Class: 9 **Subject: SCIENCE**

TOPICS AND MARKS DISTRIBUTION (2024-2025)

SEMESTER I

MONTH	CH. No.	TOPIC	MARKS	PRACTICALS (LAB ACTIVITIES)	HOURS
June	1	Matter in our surroundings	9	I - A I – B (1) I – B (2)	9
	2	Is matter around us pure	10	II - A II - B III - A III - B	9
JULY	5	Fundamental unit of life	11	V - A V - B (1) V – B (2)	10
	8	Motion	10		9
AUGUST	9	Force and laws of motion	11		10
	6	Tissues	10		10
SEPTEMBER	10	Gravitation	11	IV - A IV - B	10
	15	Improvement in food resources	8		5
		TOTAL	**80**		
		ASSIGNMENT	10		4
		Practicals	10		
		TOTAL	**100**	**TOTAL**	**75**
OCTOBER		**First Semester Exam**			

SEMESTER II

TOPICS AND MARKS DISTRIBUTION

MONTH	CH. No.	TOPIC	MARKS	PRACTICALS (LAB ACTIVITIES)	HOURS
NOVEMBER	2	Atoms and molecules	10		8
	4	Structure of atom	11		3
DECEMBER	4	Structure of atom	11		5
	11	Work and energy	13		10
JANUARY	13	Why do we fall sick	8		5
	7	Diversity in living organisms	15	VI - A VI - B VII - A VII - B VIII - A VIII - B	16
FEBRUARY	12	Sound	14		13
	14	Natural resource	9		7
		TOTAL	**80**		
		Project	10		8
		Practicals	10		
		TOTAL	**100**	**TOTAL**	**75**
MARCH		**SECOND SEMESTER**			

GENERAL GUIDELINES FOR ASSISNGMENTS AND PROJECTS

Terminology:

ASSIGNMENT: It is focused on specific, pre-defined tasks.

PROJECT: Involves a variety of inter related tasks to be performed in order to achieve a particular aim.

OBJECTIVES:

1 . Assignment and projects are extended classroom activities.

2. It is a window to bring in outside world of facts, inventions, discoveries, innovation, concepts into the classroom.

3.To make student aware of the latest developments in science and technology.

4.To make students aware of latest outbreak of new diseases, virus or microbes

etc.

Note: Such assignments could be made mandatory for a particular class of students in that particular year.

5.Students receive hands on experience in constructing and assembling a working model.

6.Students must be given a fair choice to choose the topic for their assignments and projects as per their interest.

7. Topics given to the students may be related to the syllabus or from outside.

8.If topics are related to the syllabus, then the students must be guided to go in depth beyond the text book.

9. Choice of topics given by the teacher should cover all areas of science and technology.

Example: Sound, light, robotics, biotechnology, optic, electricity, electronics, plant kingdom, animal kingdom, water, agriculture, music, etc.

10. Students must understand concepts, principle, and working of the above assembled projects.

11. Teachers must encourage students to innovate, modify existing known technology. Focus on moving from conventional to non- conventional use of energy.

Example: Solar powered projects like solar car, solar boat, solar wind mill, solar mobile charger, etc.

12. An assignment is an individual activity. ie. Each student presents ONE assignment.

13. PROJECTS are group activity. (Group comprising of 3 to 5 students)

14. Project could be a role play or dramatizing which may require more students. Students may be allowed to expand their group in such cases.

15. Some Assignment / Projects that may require a lot of pictures or short animations. This could be carried out by a PowerPoint presentation,where students must explain the project.

16. In case of projects, the group of students will present the same in the class, assembly, school exhibition, or any school gathering which will promote awareness.

17. Fancy materials and decorations must be avoided.

FIRST SEMESTER

Class : 9 ASSIGNMENT (Any one) MARKS:10

1.Students can collect water from tap/well/kitchen of their own house, drains of their locality and find out the difference in terms of colour, odour and components etc.
2. List 10 different situations where you observe an application of force mentioning the effect it produces.
3. To find the density of a wooden rectangular block in water.
4. To find the density of a rectangular piece of stone like marble, granite, Kadappa in water.
5. To measure the speed of any 5 moving objects using a measuring tape and stop watch in cm/s and later converting into m/sec.
6. Frictional force, its pros and cons in our day to day lives.
7. To prepare a coloured chart showing electronic distribution of first 10 elements along with their valencies.
8. Prepare charts to show different methods of classification of organism.

--------OR ANY OTHER SIMILAR ASSIGNMENTS ---------

SECOND SEMESTER

CLASS : 9 PROJECT (Any one) MARKS:10

1.Prepare a chart/poster of disease caused by microbes and their mode of spread.
   (a) Bacterial disease
   (b) Viral disease
   (c) Protozoan disease
2. Make a model of various water harvesting techniques.
3. Make some devices on solar energy. (Students may use "Do it yourself" kits available in the market or online)
4. Visit a weed infected field in the month of July or August and make a list of the weeds, insects, pests and diseases noticed in crops observed in fields.
5. Find out the facts about the electron microscope from resources in a school library or through internet.
6. Information on importance of diffusion in plants and animals.
7. To list the names of local variety and hybrid variety of plants/crops grown in Goa in the past and present. Also collect the names of local variety of crops/vegetables which are not available now and find out the positive aspects of them and the reason of their unavailability.
8. To prepare a poster showing ill effects of fertilizers and pesticides in plants, animals and human beings by collecting information from different sources.

9. To prepare a list of 20 local fishes found in Goa and write its local name, English name and scientific name if any. Also note down habitat to which they belongs. (pictures, or posters/PowerPoint presentation)
10. Prepare a model of Human ear and label the parts. Also find out causes of deafness.
11. To investigate the outbreak of new diseases like Ebola, Zika etc. Note down its causes, symptoms and treatment.
12. To demonstrate production of high frequency and low frequency sound using different objects.
13. Making musical tunes by producing sounds using different utensils, glasses, metal containers.
14. To prepare a working model of longitudinal waves and transverse waves and note down its differences.
15. To make a study of olive Ridley turtles nesting on Morjim beach, Galgibag beach and its life cycle.
16. Write a skit and dramatize at least 5-6 diseases its symptoms, causes and cares.

Hint: Doctor, nurse, patients (a scene at a clinic) Students will act out the skit and submit the script.

17. To demonstrate or dramatize Newton 3rd law of motion by performing at least 10 activities. List of activities with drawing.
18. To visit a public Health centre and prepare a table showing different vaccines administered to a child from birth (Age wise). Also write the importance of Polio and Tetanus Vaccine.
19. To find out the causes, symptoms, prevention and cure of Rabies. Importance of taking an anti- rabies injection and its dosage after a dog bite. To list names of other animals other than dogs that causes rabies.
20. To make a study of the causes of Malaria, Filaria, Dengue fever and monkey fever (reported in Goa) its symptoms, prevention and cure.
21. A visit to a poultry farm / dairy farm and to study the following.
    a. Breeds (their names).
    b. Feed (their brands).
    c. Care/shelter / cleanliness / water.
    d. Vaccination administered at various stages.
    e. Production of eggs / milk versus our local breeds.

--------OR ANY OTHER PROJECTS ON SIMILAR LINES----------

GUIDELINES FOR ASSIGNMENTS AND PROJECTS

1. Direct print out of the information about assignments should not be allowed. However small printed matter highlighting certain points on chart paper/poster is allowed.
2. Readymade projects should not be accepted.
3. Only Environment friendly materials shouldbe used for projects as far as possible.
4. PowerPoint presentation may be accepted in certain cases as per the needs of the project/Assignment.
5. Fancy Material/decoration/colorful paper should be avoided.

LIST OF THE EXPERIMENTS

Class: 9 SUBJECT: SCIENCE MARKS: 10

Sr. No.	Expt. No.	EXPERIMENTS
1	I - A	To find the temperature of cold water (room temperature) and hot water on a Celsius Thermometer and convert it in to 'Kelvin'.
2	I – B (1)	To find boiling Point of water.
3	I – B (2)	To find melting Point of ice.
4	II - A	To obtain clear water from muddy water by the method of filtration.
5	II - B	To classify the given mixtures in to solution, suspension, and colloid by using the process of filtration and a beam of light.
6	III - A	To separate common salt from sea water.
7	III - B	To obtain pure water from sea water/ salt solution by distillation.
8	IV - A	To find the weights of the given solid objects in Newtons by using a spring balance.
9	IV - B	To find the loss of weight of an insoluble solid object in water and in kerosene separately.
10	V - A	To study the different parts of a compound microscope with their uses.
11	V - B (1)	To mount and observe spirogyra cell under a compound microscope
12	V – B (2)	To mount and observe onion cell under a compound microscope

13	VI - A	To observe and identify two given plant specimens stating three characteristics of each.
14	VI - B	To observe and identify the given plant specimens stating their classification and characteristics.
15	VII - A	To observe and identify two given invertebrates stating three characteristics of each.
16	VII - B	To observe and identify given invertebrates stating their classification and characteristics.
17	VIII - A	To observe and identify the given vertebrates stating three characteristics of each.
18	VIII - B	To observe and identify the given vertebrates stating their classification and characteristics.