Karnataka Secondary Education Examination Board

Passing Package for the year 2020-2021

Subject:- Science

Prepared by

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Passing package for the year 2020-2021

Subject:- Science (According to reduced syllabus)

Class:- 10th

Chapters fully retained

1. *Metals and Non metals*
2. *Electricity*
3. *Magnetic effects of electric current*
4. *Control and co ordination*
5. *Periodic classification of elements*
6. *Heredity and evolution*

Chapters partially skipped

Part- 1

1. *Acids, bases and salts (pg 28-33)*
2. *Life process (pg 59 – 70)*
3. *Our environment (pg 136-138)*

Part- 2

1. *Carbon and its compounds (pg 15-18)*
2. *How do organisms reproduce? (pg 37 – 42)*
3. *Light Reflection & Refraction (pg 70—80)*
4. *Sources of energy (pg 111 &112 ----pg 115—119)*
5. *Sustainable management and natural resources. (pg 135—137)*

Chapters fully skipped

1. *Chemical Reactions and equations*
2. *Human eye and colourful world.*

Smart work formula: how to prepare for target 40

1. Practicing drawings: 12 marks

2. Electron dot structure: 2 marks

3. Hydrocarbon mol. Formula, str. formula and naming the compounds by using functional groups: 4 marks

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4. Formulas for problem solving: 4 marks

5. Equation balance : 2 mark

6. Important difference type questions: 4 marks

7. Reactivity series of metals: 2 marks

8. Listing out uses of chemical compounds: 2 marks

9. Important selected VSAs : 4 marks

10. Diagram based questions: 4 marks

Total: 40

Important Physical terms and SI units

1. Electricity : Kilo Watt Hour KWh

2. Electric current : Ampere A

3. Electric potential Difference: Volt V

4. Electric Resistance : Ohm Ω

5. Electric Charge : Coulomb C

6. Electric Power : Watt W

7. Power of a lens : Diopter D

Important diagrams

Reaction of zinc granules with dilute sulphuric acid and testing hydrogen gas by burning

Acid solution in water conducts electricity.

Action of steam on metal.

Testing conductivity of salt solution.

Electrolytic refining of copper

Human heart

Excretory system

Nephron

Neuron

Human brain

Simple electric circuit

Symbols of commonly used components in circuit diagrams.

Circuit of Ohm's law

Resistors in series and parallel

A pattern of concentric circles indicating the field lines of a magnetic field around a straight conducting wire.

Electric motor and generator.

Typical flower.

Germination of pollen on stigma.

Ray diagrams of convex and concave lens.

Bio gas plant.

Prepare Synopsis of Content in Every Chapter like

Definitions

Differences

Diagrams

Scientific Reasons

Working / construction

Laws and Rules

Uses, Properties and Applications

Salient Features (In Biology)

Formulae (In Physics)

Chemical Equations (In chemistry)

Refer NEW Pattern Syllabus Analysis and Plan your Studie

Glance Model Papers released by KSEE

After Preparation of 4 chapters Create Exam like atmosphere in Home and Take MOCK EXAM

Analyse the Mock Exam Paper on basis of Question you answered to find your Strong Area and Weak Areas

Get Clarify doubts in weak areas at your Science Teacher or with your friends for whom that concept is eas

FIX Subject Target Score and display at your Study Place so you see every day and get self motivated to achieve it

PHYSICS

1. Refractive index

2. Laws of Refraction

3. Uses of Lenses

4. Lens Formula

5. Joule's law of heating

6. Ohm's law

7. Ocean thermal energy

9. Definition – Electric Current, Electric Power, Electric Potential.

10.Difference between Voltmeter & Ammeter.

11.Right hand thumb rule

12.Flemings right & left hand rule

13.Properties of Magnetic Field

14.What is solenoid?

15.What is electromagnetic induction?

16. Characteristics of magnetic lines of force

17. Factors on which resistance of conductor depends

CHEMISTRY

1. ***Physical properties of metals and non metals***

2. Chemical properties of metals and non metals

3. Reactions of acids with metals, metallic oxides and bases.

4. What are products of Lead nitrate.

5. pH in digestive system and tooth

6. Definition: Water of Crystallisation.

7. Properties of Ionic Compounds.

8. What are Amphoteric oxides?

9. Strong and weak acids.

10.Electron dot structure: - Methane, ethane, ethene.

11.Functional group & its structures.

12.Modern periodic Law: Law of triad, Law of Octaves

13.Why agitation is required to clean the clothes?

14.Mendeleev periodic law.

15.Drawing structures of Hydrocarbons.

16.What is Isomerism?

17.Difference between Calcination & Roasting.

18.What are Homologous Series?

19.Difference between Combustion & Oxidation.

20.Natural indicators , pH determination of acids, base and salt

21.What is Redox Reaction?

BIOLOGY

1. Double circulation of blood in humans.

2. Role of nephron in excreation.

3. Difference between Valves & Septum.

4. Pathway of Reflex action.

5. Plant hormones & its function.

6. Animal hormones & its function.

7. Why menstruation occur?

8. Different methods of Contraception?

9. Difference between Inherited & Acquired trait.

10. Define Speciation.

11. Difference between Analogous & Homologous Organ.

12. What are Fossils? How can we determine the age of fossils?

13. 10% Rule.

14. Causes of Ozone Layer depletion.

15. Advantage of Cloth bag over Plastic Bag.

16. 5R's.

17. Advantages & Disadvantages of Dams.

18. Difference between Biodegradable & Non- Biodegradable Substances.

19. Functions of:- Testis , Seminal vesicle, ureter, van deferens , fallopian tube, uterus, ovary, sperms and prostrate gland.

20. Functions of Cerebrum, Cerebellum & Medulla Oblongata.

21. Write a note on Lymph.

22. Nutrition in Amoeba.

23. Difference between

(a) Geo tropism & Photo tropism

(b) Arteries and veins

24. Monohybrid & Dihybrid cross with ratios.

25. The sex of a child is determine what they inherit from their father & not from the mother. Justify

26. Glands and the harmones secreated by them.

Important Formulas

Current , Potential difference , Resistance in series and parallel, electric power ,lens formula, ohm's law. Joule's law, magnification of lens…

S.N	Days	Chapter/Diagrams
1	Day 01 to Day 03	All the diagrams and structures in chemistry
2	Day 04 to Day 07	Periodic Classification of Elements
3	Day 08 to Day 13	Control and Co – ordinations
4	Day 14 to Day 16	Sources of Energy
5	Day 17 to Day 21	Light
6	Day 22 to Day 24	Acids, Bases and Salts
7	Day 25 to Day 29	Carbon and its compounds
8	Day 30 to Day 33	Heredity and Evolution
9	Day 34 to Day 37	Metals and Non Metals
10	Day 38 to Day 41	Electricity
11	Day 42 to Day 44	Our Environment/ All the diagrams of biology
12	Day 45 to Day 49	Life Process

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13	*Day 50 to Day 53*	*Management of Natural Resources*
14	*Day 54 to Day 59*	*All the diagrams of physics*
15	*Day 60 to Day 65*	*Magnetic Effects of Electric Current*
16	*Day 66 to Day 70*	*How do organisms reproduce?*

SCIENCE – 70 DAY PLAN

NOTE:

The 70 days chapter wise content plan is tentative, according to level of your previous preparations get it modify days so you give more days for chapters which you require to prepare

Don't Panic, Start Preparing from Today – You can achieve your Goals

Subject:- General Science

(Strictly according to the reduced syllabus)

Important 3 and 4 marks questions.

Q1. What is the role of pH in tooth decay?

Q2. Define phototropism. Give some instances related to it.

Q3. Name the largest artery in human body. Write its functions

Q4. Name the metal which is least reactive and silvery white. Write its physical properties

Q5. Sweet tooth leads to tooth decay. Explain. What is the role of tooth paste in tooth decay?

Q6. Write the characteristics of magnetic lines of force.

Q7. Why copper turns to green when left in open? Give chemical equation also.

Q8. Why ice cream vendor adds common salt to ice to make ice cream. State the reason by giving chemical equation.

Q9. What is a good source of energy? Give one example of good source of energy.

Q10. State two disadvantages of Hydro Power Plants?

Q11. Why is series arrangement not used for domestic circuits?

Q12. Why are coils of electric toasters and electric irons made of an alloy rather than a pure metal?

Q13. Discuss how brain and spinal cord is protected.

Q14. Predict the nature of following salts by hydrolysing them, and give chemical equations:

a) Sodium chloride.

b) Magnesium sulphate.

c) Potassium carbonate.

Q15. Name the acid found in the following:

a) Curd.

b) Bee's sting.

c) Lemon juice.

Q16. The atomic number of F, Na and Ne are 9, 10 and 11.Why Na and Fe are very reactive and Ne shows almost no reactivity?

Q17. Draw a labelled diagram of a biogas plant and label any three parts.

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Q18. The SI unit of a Physical quantity is Ohm. Name the physical quantity. What are the two factors on which it depends?

Q19. i. Give the commercial unit of electrical energy. ii. An electric Iron of resistance 20 Ω takes a current of 5 A. Calculate the heat developed in 30 s.

Q20. State three factors on which magnetic field of a current carrying coil depends.

Q21. Write a note on Blood pressure in human beings .

Q22. Name the two hormones secreted by pancreas. Write the function of each hormone named.

Q23. ***Give reasons for the following.***

i) Arteries are thick walled.

ii) Blood goes only once through the heart in fishes.

iii) Plants have low energy needs.

Q24. ***Give reasons for the following:***

i) M.P. and B.P. of ionic compounds are high.

ii) Tarnished copper vessels are cleaned with tamarind juice.

iii) A sulphide ore is converted into its oxide to extract the metal.

iv) Galvanisation is the better method of prevention than painting.

v) Chips packets are flushed with nitrogen gas.

Q25. Explain how the following metal is obtained from their compounds by the process of reduction:

a) Name the metal which is in the middle of the reactivity series of metals..

b) Give the name and formula of its ore.

c) Give the chemical reactions involved and name them.

d) In the electrolytic refining of metal M, name the cathode, anode and electrolyte.

Q26. What is reflex action? Give its two examples. Illustrate the pathway followed by a message from the receptor in a reflex arc. Name any five receptors along with the organ in which they occur.

Q27. i. What is electric Power? Write the expressions for electric power. Define the SI unit of electric power. ii. An electric motor takes 5A current from a 220 V line. Calculate the power. Also calculate the energy consumed in 2 hours.

Q28 . i. Derive the relation for the equivalent resistance of a combination of three resistors connected in Parallels. Draw the necessary diagram ii. Show how would you connect three resistors each of resistance 6 Ω so that the combination has a total resistance of 18 Ω.

Q29. Draw a diagram of a electric DC Generator to explain its construction and label the following parts: Armature coil, Magnetic poles, Split rings, Brushes and Battery. Give one difference between the construction of AC Generator and DC Generator .

Q30. i) What are the three factors on which force on a current carrying conductor placed in a magnetic field depends? ii) State Fleming's left hand Rule.

Important ONE or TWO mark questions? (Min.5 marks.)

1. What are acids? Give an example.
2. What is bases? Give an example.
3. Define : Rancidity, oxidation, reduction, and corrosion with an example
4. What is pH value of a substance?
5. Properties of pH scale. (like acidic, basic, neutral, less acidic, more acidic, less basic,more basic)
6. What is neutralization reaction? Give an example.
7. Uses of Bleaching powder, Sodium hydrogen carbonate, plaster of Paris.
8. Write the reactivity series of metals according to their increasing order of their reactivity.
9. Write the Electron dot structure of sodium, magnesium and oxygen
10. What is ionic bond?
11. Write the properties of ionic compounds.
12. Sodium and potassium metals are stored in kerosene. Why?
13. What are amphoteric oxides? Give example
14. How will you protect metals from corrosion?
15. What is amalgam? Give example.
16. What are alloys? Name some important alloys of iron and copper.
17. What are the excretory products of the plants?
18. Write the function of nephron
19. What is aorta? State its important role in blood circulation.
20. What are the functions of lymph?
21. What is reflex arc?
22. List out the different tropic and nastic movements in plants?

23. Write the Location, secretion and functions of the following glands:

    Pituitary, thyroid, pancreas, adrenal, testis and ovaries.

24. What is the function of fuse.

25. Define resistance and resistivity

26. What are the properties of a conductor that resistance depends?

27. Define electrical circuit.

28. What is a dynamo?

29. What is a motor?

30. State Flemings' right hand thumb rule.

31. State Flemings' left hand thumb rule.

32. What is the function of earthling wire.

33. What is a tropic level?

34. Define bio magnification.

35. What is 10% rule?

36. What is global warming?

37. What is catenation?

38. List out the unique property of carbon

39. Write the electronic configuration of carbon in normal state and excited state.

40. What is isomerism? Give example

41. What is homologous series? Give example

42. What are alkanes?

43. What is a hydrocarbon?

44. Define combustion.

45. State Mendeleev periodic law

46. State modern periodic law

47. Write the merits of Mendeleev's' periodic table

48. Define: ionization energy, electro negativity, electro positivity and atomic radius

49. What is embryo?

50. What is germination?

51. Define ovary.

52. What is the use stigma and style in reproduction.

53. What is self-pollination?

54. What is cross pollination?

55. What is the function of prostate gland?

56. What is menstrual cycle?

57. Write the flow chart of sex determination in humans.

58. Define speciation.

59. What is the phenotypic ratio of monohybrid and dihybrid crosses?

60. What is the genotypic ratio of monohybrid cross?

61. What are the evidences for evolution of life?

62. What is homology and analogy? Give examples

63. What are fossils? Give an example.

64. State the laws of refraction?

65. Define diopter.

66. List out the uses of concave lens and convex lens.

67. What is refractive index?

68. The refractive index of a diamond is 2.24. What it means that?

69. The power of plane mirror is +1. What is the meaning of this statement?

70. What is nature of image formed in convex lens.

71. State Snell's law?

72. Define focal length of lens?

73.Why convex lens is called converging lens?

74. Define a lens.

75. State the importance of refractive index in checking the purity of gems.

76. What are the properties of a good source of energy?

77. Define bioenergy. How do you get bio energy?

78. What are fossil fuels? Name it.

79. What are solar cells? What is the principle involved in conversion of solar energy into electrical energy?

80. What are advantages and disadvantages of utilization of nuclear energy?

81. How will you manage garbage produced at home?

82. What is meant by rain water harvesting?

83. Name the different types of rain harvesting techniques in different states.

CHAPTER WISE IMPORTANT CONCEPTS TO BE COVERED FOR SCIENCE 2020-2021

Chapter 1: Acids, Bases and Salts [Expected weightage - 6 marks]

• Reactions of Acids and bases (all)

• pH concept

Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with:

(a) Litmus Solution (Blue/Red)

(b) Zinc Metal

(c) Solid Sodium Carbonate

Chapter 2: Metals and Non-Metals [Expected weightage - 7 marks]

• Properties of Metals and Non-Metals: Physical & Chemical

• Formation and Properties of Ionic Compounds (NaCl, $MgCl_2$),

• Basic Terms Used in Metallurgy: Calcination, Roasting etc.

• Activity Series

• Corrosion and its prevention

Chapter 3: Carbon and its Compounds [Expected weightage – 7marks]

• Covalent Bonding in Carbon Compounds

• Main Reasons for Forming Large Number of Compounds: Catenation , Tetra-Valency

• Homologous series:

• Nomenclature of Carbon Compounds Containing Functional Groups

(Halogens, Alcohol, Ketones, Aldehydes, Alkanes and Alkynes)

• Saturated & Unsaturated hydrocarbons:

• Chemical Properties of Carbon Compounds

Chapter 4: Periodic Classification of Elements [Expected weightage - 5 marks]

• Gradation in Properties: Valency, Atomic number, Metallic and Non-metallic properties.

Chapter 5: Life Processes [Expected weightage - 5marks]

• Blood circulation in humans

• Transportation in Animals

• Transportation in Plants

• Excretion

• Important Diagrams

→ Human Heart

→ Excretory System

Chapter 6: Control and Coordination [Expected weightage - 7 marks]

• Control and Co-ordination in Animals & Plants

• Tropic Movements in Plants

• Plant & Animal Hormones

• Control and Co-ordination in Animals

• Nervous system

• Voluntary, Involuntary and Reflex Action

• Chemical Co-ordination

• Important Diagrams

→ Structure of Neuron

→ Human Brain

Chapter 7: How do Organisms Reproduce? [Expected weightage - 6marks]

• Reproduction in Animals and Plants (Asexual and Sexual)

• Safe Sex vs HIV/AIDS

• Important Diagrams

→ Germination of Pollen on Stigma

→ Longitudinal section of flower

Chapter 8: Heredity and Evolution [Expected weightage – 5 marks]

• Heredity

• Mendel's Contribution

• Laws for Inheritance of Traits

• Sex Determination

• Basic Concepts of Evolution

Chapter 9: Light – Reflection and Refraction [Expected weightage - 7 marks]

• Refractive index (Numerical)

- Refraction & Laws of refraction
- Refraction of Light by Spherical Lens
- Image Formed by Spherical Lenses
- Lens Formula & Magnification (Numerical)
- Power of a lens (Numerical)
- Dispersion & Scattering of Light (Daily Life Examples)

Chapter 10: Electricity [Expected weightage - 8 marks]

- Ohm's law, Resistance, Resistivity
- Factors on Which the Resistance of a Conductor Depends
- Series & Parallel Combination of Resistors and Its Applications in Daily Life
- Heating Effect of Electric Current and Its Applications in Daily Life
- Electric Power
- Interrelation between P, V, I and R

Chapter 11: Magnetic Effects of Electric Current [Expected weightage - 8marks]

- Magnetic Field, Magnetic Field Lines
- Magnetic Field Due to A Current Carrying Conductor
- Magnetic Field Due to Current Carrying Coil or Solenoid
- Force on current carrying conductor
- Fleming's Left & Right Hand Rule
- Induced Potential Difference & current
- Electric Motor & Generator
- AC vs DC
- Domestic Electric Circuits

Chapter 12: Sources of Energy [Expected weightage - 3 mark]

- Different Forms of Energy
- Solar Energy
- Biogas
- Wind, Water and Tidal energy
- Nuclear energy

Chapter 13: Our Environment [Expected weightage - 3 marks]

• Environmental problems, Ozone depletion

• Biodegradable and Non-Biodegradable Substances.

• Waste Production and Their Solutions

Chapter 14: Management of Natural Resources [Expected weightage - 3 marks]

• Coal and Petroleum Conservation

• Sustainability of Natural Resources

• Big Dams: Advantages, Limitations, Alternatives

• Water Harvesting.

• Examples of People's Participation for Conservation of Natural Resources

Chapters for difficult /cryptic/HOTS questions

- Periodic classification of elements
- Carbon and its Compounds
- Acids, Bases and Salts
- Control and Co – Ordination
- Heredity and Evolution

Chapters for Numerical Problems

- Electricity
- Light – Reflection and Refraction

Karnataka SSLC examinations are going to be conducted by JUNE. Students have to appear for three languages and the three core subjects, i.e. Mathematics, Science and Social Science. The exam is offline meaning it is a pen and paper exam. The candidates must have at least 75% attendance to appear for the exam.

STUDY PLAN FOR DAILY

Timings	Number of Hours
4.30 to 6.00 AM	**90 Minutes**
6.30 to 8.00 AM	**90 Minutes**
8.00 to 5.30 PM (School Hours)	
6.00 to 7.30 PM	**90 Minutes**

8.00 to 9.30 PM	**90 Minutes**
10.00 to 11.00 PM	**60 Minutes**
Total	**7 Hours**

Tips for Class 10 Exam Preparation

- **Learn and Understand**

The fundamental to know while you prepare for your exam is to understand and learn the whole portion with utmost dedication and sincerity. If you stick to an ideal study routine daily, clearing the exam with flying colours will be an easy task. You will find board questions easy to understand, and the answers will just flow. Your practice with mock question paper sessions will help you tackle the time-related pressure with ease. Make sure you are learning to gain knowledge and understanding the subject.

- **Practice Paper**

Try and attempt as many practise papers and previous year papers as you can. This helps to have an idea about the paper pattern. Sample papers will help you understand the level of difficulty you have to deal with in the exam. You will get familiar with the marking scheme and question patterns to score better in the exam. It also enhances your speed to attempt each question.

- **Concentrate on Authorized book**

You must stick to the book authorized by the board. Most of the questions are asked from that particular book. You may also take help from the other reference books. Focus on the given syllabus and portion. Don't ignore the main textbook and attempt as many solved examples as possible.

- **Take Breaks when necessary**

Don't Study for long hours continuously. Take a small break at regular intervals to revitalize your potential. These intervals help your brain to relax and get energized for the next study session. On the other hand, pressuring your mind too much at a stretch without breaks can only lead to lack of attention and focus.

- **Relax and study**

One of the most significant parts of the class X groundwork is the plan to study. You must make definite that finish the syllabus a couple of months before you appear for the exams. So keep calm and maintain a relaxed mind all the time. Just focus on putting on the best efforts and excellent results will automatically follow. Revision of each subject before the papers is a must and should be done thoughtfully..

- **Write and practice**

You should always plan to write and practice whatever you have studied, instead of mugging up the content. This would ensure that you remember all the concepts not only during the exam but also after the exams. Make sure you make sufficient points of each topic for better understanding.

- **Avoid all kinds of distractions**

Stay away from long hours of binge-watching TV programs and shows. They distract you from studying. Avoid using social media as they are a greater source of personal stress. Avoid thinking about how you will spend your time during your vacation. All these cause unnecessary distractions and do not aid your preparation in any way. Make sure you concentrate well during and before exams.

- **Previous year papers**

You should solve the past 3 years' papers to have a rough idea about the paper pattern and how much time should you allot under each section. Sometimes the important questions appear repeatedly. So it's better to get the hang of those questions that are frequently asked to gain marks in the exam. This will help you to prepare better.

- **Subjects to study**

Allot time for each subject. Languages should be given equal importance, similar to Mathematics and science. Practical knowledge should be implemented while writing the theory. None of the subjects should be taken lightly, alternatively practice practical based subjects regularly.

- **Formulate a timetable**

Proper planning is necessary for any successful endeavour. Without an appropriate plan, all the hard work can eventually go to waste. Creating an effective study strategy will help you score all topics within a stipulated time and score well than others. So, create a timetable and allocate sufficient study time to each subject as their syllabus demands. Most importantly, stick to it strictly till your exam gets over.

- **Self-study is the solution**

Successfully achieving small study goals each day will motivate you to make tremendous progress during your preparation. For example, make a habit of alloting some time for self-study and revision of the topics you've learned that day in your school. It will help you come up with doubts to gain clarity over the subject well in advance. Last-minute hassle on doubt clearance can create a chaotic atmosphere in an otherwise disciplined and steady preparation routine.

Frequently Asked Questions: Karnataka SSLC exams

Q. What is the criteria for passing the Karnataka SSLC Class 10 examinations?

A. It is mandatory to get 35% marks in theory, practical and CCE (Continuous and Comprehensive Evaluation) in aggregate.

Q. What other points do students keep in mind apart from the syllabus?

A. It is important to note that the handwriting and spelling of the students will be taken into consideration during the assessment.

Q. Where can I fill the online examination form?

A. You can fill the online examination form through the official website.

Q. Is the time table available on the Karnataka SSLC website?

A. The Karnataka SSLC Time Table 2021 will soon be made available on the official website.

Q. Where are the last ten year questions for Karnataka SSLC available?

A. These can be downloaded from the official website. They can also be obtained from some publishers.

Q. Which books to refer to?

A. There are so many options available in the market in terms of books nowadays; however, it is better to refer to only a few well-known books. By referring to many books, students might end up confusing themselves and losing relevant information along the way.

Subjects	Marks- Theory	Marks- Internal
Language Paper I - **Kannada, English, Hindi, Sanskrit, Telugu, Tamil, Marathi, Urdu**	**100**	**25**
Language Paper II - **Kannada, English**	**80**	**20**
Language Paper III - **Hindi, Kannada, English, Arabic, Urdu, Sanskrit, Konkani, Tulu**	**80**	**20**
Maths	**80**	**20**
Science	**80**	**20**
Social Science	**80**	**20**

Practice paper 01

Subject:- General Science

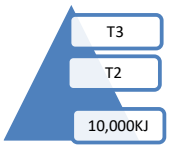
Class:- X

Total Marks :- 100

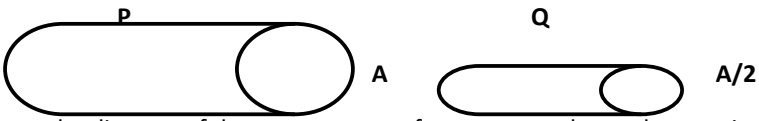
Answer the following:- ***10 Marks***

1. Name the gas formed when sodium hydroxide reacts with zin
2. What is the common name of the compound $CaOCl_2$?
3. What is the nature of oxides of metal?
4. Define Resistivity of material.
5. Draw the electron dot structure of Ethene.
6. Name the excretory unit of kidney.
7. Define fertilization.
8. Mention one example of Chemotropism.
9. What is a Solenoid?
10. What do you mean by Power of a lens?

Answer the following:- ***20 Marks***

11. Explain the reaction between metal and water with example.
12. A lamp draws a current of 0.5A when it is connected to 60V source. What is the resistance of the lamp.
13. What is a Lymph? Write two functions.
    OR
    What are the differences between the transport of materials in xylem and phloem?
14. Draw a diagram of Electric Motor and label any two parts.
15. 

In the given pyramid T1 trophic level has 10,000KJ.
    a. What will be energy level at T2 and T3
    b. Which was the law applied here.
16. Write the difference between resistance in series and parallel.
    OR
    Out of these two wires P & Q which one has greater resistivity? Why?



17. Draw the diagram of the arrangement of apparatus to know the reaction of Zinc granules with dilute sulphuric acid and testing hydrogen gas and label the part that contain Zinc granule and Sulphuric acid.
18. The pH of a salt used to make tasty and crispy popcorn is 14 identify the salt and write a chemical equation for its formation.
19. Differentiate between self pollination and cross pollination in flowers.
20. The refractive index of Crown Glass is 1.52. Justify

Answer the following:- ***30 Marks***

21. What is Parental sex determination? Why is it banned?
    OR

What is contraception? Mention different methods of contraception. Which will be the most safe method according to you.

22. Draw the ray diagram for the image formation by convex lens ,when the object is placed at 2F1 and discuss the nature of image.
23. List out the physical differences between metals and non metals.
24. Draw the diagram showing vertical section of human heart and label the following parts a) septum b)Aorta
25. What is the role of fuse, used in series with any electrical appliance? Why should a fuse with defined rating not be replaced by one with a larger rating?
26. What is reflex action? Describe the steps involved in reflex action.
27. State Ohm's law. On what factors does the resistance of the conductor depend.
28. Explain the combustion of methane taking the reactions into consideration.
29. Explain the role of pH in digestive system.
30. What happens when electricity is passed through acidified water?

Answer the following:- 20 Marks

31. a) Write the structure of Benzene.
    b) What are homologous series?
    c) Write the electron dot structure of O2
32. Describe the function of Nephron with diagram.
33. A coil of insulated copper wire is connected to a galvanometer. What will happen if a bar magnet is ,
    a) Pushed into the coil, its north pole entering first.
    b) With drawn from inside the coil.
    c) Held stationary inside the coil.
    d) State the rule used to find the direction of induced current.
34. Consider the following reaction

$$Fe_2O_3 + 2Al \longrightarrow Al_2O_3 + 2Fe$$

    a) Substance getting oxidised
    b) Substance which is reduced
    c) Reducing agent
    d) Oxidising agent
35. a) Name the various plant hormones.
    b) Give the physiological effects of hormones on plant growth and development.

Answer the following:- 20 Marks

36. a) An electric oven rated at 500W is connected to a 220V line and used for 2 hours daily. Calculate the cost of electric energy per month at the rate of Rs.5 per KWh.
    b) Define the term Short circuiting and Overloading .

37. Describe in brief the role of. a) Testis b) Seminal vesicle c) ureter d) van deferens e) prostate gland in human male reproductive system.

38. With the help of a labelled diagram explain how the copper metal is purified after extraction.

39. Define Magnification. An object is placed at a distance of 10 cm in front of convex lens of focal length 15 cm. Find the nature and position of image.

Practice Paper 02

Subject:- General Science

Class:- X

Total Marks :- 100

Answer the following:- ***10 Marks***

1. Name the gas formed when calcium hydroxide reacts with zinc
2. What is the common name of the compound CH_3COOH ?
3. What is the nature of oxides of metal?
4. Define 1 Ohm .
5. Draw the electron dot structure of propane.
6. Name the plant hormone which inhibits the growth of plants .
7. Define phototropism.
8. What are metalloids.
9. What is a Electromagnet?
10. State Modern periodic law?

Answer the following:- ***20 Marks***

11. State joules law of heating with its formula.
12. A bulb draws a current of 2A when it is connected to 75V source. What is the resistance of the lamp.
13. Write the functions of arteries in human body.
    OR
    What are the differences between the arteries and veins?
14. Draw a diagram of Electric generator and label any two parts.
15. State 10% rule and how is it important in ecosystem
16. Draw the circuit diagram when the resistors are connected in series.
17. Draw the diagram of the arrangement of apparatus to know the reaction of Zinc granules with dilute sulphuric acid and testing hydrogen gas and label the part that contain Zinc granule and Sulphuric acid.
18. The pH of a substance is 5 state whether it is an acid or base. How can you dilute an acid . Justify
19. Differentiate between concave lens and convex lens.
20. The refractive index of diamond is 1.48. Justify

Answer the following:- ***30 Marks***

21. How can you determine the sex of a child.
    OR
    What are analogous organs. Give some characteristics of it.
22. Draw the ray diagram for the image formation by convex lens ,when the object is placed at infinity and discuss the nature of image.
23. List out the chemical differences between metals and non metals.
24. Draw the diagram showing vertical section of human brain and label the following parts a) Hind brain b) cerebellum
25. A non metal X belongs to oxygen family in the periodic table with the period arrangement as 3 and group arrangement as 16. Answer the following questions:-
    a) Name the element
    b) Tell whether it is electro negative or electro positive in nature
    c) Compare the atomic radius of that element with oxygen.
26. Name 4 plant hormones and write the functions of those hormones.
27. State Maxwell's right hand thumb rule. How is this rule applicable for a straight conductor carrying current.
28. Explain addition and condensation reaction with example supporting it.

29. Name the acids present in lemon juice , Milk , Tamarind , Tomato , vinegar and orange.
30. Explain ionic conduction with a neat labelled diagram?

Answer the following:- 20 Marks

31. a) Write the structure of Butanone.
    b) Can carboxylic acid be converted to alcohol? Justify
    c)How are co valent bond formed .
32. Describe the Double Circulation in animals.
33. What are magnetic field lines? Justify the following statements
    (a) Two magnetic field lines never intersect each other.
    (b) Magnetic field lines are closed curves.
34. State reason for the following statements:
    (i) Tap water conducts electricity whereas distilled water does not.
    (ii) Dry hydrogen chloride gas does not turn blue litmus red whereas dilute hydrochloric acid does.
    (iii) During summer season, a milk man usually adds a very small amount of baking soda to fresh milk.
    (iv) For a dilution of acid, acid is added into water and not water into acid.
35. Name the hormone which is released into the blood when its sugar level rises. Explain the need of Chemical communication in multicellular organisms the organ which produces this hormone and its effect on blood sugar level. Also mention the digestive enzymes secreted by this organ with one function of each.

Answer the following:- 20 Marks

36. a) An electric oven rated at 1000W is connected to a 440V line and used for 4 hours daily. Calculate the cost of electric energy per month at the rate of Rs.10 per KWh.
    b) Define the term live wire and fuse wire .

37. (a) Explain the role of placenta in the development of human embryo.
(b) Give example of two bacterial and two viral sexually transmitted diseases. Name the most effective contraceptive which prevents spread of such diseases.

38. Expalin electrolytic refining of copper with a neat diagram.

39. Define focal length. An object is placed at a distance of 20 cm in front of convex mirror of focal length 30 cm. Find the nature and position of image.