



SL. NO	PARTICULARS OF ACTIVITY	COLLEGE/ SCHOOL/ SOCIETY	PAGE NO.
1	Visit any zoological Garden in your vicinity & report	society	02-04
2	Identify and write the objectives and specifications under the three domains on any topic of your choice.	college	05-08
3	Sketch the life history and write his/ her contributions of any one Biologist.	college	09-11
4	Name any common branch of both Botany & zoology and explain how you integrate the pedagogy in dealing with the content.	college	12-14
5	Organize an event on earth day in the school during the internship and report.	school	15-17





ACTIVITY - I

1) A Report On Zoological park :



[Nandankanan Zoological Park]

Nandankanan 'zoological Park' is a 400-hectore 200 and Botanical garden in Bhubaneswar, Odisha, India.

It established in 1960. It was opened to the public in 1979. It become the 1st 200 in India to join world association, of 200s & aquarium (WAZA) in 2009.

There are 2669 no. of animal and 142 types of species are located 'Kanjia Lake' with its most expanse over 124 acres low & undulating hills of Jujhagarh Land Krustinanagar D.P. F. S. with lush green vegetation on both side of the lake represented as a pictures site.

Jujhagarh forest block had all the advantage for locating the 200 except communication from Bhubaneswar and the only approach was via chandaka covering a distance of 38 km.

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There are spotted deer, barking deer, Nilgai and bears, in spacious other animals like leopard cat, Mongoose, flying squirrel, Porcupine, Python, Monkey, Geyona, Jackal, civet cat, Pangolin, jungle cat, Parrot, mynah and other birds located in this zoological park.

The zoo is home to about 1600 individual animals representing 166 species, including 67 species of mammals, 81 species of birds and 18 species of reptiles.

Endangered species such as the Asiatic lion, three Indian crocodilians, Sargal Lion-tailed Mocoque, Nilgiri langur, Indian pangolin, mouse, deer & countless birds, reptiles & fish has been breeding successfully at Nandankanan.



[Elephants]



[Tiger]

The tigers were born in the Nandankanan zoo in Bhubaneswar, Odisha, India in 1980. Their parents were other daughter pair called Deepak & Ganga. Today the Nandan zoo has the largest collection of white tigers in India.





Aquaria :- The zoo include 34 aquatic which are home to a large variety of fresh water fish.

Reptile Park :- The Reptile Parks core-like entrance is guided by life-size Reptile.

→ This houses numerous species of crocodiles, lizards, turtles, snakes.

Orchid house :- The zoo have the largest orchid house of Odisha, spreads over an area of 7000 sqft & display more than 1000 orchids of 47 varieties belonging to 37 species.



[Bear at Nandankanan]



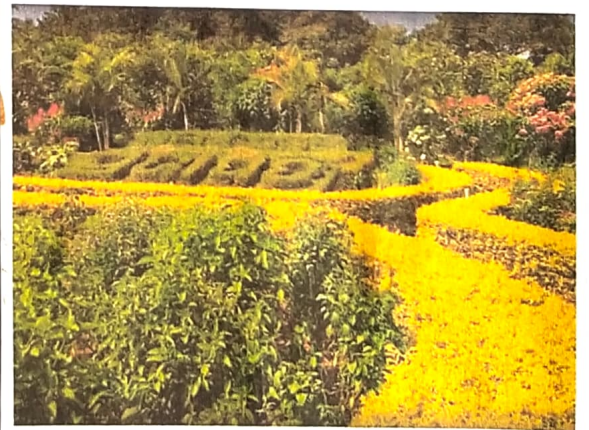
[Giraff at Nandankanan]



[Deer]



[Asiatic Lion
on zoo]



[Botanical Garden]





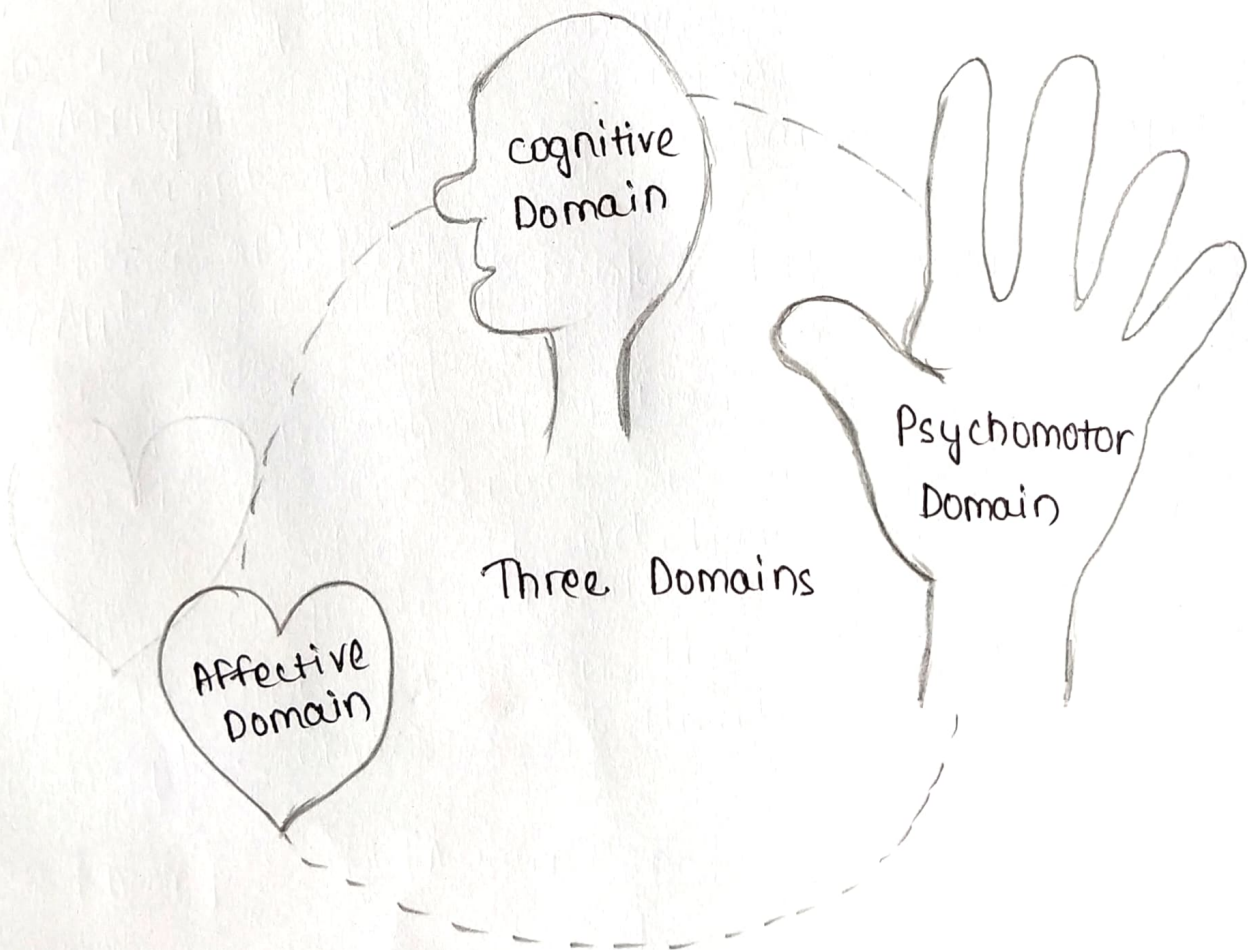
ACTIVITY - II

2) Identify and write the objectives and specifications under the three domains on any topic of your choice.

Learning is everywhere. We can learn mental skills, develop our attitude, acquire new physical skills as we perform the activities of our daily living.

These domains of learning can be categorised as -

- i) Cognitive Domain (Knowledge)
- ii) Affective Domain (Emotion)
- iii) Psychomotor Domain (Doing)





Domains of Learning Activity :-

Cognitive Domain :-

→ The cognitive domain has six levels that are associated with varying levels of understanding or competence.

→ The domains range from Knowledge which is the lowest level in the cognitive domain to Evaluation, which is the highest level.

Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

i) Knowledge :- The ability to recall and information.
Example - A child recites the English alphabet (A-Z).

ii) Comprehension :- The ability to understand the meaning of what is known.

iii) Analysis :- Divide Material or ideas into component parts. E.g - Compare, classify, appraise, dissect, organise.

iv) Application :- Apply acquired knowledge in the work place unprompted in new or original ways.
E.g - Distinguish, Prioritise, deduce, device.

v) Synthesis :- Construct or arrange from a plan.
Objective - Select & build from diverse elements, imagine, originate, stimulate solve

vi) Evaluation :- Discern the value of ideas of concepts. Objective - Estimate, Judge, defend.





Affective Domain

The affective domain Encompasses the ways on individual reacts & focuses on such factors as motivations, appreciations.

characterizing
organising
Valuing
Responding
Receiving

i) Receiving :- learner is aware & receptive. otherwise, can't take place.

Objective - Reply, use describe, follow.

ii) Responding :- Learner actively Participates in the process. Objective - Discuss, answer, perform, Present.

iii) Valuing :- It identifies the value on individual associate with an object in behaviour.

Objective - Formulate, defend, Prepare, arrange.

iv) Organising :- Learner can synthesize different information & values.

v) Characterizing :- A belief becomes a part of system that controls the learning behaviour.

Objective - Influence, Practice, perform.

Psychomotor Domain

Psychomotor Domain includes those objectives which deal with all motor skill & Practice.

i) Perception :- This includes sensory stimulations e.g. auditory, visual, taste, smell.

Naturalisation
Articulation
Precision
Manipulation
Imitation
Perception

ii) Imitation :- Observing work & repeating e.g.:- drawing, handling of apparatus.





- iii) Manipulation :- Acquires skill & confidence by doing correctly.
- iv) Precision :- Performance should be carried out with Precision. without any confusion.
- v) Articulation :- establishment of relationship in learning by combining & organizing.
- vi) Naturalization :- All activities should become natural & habit.





ACTIVITY - III

1) Sketch the life history and write his contributions of any one Biologist.

Life history and contribution of Gregor Mendel :-

Full name - Gregor Johann Mendel

Born - 20, July 1822, Hyncice, Vrazone, Czechia

Died - 6 January 1884, Brno, Czechia

Known for - Founder of the Modern Science of genetics

Parents - Anton Mendel, Rosine Mendel

Gregor Johann Mendel, was an Austrian - Czechia scientist. He is regarded as the 'Father of Genetics' for his Pioneering research in the field of heredity.

He had a deep interest in Botany which had him to conduct experiment on pea plant. Over the course of his study he observed that there were 7 characteristics in the pea plant. For 8 years he carefully cross breed & grew thousands of pea plants and patiently analysed & compared the plants & seeds for difference in color & size of the seeds & variation in length of the plant. He took various precautions to prevent accidental pollination of the flowers which could have attained the results of the experiments.

Childhood & Early life :-

→ He was born as the Middle child and only son of Anton & Rosine Mendel.

→ As a child he worked in the garden & studied beekeeping which cultivated him a deep love for biological science.





→ He received his schooling in his own small village. Later on he went to the university of Olomouc when he studied Philosophy & Physics from 1840 to 1843.

Career and Works :-

In 1843, he began his training as a priest & joined the Augustinian Abbey of St Thomas's in Brno as a Monk.

→ He rejoined Monastery as a teacher in 1843 where he was motivated by his colleagues to conduct a study on plants.

→ He began to conduct his practical study on plants in 1856.

He studied edible Pea plants & recognized 7 distinct characteristics that remained consistent over generation in Purebreed varieties.

These characteristics include - colour of seed, shape of seed, colour of Pod, shape of pod, size of the plant, Position of flowers, colour of flower.

→ He cross pollinated the plants with contrasting characters & cultivate thousands of pea plants over the course of his Experiments.

→ He Presented the results of his Experiments of the 'Natural History Society' of Brno in 1865.

→ His findings were published in a paper 'Experiments in Plant Hybridization' in 1866.

Major Work :-

His experiments lead to the formulation of Mendel's laws known as laws of Inheritance.

These are (i) Law of Dominance

(ii) Law of Segregation

(iii) Law of Independent Assortment





- He developed the concept of dominant & recessive genes that explain how genetic traits are passed from generation to generation.
- His 1865 paper 'Experiments on plant Hybridization' which was largely ignored during his lifetime, is today regarded as the base of genetic experimentation.

Personal Life and Legacy:-

- As a young man, he had very close & loving relation with his parents. Being a monk, he never married and led a life of celibacy.
- He died at the age of 61 after suffering from kidney problems.
 - His work on heredity which did not find much acceptance during his lifetime took on much greater significance after his death & he was posthumously called as the "Father of Modern genetics".





ACTIVITY - IV

4) Name any common branch of both Botany & zoology and explain how you integrate the Pedagogy in dealing with content.

Branch of Biology :-

The study of life is known as Biology. It mainly divided into 2 branches.

i) Botany

ii) Zoology

i) Botany :- It deals with the study of plant.

ii) Zoology :- It deals with the study of Animal life.

→ Both are pure applied branches. In the pure branches the theories & concepts are in the area of study & the application of those theories for the welfare of the human beings are deal in the applied branches.

→ The branches of biology is divided in some branches.

i) Morphology - Study of external & Internal structure of living things.

ii) Cytology - study of cell.

iii) Anatomy - Study of Internal structure of organisms.

iv) Histology - study of tissue.

v) Physiology - study of functional activity.

vi) Ecology - study of relationship between the organisms & their environment.

vii) Embryology - study of embryo.

viii) Genetics - study of heredity & variation

ix) Palaeontology - study of fossils.

x) Evolution - study of gradual change of Animals & plants.

xi) Pathology - study of disease of the living organisms.





Applied Branches of Botany :-

- i) Agriculture - study of crops.
- ii) Horticulture - study of garden.
- iii) Pharmacognosy - Study of medicine or drugs produced from natural sources, plants, animal, microbes.
- iv) Forestry - study of forest.

Applied zoology :-

- i) Sericulture - works for rearing of silkworm.
- ii) Apiculture - study of rearing of honey bees.
- iii) Lac culture - study of lac insects.
- iv) Poultry - study of fowl, duck etc.
- v) Fish culture - study of rearing and cultivation of fish.
- vi) Animal husbandry - study of rearing and cultivation of cattle like, domestic animals.

Other branches of science :-

1) Biotechnology :-

It is the technology based on biology, using technology living organisms are genetically modified and improved variety of crops and successfully clone animals and plants has been produced.

2) Bioinformatics :-

Systematic development and application of computing system in biological process.

3) Genetic Engineering :-

Extracting of selected genes from an organisms or synthesizing of selected genes is inserted into another organisms and as a results, an organism develops with a new combination of gene by the genetic engineering.





4) Biomedical Engineering :-

Better production of spare parts for human beings for external use and internal implantation are the subject of Biomedical Engineering.





ACTIVITY-V

↳ Organize an event on Earth Day / Environment Day / Population Day, etc. in the school during the internship and report.

Earth Day:-

Earth day also known as 'world Earth day' is a yearly occasion celebrated since 1970 on April 22 to support and protect the Environment. Earth day celebrated in various schools & colleges across the world to support Environmental Movements.

Earth day is a proof that even one person can make a global impact in a positive way. The whole school, whether it was the students, support, staff, teacher, guards, admin staff or helpers took part in this "Go-Green-Initiative". On this day we try to plant a sapling or a plant which helps us from avoiding global warming.

Activity:-

Earth day was celebrated in school through the educational & action oriented activities that were fun. On the earth day teachers should power point presentation to remind the students of their duties towards "Mother Nature" drive.

They also indulged in a craft activity in which they coloured a thermocol white ball representing mother earth with blue & green colours symboling land & water.





[Earth day]

[Plantation]

Grade I to III Activities:-

The students of primary wing enthusiastically participated in myriad of activities conducted in the classes to commemorate our benevolent Mother Earth.

To start with the students learnt the importance of the Earth Day & the need to preserve & conserve their self sustaining Planet.

A soulful dance performance of dedicated to our blue planet and to celebrate the Mother earth was organised.

The students participated in these activities with great zeal and enthusiasm showcasing their artistic and creative skills.

Teachers added the finishing touch by addressing the students and emphasizing upon the importance of afforestation, planting of trees & the need for everyone to put together their efforts and get into action in protecting our environment.





Many students love music and dance, and research indicates that learning through music and structured movement is good educational practice. With this thought in mind our school planned the Earth Day week great zeal to spread maximum awareness.

The Earth Day continued and began to arise groups and organizations that sought the way to protect the environment one of them Green Peace.

→ Today people all over the world are working hard to keep our planet green.

Reuse:- Instead of throwing things away, try to find ways to use them again.

Reduce:- Reducing the amount of waste you produce is the way to help the environment.

Recycle:- Put items through a process that makes it possible to create new product.

→ Earth is our home and every human being's home. The earth itself is alive, we are part of the developing universe, we feel humble in the presence of the beauty of the earth & share joyfulness for life and the sources of our being.

