CATEGORY DESCRIPTIONS

1. AGRICULTURAL SCIENCES (AGR)

The study of farming methods used to raise and take care of plants and animals

Animal Husbandry	concerned with improving conditions, processes and production systems for livestock to increase yield for human consumption
Aquaculture	cultivating fish, crustaceans, molluscs, algae under controlled conditions mostly for commercial purpose
Crop Sciences	concerned with producing and using plants for food, fuel, etc. and includes plant breeding, horticulture and soil management, for example innovative crop solutions to increase productivity

2. ANIMAL SCIENCES (ANI)

The study of animals

Animal Behaviour	is the study animal behaviour with emphasis on the behavioural patterns that occur in natural environment.
Animal Genetics	is the study of genetic variation, genes and heredity in animals, specifically mechanisms of hereditary transmission and variation of inherited characteristics
Animal Physiology	is the scientific study of the internal physical and chemical functions of animals
Aquatic Animals	Is the study of animals (vertebrate or invertebrates) that live in water for most or all of their lifetime.
Entomology	is the branch of zoology which is the scientific study of insects
Wildlife Management	is the study of the conservation of wildlife, including endangered animals
Zoology	is the scientific study of the behaviour, structure, physiology, taxonomy and distribution of animals

3. BIOMEDICAL and MEDICAL SCIENCES (BIO)

Biomedical Sciences is the scientific understanding of how cells, organs and systems function and it is relevant to the understanding of human diseases and treatment. It is the application of science to knowledge, technology and interventions regarding healthcare and medicine.

Diseases and Illnesses	refer to conditions of the living animal or plant or of one of its parts that impairs normal functioning, and is typically manifested through distinguishing signs and symptoms. Studies are concerned with infectious and communicable diseases, including the clinical aspects such as the use and effect of antimicrobial and antibiotic substances
Food Science and Technology	is the study of the nature of foods, the causes of their deterioration, and the principles underlying food processing as well as the selection, preservation, processing, packaging and distribution of food. This includes nutrition and dietary needs.
Health Care	is the provision of services, the processes for the prevention of illnesses and injuries as well as the promotion and awareness of wellbeing.
Human Genetics	is the study of genes, genetic variation, and heredity in humans and how they are can cause certain diseases? An understanding of genetic diseases may influence treatment.
Human Physiology	is the study of physical and biochemical functioning of the human body and different organ systems. It includes understanding of cell physiology, immunology and organ systems.
Medical Science	is the science concerned with the diagnosis, treatment, and prevention of diseases and illnesses. This includes translational medicine, which is the discovery of new diagnostic tools and treatments, using a multi-disciplinary bench-to-bedside approach.
Microbiology	is the study of the structure, function, uses and modes of existence and the associated diseases of microscopic organisms such as eukaryotes (fungi and protists) and prokaryotes (bacteria and algae) and viruses. This includes the use of microorganisms for medical applications such as treatments. This sub-category focuses on: *Bacteriology* is the study of the biology of bacteria as well as the associated diseases. It includes the study of the biochemistry, physiology, molecular biology, ecology, evolution and clinical aspects of diseases caused by bacteria. *Virology* is the study of the biology of viruses as well as the associated diseases. It includes the study of the biochemistry, physiology, molecular biology, ecology, evolution and the clinical aspects of diseases caused by viruses. *Mycology* is the study of fungi as well as the associated diseases. It includes the study of the biochemistry, physiology, molecular biology, ecology, evolution and clinical aspects of fungal diseases.
Pharmacology	is the science of drugs, concerned with the uses, effects and modes of actions of drugs, on living tissues and systems and their effects on health and wellbeing, as well as the treatment of illnesses.
Sports Sciences	is a multi-disciplinary field concerned with the understanding and enhancement of human performance in exercise and sport. It includes the knowledge, methods and applications of the sub-disciplines of human movement studies (i.e. exercise physiology, biomechanics, motor control and motor development, exercise and sport psychology), as well as how they interact
Veterinary Sciences	is concerned with animal pathology and healthcare, specifically with the prevention, diagnosis and treatment of diseases in animals (domesticated and wild).

4. CHEMISTRY AND BIOCHEMISTRY (CHB)

Chemistry is the branch of science concerned with the composition, structure and properties of substances and the transformations they undergo. Biochemistry is the branch of science that explores the chemical processes within, and related to, living organisms.

Analytical Chemistry	is the study of the composition, separation, identification and quantification of chemical components of materials.
Biochemistry	is a laboratory based science, which brings together biology and chemistry. It explores the chemical processes within and related to living organisms at a molecular level
Inorganic Chemistry	is the study of the structure, synthesis, properties and reactions of all chemical elements and compounds, which includes metals and minerals, other than organic compounds.
Organic Chemistry	is the study of the structure, properties, composition, reactions, and synthesis of organic compounds, which by definition contain carbon.
Polymer Chemistry	is the study of the synthesis, characterization and properties of monomers, polymer molecules or macromolecules whether natural or synthetic.

5. COMPUTER SCIENCES AND SOFTWARE DEVELOPMENT (COM)

Computer Science is the study of computational systems and information technology, specifically the theory, design, development, and application of these systems. This includes artificial intelligence, computer systems and networks, security, database systems, human-computer interaction, vision and graphics, numerical analysis, software systems and languages, bioinformatics and the theory of computing.

Data Management	focuses on collecting, validating, storing, protecting, and processing data usually using databases
Data Sciences	is the field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from data in various forms, including data mining. This requires data management (collection, validating, storing, protecting, and processing data) and data analysis.
Networking	is the use of computers and infrastructure to create networks and the study of how these networks' communicate. This includes the practice of transporting and exchanging data between nodes over a shared medium in an information system comprising of hardware and protocols (wired and wireless technology)
Software Systems	primarily focus on the interface between the hardware and users, the development of unique applications and the different programming languages used. Examples include programming applications for mobile devices, social media platforms, office suites, gaming applications, and educational software

6. EARTH SCIENCES (EAR)

Natural sciences related to planet earth.

Atmospheric Sciences	is the study of the dynamics and chemistry of the layers of gas that surround the Earth, for example, study of ozone depletion, greenhouse gases
Climate Sciences	is the scientific study of climate, scientifically defined as weather conditions averaged over a period of time
Geography	is the study of science that deals with the description, distribution, and interaction of the diverse physical, biological, and cultural features of the earth's surface.
Geology	involves studying the materials that make up the earth, such as rocks and the features and structures found on earth as well as the processes that act upon them
Limnology	is the study of the physical, chemical and biological properties of fresh water
Oceanography	is the study of the physical, chemical and biological properties of the ocean. For example, studying ocean currents, waves
Soil Sciences	includes researching soil classification, formation, chemistry and also interactions with living things
Water Sciences	looks at the distribution and quality of ground and surface water and includes management of water resources, and water security

7. ENERGY (ENP)

Study of energy systems and various aspects including productivity, generation using renewable and non-renewable sources, as well as the efficient and sustainable use of energy

Energy Productivity	is the total value gained from using a unit of energy and is concerned with new or improved processes and technologies at all stages of production. For example, acquiring and processing raw materials (coal, natural gas, nuclear, petroleum) storage, transmission and distribution of energy. Energy efficiency is the part of Energy Productivity focusing on minimising energy wastage, reducing costs, reducing energy consumption or some combination of these (e.g. using energy efficient light bulbs)
Non-renewable Energy	is the study and design of energy systems from non-renewable resources, such as fossil fuels (coal, petroleum, and natural gas).
Renewable Energy	is the study and design of energy systems using renewable resources (naturally replenished), for example sunlight, wind, rain, tides, waves, bio-energy, etc.

8. ENGINEERING (ENG)

The use of scientific theories, mathematical methods and computer sciences to solve problems within society.

Biomedical Engineering	is the study, design, control and application of medicine, biology and technology for healthcare purposes such as prosthetics and diagnostic equipment
Chemical /Process Engineering	is the study, design, control, and application of systems and processes to convert input substances into desired output substances
Civil & Industrial Engineering	*Civil* Engineering is concerned with the planning, design, construction and maintenance of structures. *Industrial* engineering is about the optimization and streamlining of complex processes, systems or organizations to reduce wastage of time, money and other resources and materials
Electrical, Electronics and Embedded Systems	is the study, design, control and application of electricity, electronics, circuits, devices, microcontrollers and electromagnetism to solve problems
Mechanical & Aeronautical Engineering.	*Mechanical* Engineering is the study, design, control and application of mechanics, specifically for machines such as engines. *Aeronautical* Engineering uses similar principles, specifically for aircrafts
Mining & Metallurgical Engineering	*Mining* engineering applies science and technology to the extraction of minerals from the earth. *Metallurgical* engineering deals with the processes used to extract metals from their ores, purify, alloy, and create useful objects from metals

9. ENVIRONMENTAL STUDIES (EVS)

Deals with the components, process and preservation of nature and looks at human interactions with the environment, in interest to solve complex problems.

Biological Control	is the intentional use of a specific organism or their metabolic by-products to limit the harmful impact of an invasive species
Bioremediation	is the waste management technique that involves the use of organisms to remove or neutralize pollutants from a contaminated site
Ecology	is the branch of biology that deals with the relations of organisms to one another and to their physical surroundings, including biodiversity
Environmental Management	is the management of the interaction and impact of human activities on the natural environment.
Sustainable Development	is defined as a process of meeting human development goals while sustaining the ability of systems to continue to provide the natural resources and ecosystem services upon which the economy and society depends
Sustainability	is the systematic approach to finding practical ways for saving water, energy, and materials, as well as reducing negative environmental impacts

10. MATHEMATICS (MAT)

The study of quantities, structures, space and change. Statistics is the branch of mathematics that deals with the collection, analysis, interpretation, and presentation of numerical data. Probability is the mathematical representation of the likelihood of an event occurring.

Algebra	the study of the properties and relationships of abstract entities (such as complex numbers, matrices, sets, vectors, groups, rings, or fields), arithmetically using symbols e.g. x, y, π. These symbols represent numbers and quantities in formulae and equations in order to solve them
Game Theory	is the branch of applied mathematics that provides the tools for the analysis of strategies for dealing with competitive situations where choices are required
Geometry	the area of mathematics relating to the study of space. It Involves the measurement (shape and size), properties, and relationships of points, figures, spaces, lines, angles, surfaces, and solids
Number Theory	is the study of the set of whole numbers where the main goal is to discover interesting and unexpected relationships between sets of numbers, for example the Fibonacci Sequence
Statistics and Probability	Statistics is concerned with collecting, organising, analysing, interpreting and presenting data. Probability is the study of chance i.e. calculating the likelihood or "odds" of something happening in the future, and can be expressed as a fraction, decimal or percent

11. PLANT SCIENCES (PLA)

The study of plants.

Aquatic Plants	is the study of plants that grow in an aquatic environment (freshwater or saltwater), whether rooted or floating, including the study of algae (Phycology)
Botany	is the scientific study of the behaviour, structure, physiology, taxonomy, distribution of plants, and plant pathology
Plant Genetics	is the study of genetic variation, genes and heredity in plants, specifically mechanisms of hereditary transmission and variation of inherited characteristics. How plant genetics affect characteristics / morphology of the plant

Plant Pathology	is the study of the organisms and environmental conditions that cause disease in *plants*, the mechanisms by which this occurs, the interactions between these causal agents and the *plant* (effects on *plant* growth, yield and quality), and the methods of managing or controlling *plant* disease
Plant Physiology	is the study of the physical, chemical and biological functioning of plants

12. PHYSICS, ASTRONOMY AND SPACE SCIENCES (PHY)

Physics is the study of matter, energy, motion and forces. Astronomy and Space Sciences is the study of the universe and beyond, including its origins and the properties of objects in space.

Astronomy and Space Sciences	is the study of the Universe and beyond, including its origins and the properties of objects in space
Material Sciences	is the scientific study of the properties and applications of materials of construction or manufacture (such as ceramics, metals, polymers, and composites)
Matter and Materials	is the study of the property of the different phases of matter and their macroscopic properties which includes topics such as super-conductivity, semi-conductors, thin films and complex fluids
Mechanics	is the branch of science that explains how masses behave when subjected to the effects of force and displacement. It includes Kinematics, Projectiles, Velocity and acceleration, Newton's Laws, Collisions, Rotational Motion and Fluid Mechanics
Mechatronics and Robotics	integrates electronics, control and mechanics in the study and design of electromechanical systems, such as robots, to solve problems
Optics	is the study of a part of the electromagnetic spectrum (specifically the infrared, visible, and ultraviolet light) as well as the devices used to measure, detect and produce this spectrum, for example photometers and lasers
Theoretical Physics	is the description of natural phenomena in mathematical form

13. SOCIAL SCIENCES (SOC)

A branch of science that deals with the study of humans; their behaviour, interpersonal relationships, institutions and functioning within society.

Anthropology	is the study of people, their evolutionary history; as well as how they behave and adapt to different environments; communicate and socialise with one another
Education Studies.	*Education* is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. *Education Studies* looks at ways to promote the analytical, critical and logical aspects of learning, leading to overall growth and development of an individual. Educational methods include e-learning, inquiry based learning, discovery learning, storytelling, discussion etc. Studies include a focus on the various teaching and learning pedagogies. Research in this field includes the types, uses and efficacy of various educational resources including manipulatives such as geoboards, blocks to illustrate shape and space, tangrams etc.
Human Behaviour	relates to how humans act and interact based on factors such as culture, tradition, values, and attitudes, etc. It looks at human interpersonal relationships and interactions
Human Settlements.	*Ekistics* is the study of the various types of human settlements, including regional, city, community planning and dwelling design. This study draws from the vast areas of geography, ecology, human psychology, anthropology, culture, and aesthetics. Settlements can be as small as one house or large as a megacity
Psychology	is the study of the mind and our behaviour. It integrates science, theory, and practice in order to understand, predict and relieve problems whilst promoting adaption, and personal development. There are a number of fields of psychology such as Clinical psychology, Child psychology and Developmental psychology, Cognitive psychology, Social psychology and Educational psychology