y-15=0$
6. Find the equation of the parabola with form at (-1, 2) and the directrix n+5=0.
7. The velocity of a body increases from 20m/sec to 30m/sec in 5 secs. Calculate the …… .
8. A point traveling at 20m/sec accelerates uniformly at 5m/sec^2. Find the distance covered in the 6th seconds.
9. A body is projected vertically upwards at 39.2m/sec. When will its velocity be 29.4m/sec ? (g=9.8m/sec^2)
10. A particle slides down an inclind plane 20m long, and acquires a velocity of $10\sqrt{2}$m/sec. Find the inclination of the plane. (g=10m/sec^2)
11. Integrate: $\int \frac{dx}{e^x + e^{-x}}$
12. Solve xdy+ydx = 0
13. Explain the modulus of a vector with a suitable example.
14. What do you mean by a null vector, find the modulus of a null vector.
15. If $\vec{a} = 3\vec{i} - 2\vec{j} + \vec{k}$ and $\vec{b} = 7\vec{i} + 3\vec{j} - 10\vec{k}$, find cosine of angle between the two.

Group B
attempt all questions

16. Prove analytically that the angle in a semicircle is a right angle.
17. Find equation of the tangent to the circle $x^2+y^2=25$ down through the point (13,0).
18. A double ordinate of the parabola $y^2=2ax$ is of length 4a; prove that the lines joining the vertex to its ends are at right angles.
19. Integrate :

Best of Luck !

KATHMANDU

DON BOSCO COLLEGE (10+2)

1st Terminal Examination -2058

Stream : Science | **Time : 3 hrs.**
Class : XII | **F.M. : 100**
Subject : English | **P.M. : 40**

Q.No. [1] Read the following passage and answer the questions given below: [15]

The legend connected with Holi which actually lends it the very name it bears is that relating to demoness, Holika. She was the sister of the demon king, Hiranyakashipu, who defeating the gods, proclaimed his own supremacy over everyone else in the universe. His son Prahlad was a true devotee of Lord Vishnu, the supreme God, who pervades and transcends the universe. Holika was immune to damage from fire, herself carried Prahlad into the fire to make sure he was burned to death. By the divine interventions it was Holika that got destroyed by fire and it was Prahlad who survived. Thus Holi celebrates the triumphs of good over evil.

The brilliant show and noisy festivity and all the music and colour that accompany the celebration of Holi bear witness to the feeling of ownness and sense of brotherhood between man and man. With the annual recurrence of Holi, this lesson of spiritual and social harmony is brought home to us more profoundly.

Questions:

(a) Why do we celebrate the Holi festival ?
(b) What made King Hiranyakashipu declare himself greater than everyone else ?
(c) Why was Holika given the task to burn Prahlad to death ?
(d) Why wasn't there a good father-son relationship between Hiranyakashipu and Prahlad ?
(e) How do people celebrate Holi ?

Q.No. [2] Add an experience or achievement for each of the following: [5]

(a) She has had an amazingly successful film career.
(b) The company has had one of the worst years in its history.
(c) The escaped prisoner has an impressive criminal record.
(d) The colonel has had a remarkably adventurous life.
(e) Jule's career as an anthropologist has taken him all over the world and into the most extra-ordinary situations.

Q.No. [3] Give your general impression about Mr. Harvey using 'seem': [5]

(a) He never stops to chat with you if you have got dog with you.
(b) His front garden always looks a bit neglected.
(c) There are African masks on the wall of his sitting room.
(d) The postman always delivers a lot of letters with foreign stamps to his house.
(e) He usually carries a walking stick when he goes out.

Q.No. [4] Join the following sentences together using a non-defining relative clause. [5]

(a) The old house was finally sold.
The family had lived in it for 300 years.
(b) Mary noticed that he was wearing her ring.
She had lost if five years before.
(c) Nobody liked the eldest son.
Old Lord Banbury had left all him money to him.
(d) He proudly showed me round his home.
He had paid £100,000 for it.
(e) Harold finally asked her to marry him.
She had always been in love with him.

Q.No. [5] Give your attitude towards these people beginning with "If there is one thing": [5]

(a) Look Fred's putting his cigarette out on his dinner plate.
(b) Alice lost that book I lent her.
(c) Jim drove into a lamp-post last week.
(d) George has forgotten to feed the cat again.
(e) Alma kept me waiting for more than an hour last night.

Q.No. [6] Ask a question with "How long …. ?" and answer with the words given in the brackets: [5]

(a) They talked on the telephone. (20 minutes)
(b) We played golf on Sunday. (dusk)
(c) He mowed the lawn. (ten minutes)
(d) I wrote all my letters. (lunch time)
(e) He watched television. (late movie came on)

Q.No. [7] Report the following remarks using a suitable verb from the list: [5]

agree, promise, advise, try to persuade, threaten

(a) "All right, Mr. Lock. We'll look into it immediately".
(b) "Come on, Mr. Lock. Why not buy it ? It's only £60, after all. Go on, it's an investment".
(c) "If you don't pay up, we'll take legal action".
(d) "Very well, then we'll give Mr. Lock his deposit back".
(e) "Frankly, I think you're asking for trouble if you don't pay. Why not just send them the money ? You'd feel much better if you did".

Q.No. [8] Continue the remarks below with a sentence using ***(not) used to + ing***: [5]

(a) He's going to find it hard work working on a building site … … … .
(b) She was quite surprised when I gave her some flowers… … … .
(c) He won't mind if you stare at him … … … .
(d) I get a bit lonely sometimes, now that she's gone … … … .
(e) I don't think she's ever opened a door herself … … … .

Q.No. [9] Look at the information about Paul below, and talk about the activities and their duration in a paragraph. [5]

- Paul is a painter. He started painting in 1970.
- He went to Art School in 1973 and left in 1976.
- He works in a studio in Amsterdam, which he bought just after leaving Art School.
- Next week he is going on a three month working holiday in Italy.

Q.No.[10] If you were shipwrecked alone on a desert, which five common objects would you want to have with you ? Why ? Write in about 150 words. [10]

Q.No. [11] Answer any five of the following: [5x3=15]

(a) How does the poet feel about his grandmother ? [Grandmother]
(b) Why is Alyohin forced to live in Sofyino ? [About Love]
(c) Explain the title of the poem "The Lamentation of the Old Pensioner".
(d) Is death meaningful in the poem "Full Fathom Five ?"
(e) The boy uses so many words that describe the activities of animals when he describes his uncle and his friends. Why ? (A Story)
(f) What does the boy mean when he says "they are going to see who I am" ? (Last Voyage…)

Q.No. [12] Answer any one of the following: [10]

(a) Why do you think Chekhov chose to write about on ordinary man instead of a hero or a scholar or actor ? Does Chekhov imply anything about Alyohin's assumption that "Celebrated" people lead more fulfilled lives than the rest of us ? Do you agree with Alyohin's assumption ?
(b) How does the story "The Last Voyage of the Ghost ship" describe the growth of an ordinary boy into an assertive young man ?

Q.No. [13] Read the following passage and answer the questions: [10]

Dear Sir,

I am an Australian student, and am seeking some interesting form of employment for the summer vacation this year, and I have been advised to write to you to offer my services as a guide to British tourists visiting Europe.

Briefly, my relevant experience and qualifications are as follows: I have studied English for ten years, first at school and since then at Vienna University. I've visited Britain several times, and in 1979 I spent ten weeks in the United States. My experience of speaking English is therefore quite considerable. I have also traveled extensively within Europe and have a good working knowledge of French and Italian in addition to my native language, German. My studies have included the History of European Art and Architecture as well as the languages I have just mentioned…. .

……..
Yours Faithfully,
Anton Mayerhofer

Questions:

(a) What is the main reason that Anton gives for wanting the job ?
(b) Mention two things that Anton is used to doing.
(c) Anton says, "I have a good working knowledge of French and Italian". What does he mean ?
(d) How do you think Anton's studies of European Art and Architecture might be useful in the job ?
(e) The passage is basically written in present perfect and past simple tense. Why ?

♦

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1st Terminal Examination -2058

Stream : Science | **Time : 3 hrs.**
Class : XII | **F.M. : 75**
Subject : Biology | **P.M. : 30**

Group "A"

Attempt all questions:

Q.No. [1] Answer the following questions: *[1x15=15]*

(a) What are the functions of Xylem and Phloem ?
(b) What do you mean by secondary growth ?
(c) Name any two plants with close type of vascular bundle.
(d) Name different types of salivary glands found in the buccal cavity.
(e) What is thecodont type of teeth ?
(f) Name artificial method of Vegetative Propagation.
(g) Define the term Pollination.
(h) Define the term Megasporogenesis.
(i) Define Plasmolysis.
(j) What is Imbibition ?
(k) Name different types of transpiration.
(l) What is Notogenesis ?
(m) Why does urine not return back into ureter from urinary bladder ?
(n) What is ligament ?
(o) What is Heparin ?

Q.No. [2] Answer the following questions: [3x10=30]

(a) What is Meristematic tissue ? List out different types of meristematic tissues in plants ?
(b) Point out the differences between dicot stem and monocot stem.
(c) Write in short about thyroid gland.
(d) Draw a well labeled diagram of T.S. of Anther.
(e) Mention the advantages of cross-pollination.
(f) Describe the mechanism of water absorption by the root from the soil.
(g) Discuss the Glomerular filtration in brief.
(h) How is the coelom formed during the development of frog ?
(i) What is Adipose tissue ? Explain it briefly.
(j) Write a short note on Reticular tissue.

Q.No. [3] Describe the internal structure of dicot stem with well labelled diagram. [8]

Q.No. [4] What is microsporogenesis ? Describe briefly about development of pollen grains in anther with well labelled diagram.
or
Explain briefly about the mechanism of light reaction in Photosynthesis. [7]

Q.No. [5] Write in brief the physiology of Digestion in Man. [7]
or
Describe briefly about the structure of Areolar tissue.

Q.No. [6] Describe the development of frog upto the formation of gastrula.
or
Describe the uriniferous tubule with suitable diagram.

Best of Luck !

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