DESIGN OF QUESTION PAPER

CLASS X

SCIENCE

Time : 3 Hours **Full Marks : 80 MARKS**

1. **Weightage of Objectives:**

Objectives	Knowledge	Understanding	Application	Skill	Total
Percentage of Marks	38	46	8	8	100
Marks	30	38	6	6	80

2. **Weightage to Forms of questions:**

Form of Questions	LA	SA1 4 marks	SA2 3marks	SA3 2 marks	VSA 1 mark	Objective 1 mark	Total
No. of Questions	3	X	9	13	12	X	32
Marks Allotted	15	X	27	26	12	X	80
Estimated Time(in minutes)	44	X	72	40	24	X	180

3. **Weightage of Contents :**

	Unit	Name of Unit	Marks
CHEMISTRY	I.	Periodic Classification & Chemical Bonding	7
	II.	Acids, Bases, Salts and types of Chemical reactions	7
	III.	Metals and Non Metals	5
	IV.	Carbon and its Compounds, Materials of Common Use	7
PHYSICS	V.	Electricity	8
	VI.	Magnetism	7
	VII.	Electro Magnetic Induction	5
	VIII.	Light	6
BIOLOGY	IX.	Life Processes	8
	X.	Control, Coordination in Living Things	
	XI.	Reproduction	10
	XII.	Hereditary and Evolution	
	XIII.	Our Environment, Natural Resources, Regional Environment	10

4. **Scheme of Section : NIL**
5. **Scheme of option : Internal option must be given in Essay/Long Answer type questions testing the same objective.**
6. **Difficulty level : Easy 40%, Average 50%, Difficult 10%**

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Subject : SCIENCE **Full Marks : 80 marks**

Class : X **Time : 3 hours**

Unit	Objective	Knowledge						Understanding						Application						Skill				Total
	Content Unit / Forms of Questions	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA1	SA2	SA III	
SECTION A	Periodic Classification & Chemical bonding							5(1)									2(1)							7(2)
	Acids, Bases, Salts and Types of Chemical Reactions					1(1)				3(1)	2(1)	1(1)												7(4)
	Metals and Non Metals			3(1)																			2(1)	5(2)
	Carbon and its Compounds, Materials of Common Use			3(1)	2(1)	1(1)						1(1)												7(4)
SECTION B	Electricity					1(1)		5(1)									2(1)							8(3)
	Magnetism			3(1)						3(1)		1(1)												7(3)
	Electro Magnetic Induction				4(2)	1(1)																		5(3)
	Light					1(1)				3(1)													2(1)	6(3)
SECTION C	Life Processes Control, Coordination in Living Things			3(1)		1(1)					2(1)												2(1)	8(4)
	Reproduction , Hereditary and Evolution				2(1)			5(1)		3(1)														10(3)
	Our Environment, Natural Resources, Regional Environment				2(1)	2(2)				3(1)		1(1)					2(1)							10(6)
Marks with forms of Questions				12(4)	10(5)	8(8)		15(3)		15(5)	4(2)	4(4)				2(1)	6(3)						6(3)	80(32)
Marks with no. of Questions with objective		30						38						6						6				

Notes: (1) Figure within brackets indicate the number of questions and figures outside the brackets indicate marks.

(2)* Denotes that marks have been combined to form one question.

Type of question	No. of Question	Marks	Total	Type of question	No. of Question	Marks	Total
Essay/Long Answer (E)/LA	3	5	15	Short Answer (3)	13	2	26
Short Answer (SA)1	X		X	Very Short Answer	12	1	12
Short Answer (SA)2	9	3	27	Objective Type			

PROPOSED SAMPLE QUESTION
SCIENCE

Full Marks: **80**

Pass Marks: **20**

Time: Three hours

General Instructions :

a. This question paper carries three sections : A,B and C. Attempt all questions.
b. All the questions are to be written in separate answer khatta accordingly.
c. Questions carrying 1 mark may be written in one sentence.
d. Questions carrying 2 marks may be written in about 30 words.
e. Questions carrying 3 marks may be written in about 40 words.
f. Questions carrying 5 marks may be written in about 60 words.

SECTION A (CHEMISTRY)

Q. No. 1-4 are very short answer type and each question carries 1 mark.

1. Write the formula of an acid that can form acid salt with Calcium Hydroxide. 1
2. What are Combination reactions ? 1
3. Define water of Crystallization. 1
4. Write the structural formula of saturated isomer of 2-butene. 1

Q. No. 5-8 are short answer type and each question carries 2 marks.

5. Sodium atom loses an electron to form Sodium ion. Identify the compound formed by Sodium ion and another ion having same number of electrons. Predict the solubility of the compound in water. 2
6. Draw a labelled diagram of an experimental setup of Froth Floatation technique of metal are concentration. 2
7. The photochemical decomposition of silver chloride is a radon reaction. Justify it . 2
8. Give the common name of sodium hydrogen carbonate . What happens when it is subjected to calcinations? 2

Q. No 9-11 are short Answer type and each question carries 3 marks .

9. Two solutions, Hydrochloric acid solution and sodium hydroxide solution are found to have P^H values of 6 and 8 respectively. How will the P^H values change when the solutions are diluted with water ? Give reason. 3

10. Describe with an example how low reactive metals are extracted. 3

11. What is a homologous series ? Write the structural formula of the first two homologues of alkynes. 3

Q. No. 12 is Long Answer type and it carries 5 marks. 5

12. Element "A" belongs to 3rd period and group 1 of the Modern Periodic table.
    i) What is the atomic number of the element ?
    ii) Which element in the same period has same valency as element A ?
    iii) Which element in the group is not metal?
    iv) Which metal in the group is least reaction ?
    v) Write the formula of the compound formed by "A" with the most reactive non metal of the period. 5

SECTION B (PHYSICS)

1. State Ohm's law. 1
2. Consider a current flows along a horizontal copper wire in south to north direction. What will be the direction of magnetic field at a point directly above it ? 1
3. Who discovered electromagnetic induction. 1
4. Define pole of a spherical mirror. 1
5. A 10 Ω thick wire stretched so that its length becomes three times. Assuming that there is no change in its density on stretching, Calculate the resistance of the new wire. 2
6. State Fleming's Right Hand rule. 2
7. What are induced current and e.m.f. ? 1=1=2
8. Draw the image formation ray diagram of a point object placed at the focus of a concave lens. 2
9. Give any three properties of a magnet. 3
10. Write any three different points between a bar magnet and an electromagnet. 3
11. An object is placed at a distance of 10 cm from a convex lens of focal length 15 cm. Find (i)Position of the image (ii)nature of the image (iii)magnification. 1+1+1=3
12. If R1,R2,R3 and R4 are connected in parallel, obtain the relation of their resultant resistance (Rp). Three resistors of resistances 2 Ω, 4 Ω, and 6 Ω are connected in parallel across a battery of 12 V. Calculate the total current flowing through the combination. 3+2=5

SECTION C (BIOLOGY)

1. What is reflex action ? 1
2. Define food chain. 1
3. Write the full form of CNC. 1
4. Why are human regarded as omnivores ? 1
5. What is organic evolution ? Who proposed the theory of natural selection ? 2
6. How non bio degradable substances are degraded in nature ? 2
7. How does our body respond when adrenaline is secreted into the blood? 2
8. Construction of big dams is a key factor for the change in the regional environment. Still, India has large number of such dams. Write two points to justify in Indian scenario. 2
9. Draw a neat diagram of human nephron and label Bowman's capsules and tubular part of nephron. 2
10. Describe photosynthesis in three steps. 3
11. Why did Mendel selected garden Pea plant for his experiment ? Explain in three points. 3
12. Identify three major consequences of deforestation. 3
13. Give five points of difference between asexual and sexual reproduction. 5

OR

Explain three types of asexual and two types of two types of sexual reproduction in lower plants by giving examples.

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QUESTION ANALYSIS OF PROPOSED SAMPLE QUESTION

Sl. no.	Objective K/U/A/S	Topic Chapter No. & Name	Specification	Form of Question E/SA1/SA2/SA3/ VSA/O	Marks allotted	Estimated Difficulty Level A/B/C	Time (in minutes)
1	U	Acids, Bases, Salts	Identifies	VSA	1	B	2
2	K	Types of Chemical Reactions	Recall	VSA	1	A	2
3	K	Materials of Common Use	Recall	VSA	1	A	2
4	U	Carbon and its Compounds	Infer	VSA	1	C	2
5	A	Chemical bonding	Infer	SA2	2	C	4
6	S	Metals and Non Metals	Draw and Label	SA2	2	A	5
7	U	Types of Chemical Reactions	Understanding	SA2	2	B	4
8	K	Materials of Common Use	Recalls	SA2	2	A	4
9	U	Acids, Bases, Salts	Infer	SA3	3	B	5
10	K	Metals and Non Metals	Recall	SA3	3	B	5
11	K	Carbon and its Compounds	Recalls	SA3	3	A	5
12	U	Periodic Classification	Infer & Identify	E	5	B	12
1	K	Electricity	Recalls	VSA	1	A	2
2	U	Magnetism	Identifies	VSA	1	B	2
3	K	Electro Magnetic Induction	Recall	VSA	1	A	1
4	K	Light	Recognise	VSA	1	A	2
5	A	Electricity	Analyse	SA3	2	C	3
6	K	Electro Magnetic Induction	Recall	SA3	2	A	2
7	K	Electro Magnetic Induction	Recall	SA3	2	A	2
8	S	Light	Draw	SA3	2	C	2
9	K	Magnetism	Recall	SA2	3	A	10
10	U	Magnetism	Compare	SA2	3	B	10
11	U	Light	Calculate	SA2	3	B	10
12	U	Electricity	Derive & Solve	E	5	B	13

1	K	Control & Coordination in Living Things	Recall	VSA	1	A	2
2	K	Our Environment	Recall	VSA	1	A	2
3	K	Natural Resources	Recall	VSA	1	A	2
4	U	Our Environment	Give Reason	VSA	1	B	2
5	K	Hereditary and Evolution	Recognise	SA3	2	A	3
6	K	Our Environment	Recognise	SA3	2	A	3
7	U	Control & Coordination in Living Things	Identifies	SA3	2	B	3
8	A	Regional Environment	Justifies	SA3	2	C	3
9	S	Life Processes	Drawing	SA3	2	B	3
10	K	Life Processes	Recall	SA2	3	A	8
11	U	Hereditary and Evolution	Analyse	SA2	3	B	8
12	U	Natural Resources	Identify	SA2	3	B	8
13	U	Reproduction	Compares / Illustrates	E/LA	5	B	13
				Total	**80**		**180**

DESIGN OF QUESTION PAPER

CLASS X

SOCIAL SCIENCE

Time : 3 Hours **Full Marks : 80 MARKS**

1. **Weightage of Objectives:**

Objectives	Knowledge	Understanding	Application	Skill	Total
Percentage of Marks	38	45	12	5	100
Marks	30	36	10	4	80

2. **Weightage to Forms of questions:**

Form of Questions	LA	SA1 4 marks	SA2 3marks	SA3 2 marks	VSA 1 mark	Objective 1 mark	Total
No. of Questions	4	X	10	10	10	X	32
Marks Allotted	20	X	30	20	10	X	80
Estimated Time(in minutes)	54	X	62	42	22	X	180

3. **Weightage of Contents :**

	Unit	Name of Unit	Marks
HISTORY	I.	Events and Processes	8
	II.	Nationalism in India	8
	III.	Economics & Livelihoods	6
	VI.	Second World War in Manipur	5
GEOGRAPHY	I.	India – Resources and their development	3
	II.	Mineral Resources	3
	III.	Energy Resources	3
	IV.	Agriculture	7
	V.	Manufacturing Industries	7
	VI.	Manipur – Resources & their Development	2
	VII.	Outline map & filling details therein	2
CIVICS	I & II.	Working of Democracy Power Sharing	9
	III.	Competitions and Contestations	4
ECONOMICS	.	The story of development Money & Financial System	9
	IV.	Globalisation	4

4. **Scheme of Section : NIL**
5. **Scheme of option : Internal option must be given in Essay/Long Answer type questions testing the same objective.**
6. **Difficulty level : Easy 40%, Average 50%, Difficult 10%**

BLUE PRINT

Subject : SOCIAL SCIENCE **Full Marks : 80 marks**

Class : X **Time : 3 hours**

Unit	Objective	Knowledge						Understanding						Application						Skill				Total
	Content Unit / Forms of Questions	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA/I	SA II	SA III	VSA	O	E/LA	SA1	SA2	SA III	
SOCIAL SCIENCE (HISTORY, GEOGRAPHY, CIVICS & ECONOMICS)	Events and Processes					1(1)		5(1)			2(1)													8(3)
	Nationalism in India			3(1)						3(1)													2(1)	8(3)
	Economics &			3(1)		1(1)					2(1)													6(3)
	Second World War in				2(1)										3(1)									5(2)
	India – Resources and their development			3(1)																				3(1)
	Mineral Resources															3(1)								3(1)
	Energy Resources				2(1)	1(1)																		3(2)
	Agriculture			3(1)		1(1)				3(1)														7(3)
	Manufacturing							5(1)			2(1)													7(2)
	Manipur – Resources & their Development										2(1)													2(1)
	Outline map & filling																						2(1)	2(1)
	Working of Democracy			3(1)														1(1)						9(3)
	Power Sharing							5(1)																
	Competitions and				2(1)							1(1)						1(1)						4(3)
	The story of development											2(2)					2(1)							4(3)
	Money & Financial	5(1)																						5(1)
	Globalisation									3(1)		1(1)												4(2)
Marks with forms of Questions																								80(32)
Marks with no. of Questions with objective				24(10)				40(19)						12(2)						4(1)				

Notes: (1) Figure within brackets indicate the number of questions and figures outside the brackets indicate marks. (2)* Denotes that marks have been combined to form one question.

Summary :

Type of question	No. of Question	Marks	Total	Type of question	No. of Question	Marks	Total
Essay/Long Answer (E)/LA	4	5	20	Short Answer (3)	10		20
Short Answer (SA)1	X	X	X	Very Short Answer	10		10
Short Answer (SA)2	10	3	30	Objective Type	X		X