

## CHAPTER 1

- **PURPOSE OF THE MRDCS**

The Malaysian Research and Development Classification System or MRDCS was first introduced in the 1992 National Survey of Research and Development. It was designed to provide accuracy and detail in describing research and development activities in Malaysia. These classifications provide the basis for the measurement and analysis of R&D activities and statistics that are useful guidelines to the government policy makers, industrialists and researchers. By utilising these classifications, relevant activities could be distinguished, hence ensuring efficiency and effectiveness in setting priorities, providing funds, maximising efforts and comparing Malaysian R&D efforts with those in other countries.

- **THE SYSTEM OF CLASSIFICATION**

The classifications follow two internationally recognised systems:

- Field of Research (FOR)** represents R&D activities classified according to their scientific and academic disciplines. These disciplines tend to be universally applicable, with national variations arising based on the grouping of different research fields.
- Socio-Economic Objective (SEO)** organises those same R&D activities by their purpose or presumed sectoral beneficiaries. This system shows greater national variation according to a nation's profile and priorities.

These two classification systems must be considered in tandem as they cover the same activity but from two different but important perspectives. Both of which are necessary in giving a clear depiction of R&D activity in the context of knowledge and national development.

## ● STRUCTURE OF THE MRDCS

The Field of Research or FOR and Socio-Economic Objective or SEO are uniquely identified by special code where "F" refers to FOR and "S" refers to SEO. The remaining characters identify the Division, Category, Group and Area as shown in the following example:

### 'ABXXYYZZ'

A	= SYSTEM OF CLASSIFICATION
B	= DIVISION
XX	= CATEGORY
YY	= GROUP
ZZ	= AREA

Example (FOR) : F1040301

F: Field of Research ( SYSTEM OF CLASSIFICATION )

1: Natural Sciences, Technologies and Engineering ( DIVISION )

04: Earth Sciences ( CATEGORY )

03: Geochemistry ( GROUP )

01: Bio geochemistry ( AREA )

Example (SEO): S2010407

S: Socio-Economic Objective ( SYSTEM OF CLASSIFICATION )

2: Economic Development ( DIVISION )

01: Plant Reproduction and Plant Primary Products ( CATEGORY )

04: Forestry ( GROUP )

n.e.c. - not elsewhere classified

SN - Scope Notes

## ● GUIDELINES FOR CLASSIFYING RESEARCH FIELD

There are nine possible Divisions and 99 possible Category, Group and Area levels to allow for future expansion of the classification.

A research project is allocated to an Area in a hierarchical manner. This is achieved by first determining the Division in which the research is being performed, followed by the most relevant Category within that Division and then the most relevant Group within that Category. It is vital to first identify the higher level of classification because within the different Groups there are identical titles.

## ● APPLICATION OF SYSTEM

The MRDCS classifications have been designed primarily to meet the needs in classifying research projects in consistent and hierarchical manner. The system used in this document would among others be applicable for the following activities:

- Conducting the National Survey of Research and Development.
- Applying for R&D funds such as Techno Fund and Science Fund.
- Identifying and codifying of the research projects and experts in database development.

## ● DEFINITIONS

This classification allows R&D activity to be categorised according to the types of research efforts, namely Basic Research, Applied Research and Experimental Development. The definitions and guidelines and scope of R&D activity are as follows:

### ***Research and Development***

R&D is defined according to the OECD standard as "comprising creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications".

### ***The boundaries of R&D are listed below:***

#### **a. Education and Training of Personnel and Students**

Postgraduate research including supervision of the research is considered to be R&D. The development of new teaching methods is also regarded as R&D. However, teaching and training students, using established methods and subject knowledge, is excluded.

#### **b. Specialised Scientific and Technical Information Services**

Specialised scientific and technical information services which are undertaken solely in support of R&D are regarded as R&D. Examples of these are scientific data collection, coding, recording, classification, dissemination, translation, analysis and bibliographic services. These specialized services are excluded if they are undertaken independently and not solely in support of R&D.

#### **c. General Purpose or Routine Data Collection**

Collection data in support of R&D work is included in R&D. However, data collection of a general nature is excluded. This is normally carried out by government agencies to record natural, biological, economic or social phenomena of general public or

government interest. Examples are national population censuses, surveys of unemployment, topographical mapping and routine geographical surveys.

- d. **Maintenance of National Standards**  
Routine testing and analysis of materials, components, products, processes, soils, atmospheres, etc. for standard compliance is excluded from R&D.
- e. **Feasibility Studies**  
Feasibility studies undertaken in support of R&D are included. However, a feasibility study which involves gathering information about existing conditions, for use in deciding whether or not to implement a project, is excluded, e.g. a study to determine the viability of a petrochemical complex in a particular location.
- f. **Specialized Medical Care**  
R&D includes the development of new treatments and procedures, including such developments in conjunction with advanced medical care and examinations usually carried out by university hospitals.
- g. **Patent and License work**  
Patent work connected directly with R&D projects is included in R&D. However, commercial, administrative and legal work associated with patenting, copywriting and licensing, are excluded.
- h. **Policy Related Studies**  
The boundary between certain policies related studies as described in the Frascati Manual and R&D is complex. In the Frascati Manual, policy related studies cover activities such as the analysis and assessment of existing programmes, continued analysis and monitoring of external phenomena (e.g. defence and security analysis), legislative inquiry concerned with general government departmental policy or operations. Rigour is required to separate policy related studies, which are not R&D from bona fide R&D policy work. Studies to determine the effects of a specific national policy to a particular economic or social condition or social group have elements of R&D. Routine management studies or efficiency studies are excluded.
- i. **Marketing and Market Studies**  
Market research and opinion polls are excluded from R&D.
- j. **Mineral exploration**  
The development of new or vastly improved methods of data acquisition, processing and interpretation of data is included as R&D. Surveying undertaken as an integral part of an R&D project to observe geological phenomena is also regarded as R&D. However the search for minerals using existing methods is excluded from R&D.

k. **Prototypes and Pilot Plants**

The design, construction and testing of prototypes generally falls within the scope of R&D. However, trial production and copying of prototypes are excluded from R&D.

The construction and operation of pilot plants is part of R&D provided that these are used to obtain experience or new data for evaluating hypotheses.

Pilot plants are excluded as soon as the experimental phase is over or as soon as they are used as normal commercial production units even if they continue to be described as ' pilot plants '. If a pilot plant is used for combined operations, the component used for R&D is to be estimated.

- l. Other activities, which are ancillary or consequential to R&D, are excluded. Examples of these are interpretative commentary using existing data, forecasting, operations research as a contribution to decision-making and the use of standard techniques in applied psychology to classify or diagnose human characteristics.

**Types of Activity.**

Three types of activity applicable to R&D are recognized in this classification namely:

- Basic research (Pure basic research & Strategic basic research)
- Applied research
- Experimental development

**Pure basic research** is experimental and theoretical work undertaken to acquire new knowledge without looking for long-term benefits other than the advancement of knowledge.

**Strategic basic research** is experimental and theoretical work undertaken to acquire new knowledge directed into specified broad areas in the expectation of useful discoveries. It provides the broad base of knowledge necessary for the solution of recognized practical problems.

**Applied research** is original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken either to determine possible uses for the findings of basic research or to determine new ways of achieving some specific and predetermined objectives.

**Experimental development** is systematic work, using existing knowledge gained from research or practical experience that is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

## CHAPTER 2

- **FIELD OF RESEARCH**

Field of Research or FOR classification allows R&D activity to be categorised according to the field of research undertaken. In this respect, it is the nature of the R&D itself, which is being examined rather than the activity of the performing unit or the purpose of the R&D.

FOR consists of a set of discrete categories, which identify such research field. For new edition, FOR also covered all the areas from SEO. These fields include recognised academic disciplines and related major sub-fields taught at universities or tertiary institutions and organisations, and emerging areas of study. It reflects the expansion of research activity particularly in natural sciences, information, computer and communication technologies, the applied science and technologies, the biological and other natural science, such as mathematical sciences, the social science and the humanities.

FOR represents R&D activities classified according to their scientific and academic disciplines currently have 2 Divisions, 18 Categories, 237 discrete Groups and 3001 Areas.

Choose the FOR classification which most appropriately describes the scientific discipline you are practising.



# Division 1

**Natural Sciences, Technologies  
and Engineering**







CATEGORY	GROUP	AREA
F101000	F1010100	Mathematics
		F1010101 Approximation Theory
		F1010102 Calculus of Variation
		F1010103 Category Theory, K-Theory and Homological Algebra
		F1010104 Combinatorics
		F1010105 Control Theory
		F1010106 Difference, Differential, Integral, Integro-Differential and Functional Equations
		F1010107 Dynamical Systems
		F1010108 Field Theory
		F1010109 Fourier and Harmonic Analysis
		F1010110 Functional Analysis
		F1010111 Fuzzy Mathematics
		F1010112 Geometry, Topology and Manifolds
		F1010113 Global Analysis and Bifurcation
		F1010114 Group Theory and Generalisations
		F1010115 History and Philosophy
		F1010116 Indigenisation and Islamisation
		F1010117 Linear and Multilinear Algebra
		F1010118 Mathematical Logic and Set Theory
		F1010119 Mathematical Programming and Optimisation
		F1010120 Number Theory
		F1010121 Numerical Analysis
		F1010122 Operations Research
		F1010123 Real and Complex Functions
		F1010124 Rings and Algebras
		F1010125 Several Complex Variables
		F1010126 Real Analysis
		F1010127 Complex Analysis
		F1010128 Graph Theory
		F1010129 Cryptography
		F1010199 Other Mathematics and Mathematics Disciplines n.e.c

CATEGORY	GROUP	AREA	
	<b>F1010200</b>		<b>Statistics</b>
		F1010201	Decision Theory
		F1010202	Experimental Design and Analysis
		F1010203	Exploratory Data Analysis
		F1010204	History and Philosophy
		F1010205	Indigenisation and Islamisation
		F1010206	Multivariate Analysis
		F1010207	Observational Studies
		F1010208	Probability and Distribution Theory
		F1010209	Quality and Productivity Measurement
		F1010210	Sampling and Survey Techniques
		F1010211	Statistical Computing
		F1010212	Statistical Inferences
		F1010213	Statistical Modelling
		F1010214	Stochastic Analysis and Modelling
		F1010215	Survival and Reliability Analysis
		F1010216	Time Series and Spatial Analysis
		F1010299	Other Statistics and Statistical Sciences n.e.c.
	<b>F1010300</b>		<b>Mathematics and Statistics for ICT and Industries</b>
		F1010301	Algorithms and Cryptology
		F1010302	Applied Logic and Automata
		F1010303	Artificial Intelligence
		F1010304	Circuits and Networks
		F1010305	Computational Methodology and Complexities
		F1010306	Computer Systems Organisation
		F1010307	Computer-Aided Geometric Design (CAGD)
		F1010308	Deterministic and Stochastic Difference, Differential, Integral, Integro-differential and Functional Equations
		F1010309	Discrete Mathematics
		F1010310	Dynamical Systems
		F1010311	Experimental Mathematics
		F1010312	Industrial Computing
		F1010313	Industrial Optimisation and Control
		F1010314	Industrial Statistics

CATEGORY	GROUP	AREA
		F1010315 Information and Communication F1010316 Natural Language Programming F1010317 Software Engineering F1010318 Data Mining F1010319 Image Processing and Pattern Recognition F1010320 Computational Mathematics F1010321 Forensic Statistics F1010399 Other Mathematics and Statistics for ICT and Industries n.e.c.
	<b>F1010400</b>	<b>Application of Mathematics and Statistics in Other Areas</b>
		F1010401 Actuarial Mathematics F1010402 Biological and Medical Sciences F1010403 Business, Financial and Managerial Sciences F1010404 Celestial Mechanics, Mathematical Astrophysics and Cosmology F1010405 Deformed Solid Mechanics F1010406 Economics F1010407 Fluid Mechanics F1010408 Optics and Electromagnetism F1010409 Particle, Rigid Bodies and System Mechanics F1010410 Potential Theory F1010411 Quality Assurance and Standard F1010412 Quantum Theory F1010413 Relativity F1010414 Social Sciences and Humanities F1010415 Statistical Mechanics and Structure of Matter F1010416 Thermodynamics and Heat Transfer F1010417 Unified Theory and Theory of Everything F1010418 Computational Complex Analysis F1010419 Financial Mathematics F1010420 Actuarial Modelling F1010421 Bio-mathematics F1010422 Bioinformatics F1010499 Other Application of Mathematics and Statistics n.e.c.

CATEGORY	GROUP	AREA
	<b>F1010500</b>	<b>Mathematical Science Education</b>
	F1010501	Curriculum Development and Teaching Methods
	F1010502	Education and Instruction
	F1010503	Education Policy and System
	F1010504	Educational Material and Media, and Educational Technology
	F1010505	Mathematical Ethnoscience and Islamic Education
	F1010506	Popularisation and Acculturation
	F1010507	Psychology
	F1010508	Critical and Mathematical Thinking
	F1010599	Other Mathematical Science Education
	<b>F1010600</b>	<b>Advancement of Mathematical Science Knowledge</b>
	<b>F1019900</b>	<b>Other Mathematical Sciences n.e.c.</b>

## PHYSICAL SCIENCES

CATEGORY	GROUP	AREA		
F1020000	<b>F1020100</b>	<b>Astronomy and Astrophysics</b>		
		F1020101	Aeronomy	
		F1020102	Astrophysics	
		F1020103	Solar System	
		F1020104	Stellar System Galactic and Extragalactic	
		F1020199	Other Astronomy and Astrophysics n.e.c	
		<b>F1020200</b>	<b>Theoretical and Computational Physics</b>	
		F1020201	Chaos Theory and Simulation	
		F1020202	Classical and Quantum Physics	
		F1020203	Electromagnetism	
		F1020204	Field Theory	
		F1020205	Relativity and Gravitation	
		F1020206	Statistical Physics and Thermodynamics	
		F1020207	Wave Phenomena and Propagation	
		F1020299	Other Theoretical and Computational Physics n.e.c	
		<b>F1020300</b>	<b>Atomic and Molecular Physics</b>	
		F1020301	Atomic and Molecular Structure	
		F1020302	Atomic and Molecular Collision Processes and Interactions	
		F1020303	Instrumentation and Measurement Techniques	
		F1020399	Other Atomic and Molecular Physics n.e.c	
		<b>F1010400</b>	<b>Acoustics and Optical Physics</b>	
		F1020401	Acoustical and Optical Signal Processing	
		F1020402	Acoustics	
		F1020403	Electro-Optics and Light Modulation	
		F1020404	Fibre Optics and Waveguides SN: Including Communication Equipment	
		F1020405	Instrumentation, Measurement Techniques and	

CATEGORY	GROUP	AREA
		Metrology F1020406 Optics, Non-Linear Optics and Quantum Optics F1020407 Opto-Acoustic and Opto-Thermal Phenomena F1020408 Quantum Electronics and Lasers F1020499 Other Acoustics and Optical Physics n.e.c
	<b>F1020500</b>	<b>Condensed Matter Physics</b>
		F1020501 Electronic, Electrical, Magnetic and Optical Properties F1020502 Low Dimensional Physics F1020503 Low Temperature Physics F1020504 Phonon Physics F1020505 Structure, Mechanical and Thermal Properties F1020506 Superconductivity F1020507 Surface and Interface and Thin Films F1020599 Other Condensed Matter Physics n.e.c
	<b>F1020600</b>	<b>Nuclear and Particle Physics</b>
		F1020601 Elementary Particle Physics F1020602 Nuclear Reaction and Scattering F1020603 Nuclear Structure F1020604 Radiation Detection and Measurement F1020605 Radioactivity and Electromagnetic Emission F1020699 Other Nuclear and Particle Physics n.e.c.
	<b>F1020700</b>	<b>Fluid, Discharges and Plasma Physics</b>
		F1020701 Electric Discharges F1020702 Fluid Dynamics F1020703 Gaseous Electronics F1020704 Physical Properties of Gases F1020705 Plasma Devices and Applications F1020706 Space Plasma F1020707 Theory and Modelling of Plasma F1020799 Other Fluid, Discharges and Plasma Physics n.e.c.

CATEGORY	GROUP	AREA
	<b>F1020800</b>	<b>Cross Disciplinary Physics</b>
		F1020801 Atmospheric Physics
		F1020802 Biophysics
		F1020803 Medical Physics
		F1020804 Geophysics
		F1020899 Other Cross Disciplinary Physics n.e.c.
	<b>F1020900</b>	<b>Advancement of Physical Sciences Knowledge</b>
		F1020901 Space Science
		F1020902 Space Exploration
		F1020903 Atmospheric Physics
		F1020904 Atomic and Molecular Physics
		F1020905 High Energy Physics
		F1020906 Plasma Sources
		F1020907 Radiation Physics
		F1020908 Nuclear and Reactor Physics
		F1020909 Acoustics
		F1020910 Optics, Non-Linear Optics and Quantum Optics
		F1020911 Optoelectronics and Lasers
		F1020912 Low Temperature Physics
		F1020913 Nanostructure and Quantum Device
		F1020914 High Temperature Superconductivity
		F1020915 Material Physics
		F1020916 Biophysics
		F1020917 Medical Physics
		F1020918 Geophysics
		F1020919 Ionospheric Physics
		F1020920 Other Physical Sciences
		F1020999 Other Advancement of Physical Sciences Knowledge n.e.c.

## CHEMICAL SCIENCES

CATEGORY	GROUP	AREA
F1030000	F1030100	Physical Chemistry SN: Including Theoretical and Structural
		F1030101 Chemical Energetic
		F1030102 Chemical Spectroscopy
		F1030103 Chemical Thermodynamics
		F1030104 Chemistry of Catalysis
		F1030105 Colloid Chemistry
		F1030106 Electrochemistry
		F1030107 Mechanisms of Reactions
		F1030108 Polymer Chemistry
		F1030109 Structural Chemistry
		F1030110 Surface Chemistry
		F1030111 Theoretical Chemistry
		F1030199 Other Physical Chemistry n.e.c.
	F1030200	Inorganic Chemistry
	F1030201 Bio-Inorganic Chemistry	
	F1030202 Main Group Chemistry	
	F1030203 Organometallic Chemistry	
	F1030204 Solid State Chemistry	
	F1030205 Transition Metal Chemistry	
	F1030299 Other Inorganic Chemistry n.e.c. SN: Including R&D in Agricultural Inorganic Chemical	
F1030300	Organic Chemistry	
	F1030301 Bio-Organic Chemistry	
	F1030302 Medicinal Chemistry	
	F1030303 Natural Products Chemistry	
	F1030304 Oleochemical Chemistry	
	F1030305 Organic Chemical Synthesis	
	F1030306 Petrochemical Chemistry	
	F1030307 Physical Organic Chemistry	
	F1030399 Other Organic Chemistry n.e.c. SN: Including R&D in Agricultural Organic Chemical	



CATEGORY	GROUP	AREA
	<b>F1030400</b>	<b>Analytical Chemistry</b>
		F1030401 Analytical Nuclear Chemistry
		F1030402 Bioassay Methods
		F1030403 Chemical and Physical Methods
		F1030404 Chemometrics
		F1030405 Computational Chemistry
		F1030406 Extraction Technology
		F1030407 Immunoassay
		F1030408 Instrumentation Methods
		F1030409 Trace Chemical Analysis
		F1030499 Other Analytical Chemistry n.e.c.
	<b>F1030500</b>	<b>Radiation Chemistry</b>
		F1030501 Cross Linking Chemistry
		F1030502 Degradation Chemistry
		F1030503 Radiochemistry
		F1030504 Sterilization Chemistry
		F1030599 Other Radiation Chemistry n.e.c.
	<b>F1030600</b>	<b>Molecular Chemistry</b>
		F1030601 Characterization of Molecules
		F1030602 Physical Chemistry of Molecules
		F1030603 Polymerisation Mechanisms
		F1030604 Synthesis of Molecules
		F1030699 Other Molecular Chemistry n.e.c.
	<b>F1030700</b>	<b>Advancement of Chemical Sciences Knowledge</b>
	<b>F1039900</b>	<b>Other Chemical Sciences n.e.c.</b> SN: Including Synthesis and Design of Fine and Speciality Chemicals as in Chiral Compound, Cosmoceuticals, Drug Intermediates from Indigenous Sources, Expired Patent Chemicals, Heat Resistant/ Flame Retarding Chemicals, Large Martial Molecules and Liquid Crys

## EARTH SCIENCES

CATEGORY	GROUP	AREA
F1040000	<b>F1040100</b>	<b>Geology</b>
		F1040101 Biostratigraphy
		F1040102 Carbon Dating
		F1040103 Geochronology
		F1040104 Geomorphology
		F1040105 Geotectonics
		F1040106 Glaciology
		F1040107 Mineralogy
		F1040108 Ore Deposit Petrology
		F1040109 Palaeontology
		F1040110 Petroleum Geology
		F1040111 Pollen Dating
		F1040112 Sedimentology
		F1040113 Structural Geology
		F1040114 Volcanology
	F1040199 Other Geology Studies n.e.c.	
	<b>F1040200</b>	<b>Geophysics</b>
	F1040201 Earthquake	
	F1040202 Electromagnetism and Geomagnetism	
	F1040203 Explosion	
	F1040204 Geomechanics	
	F1040205 Gravity	
	F1040206 Petrophysics	
	F1040207 Radiometric	
	F1040208 Seismology	
	F1040209 Tsunami	
	F1040210 Geomagnetism	
	F1040299 Other Geophysics n.e.c.	
	<b>F1040300</b>	<b>Geochemistry</b>
	F1040301 Bio Geochemistry	
	F1040302 Exploration Geochemistry	

CATEGORY	GROUP	AREA
		F1040303 Inorganic Geochemistry F1040304 Isotope Geochemistry F1040305 Microbial Geochemistry F1040306 Organic Geochemistry F1040399 Other Geochemistry n.e.c
	<b>F1040400</b>	<b>Hydrology</b>
		F1040401 Eco-Hydrology F1040402 Ground Water Hydrology F1040403 Hydraulic System F1040404 Hydrometeorology F1040405 Surface Water Hydrology F1040406 Urban Hydrology F1040407 Rural Hydrology F1040499 Other Hydrology n.e.c
	<b>F1040500</b>	<b>Atmospheric Sciences</b>
		F1040501 Climatology F1040502 El Nino Southern Oscillation (ENSO) F1040503 Ionosphere Physics F1040504 Magnetosphere Physics F1040505 Meteorology F1040506 Monsoon System F1040507 Palaeoclimatology F1040508 Solar - Terrestrial Interaction SN: Including Sunspot F1040509 Space Weather F1040599 Other Atmospheric Sciences n.e.c.
	<b>F1040600</b>	<b>Ionosphere and Upper Atmosphere</b>
		F1040601 Morphology F1040602 Dynamics F1040603 Profile F1040604 Irregularities F1040605 Effects on Electromagnetic Waves F1040606 Geomagnetic Field F1040607 Electron Content and Scintillation

CATEGORY	GROUP	AREA	
		F1040608	Ionospheric Sounding
		F1040609	Seismo-Ionospheric Coupling
		F1040699	Other Ionosphere and Upper Atmosphere n.e.c
	F1040700		Advancement of Earth Sciences Knowledge
	F1049900		Other Earth Sciences n.e.c.

**INFORMATION, COMPUTER AND COMMUNICATION  
TECHNOLOGY (ICT)**

CATEGORY	GROUP	AREA	
F1050000	F1050100	Information Systems	
		F1050101	Computer Graphics and Animations
		F1050102	Data Exchange Format
		F1050103	Decision Support System
		F1050104	Digital Image Processing System
		F1050105	Executive Information System
		F1050106	Geographic Information System (GIS) SN: Including of Digital Data, Digital Model, Environmental Information, Land Value Information, Map, Precise Measurement, Resource-Based Information, Spatial Database, Strategic Information and Geo-positioning System (GPS)
		F1050107	Interface Design
		F1050108	Management Information System
		F1050109	Multimedia
		F1050110	Search Engine
		F1050111	Telemedicine
		F1050112	Tomography
		F1050113	Web Technology
		F1050114	Grid Application
		F1050115	Semantic Grid
		F1050116	Agricultural Information System (AIS) SN: Including Information-based Agriculture Services
		F1050117	Information Services SN: Including Information Services, Library Services, Bioinformation Services, Business Intelligence Services, Collaborative Computing Services, Education and Training Services, Health Information Services, Legal Information Services, Natural Resource Services, Political Information Services, Social and Community Information Services and Internet
		F1050199	Other Information Systems n.e.c

CATEGORY	GROUP	AREA
	<b>F1050200</b>	<b>ICT Infrastructure</b>
		F1050201 Antenna Design
		F1050202 Board Design
		F1050203 Computer System Organisation
		F1050204 Data Communication Devices
		F1050205 Display Devices
		F1050206 Distributed Computing
		F1050207 Input and Output Devices
		F1050208 Integrated Circuits
		F1050209 Logic and Arithmetics Structures
		F1050210 Logic Design
		F1050211 Mobile Communication Devices
		F1050212 Multimedia Systems
		F1050213 Optical Computing
		F1050214 Processor Design
		F1050215 Radio Frequency (RF) Design
		F1050216 Wireless Devices
		F1050217 Sensor Networks
		F1050299 Other ICT Infrastructure n.e.c
	<b>F1050300</b>	<b>Software</b>
		F1050301 Computer Aided Software Engineering (CASE) Tools
		F1050302 Compilers and Interpreters
		F1050303 Computer Aided System
		F1050304 Decision Support System
		F1050305 Object Oriented Technology
		F1050306 Operating Systems
		F1050307 Programming Languages
		F1050308 Simulation System
		F1050309 Software Agents
		F1050310 Software Engineering
		F1050311 Open Systems Software
		F1050312 Programming Techniques
		F1050313 Embedded Systems
		F1050314 Safety Critical Software
		F1050399 Other Software n.e.c SN: Including Application

CATEGORY	GROUP	AREA
		Packages and Tools, Application System Utilities, Communication on Services, Computer Aided Design(CAD), Computer Aided Engineering(CAE), Computer Aided Manufacturing(CAM), Computer Animation and Digital Arts, Computer Security, Edutainment, Information Processing Services, Integrated and Expert System for Designing, Multimedia Content, Virtual Reality and Virtual Manufacturing
	<b>F1050400</b>	<b>Emergent Information Technology</b>
	F1050401	Edutainment Merging Education and Entertainment Technologies
	F1050402	High Performance Computing
	F1050403	High Speed Network
	F1050404	Intelligent Database
	F1050405	Knowledge Base
	F1050406	Man-Machine Interfacing
	F1050407	Middleware Technology
	F1050408	Mobile Computing
	F1050409	Multi-Protocol Label Switching (MPLS)
	F1050410	Natural Language
	F1050411	Parallel Architecture and Processing
	F1050412	Pervasive Computing
	F1050413	Virtual Reality
	F1050414	4D, 5D, Nth Dimension Modelling
	F1050415	Quantum Computing
	F1050416	Autonomous Computing
	F1050417	Ad-Hoc Computing
	F1050499	Other Emergent Information Technology n.e.c
	<b>F1050500</b>	<b>Communication</b>
	F1050501	Antenna Technology
	F1050502	Asynchronous Transmission Mode
	F1050503	Audio/Voice Communication
	F1050504	Coding and Information Theory

CATEGORY	GROUP	AREA
		F1050505 Communication Protocols
		F1050506 Communication Software
		F1050507 Data Communication Devices
		F1050508 Electromagnetic Compatibility (EMC)
		F1050509 Ethernet Technologies
		F1050510 Integrated Communication Devices
		F1050511 Integrated Service Digital Network (ISDN)
		F1050512 Microwave Communications Technology
		F1050513 Mobile Network Technologies
		F1050514 Optical Systems
		F1050515 Open System Interconnecting (OSI) Model
		F1050516 Routers Technology
		F1050517 Satellite Communications and Services
		F1050518 Switched Networks
		F1050519 Wireless Communication and Technologies SN: Including Communication Equipment
		F1050520 Mobile Computing and Services
		F1050521 High Performance Computing
		F1050522 Man-Machine Interfacing
		F1050523 High Speed Network
		F1050524 Middleware Technology
		F1050525 Financial Information Grid
		F1050526 Equipments SN: Including Broadcasting Equipment, Data Image and Text Equipment, Network Transmission Equipment, Photonic Equipment, Radio and Radio Frequency Identification (RFID), Nano Equipment
		F1050527 Communication Services SN: Including of Broadcasting, Postal Communication, Telecommunication, Tele-Education, Tele- Working, Multiservice Convergence Network, 3G Cellular Networks, Internet Protocol, Short- Range Communication, VOIP, Teleport and Tele- Health
		F1050528 Barcode
		F1050599 Other Communications n.e.c. SN: Including Technologies Use in Aerospace, Civil Defence, Secured Communication System; Navigation and Defence Communication System, Computer



CATEGORY	GROUP	AREA
		Simulation, Electronics and Electronics System
	<b>F1050600</b>	<b>Security System</b>
	F1050601	Authentication System
	F1050602	Biometrics Security System
	F1050603	Cryptography
	F1050604	Digital Signatures
	F1050605	Encryption System
	F1050606	Firewalls
	F1050607	Intrusion Detection System
	F1050608	Smart System
	F1050609	Surveillance System
	F1050610	Malware, Worms and Viruses
	F1050611	Hacking
	F1050612	Security Protocols
	F1050613	Intrusion Prevention System
	F1050614	National Security SN: Including Health Aspects such as Medicine and Medical Supply, Disaster Preparedness and Imported Diseases
	F1050615	Security Services SN: Digital Forensic, Steganography, Network Security, Public Key Infrastructure and Biometrics
	F1050699	Other Security System n.e.c SN: Including The Defence System n.e.c. and Manufacturing, Marine, Materials including Armour and Kevlar, Positioning and Mapping Systems, Remote Sensing System, Software, Strategic Air Pollution Control, Strategic Disinfections Systems, Strategic Water Purification Systems, Surveillance including Radar and Defence Satellite, Virtual-Reality War Games, Weapon Systems, Other Information & Communications Services and Technology n.e.c., Biotoxins, Hydrography, Underwater Acoustics Biological Weapon, DNA Identification, Nuclear Weapon, Combat Ration Food Security (Staple Food Production, Planning & Strategies for Production, Management of Food Production, Recognising Contribution of Female Gender in Food Production,

CATEGORY	GROUP	AREA
		Storage and Processing , Food Sufficiency (during Military Insurgency) Food Culture, Water Security, Social Capital such as Housing Policy, International Relation and Human Resources, Instrument and Control Engineering, Biological & Chemical Defence System, Oil Palm, Rubber, Mineral, Cocoa, Biodiversity, Natural Resources including Flora and Fauna Security Under Biosecurity and Forest Cover as in Permanent Reserve , Other Commodities and Other Equipments (such as Automotive) , Explosives Guided System, Laser, Material, Night Vision, Propulsion, Rocket System, Sensor, Biological/Chemical Sensor, Telemetry, Satellite Imaging, Energy Source, Remotely Operated Vehicles (Rovs), Biosensor Bidiagnostic Kits, Biological Weapon and Unmanned Aerial Vehicle (UAV)
	<b>F1050700</b>	<b>Artificial Intelligence</b>
	F1050701	Cognitive Science
	F1050702	Computational Linguistic
	F1050703	Expert Systems
	F1050704	Logic Programming
	F1050705	Neural Networks, Genetic Algorithms and Fuzzy Logic
	F1050706	Soft Computing
	F1050707	Parallel Architecture and Processing
	F1050708	Natural Language
	F1050799	Other Artificial Intelligence n.e.c
	<b>F1050800</b>	<b>Signal Processing</b>
	F1050801	Algorithms and Techniques
	F1050802	Audio and Video
	F1050803	Data Hiding and Steganography
	F1050804	Detection and Estimation
	F1050805	Digital Signal Processing
	F1050806	Filters
	F1050807	Image Processing and Computer Vision

CATEGORY	GROUP	AREA
		F1050808 Pattern Recognition and Image Recognition F1050809 Signal Analysis and Processing F1050810 Speech Recognition F1050811 Watermarking Techniques F1050899 Other Signal Processing n.e.c
	<b>F1050900</b>	<b>Computation Theory and Mathematics</b>
		F1050901 Analysis of Algorithms and Complexity F1050902 Computer Aided Geometrical Design F1050903 Discrete Mathematics F1050904 Logics and Meanings of Programs F1050905 Mathematical Logic and Formal Language F1050906 Mathematics Software F1050907 Numerical Analysis F1050908 Symbolic and Algebraic Manipulation F1050999 Other Computation Theory and Mathematics n.e.c
	<b>F1051000</b>	<b>Data</b>
		F1051001 Compression Technology F1051002 Data Encryption F1051003 Data Recovery and Backup F1051004 Data Security F1051005 Data Storage and Representations F1051006 Data Structures F1051007 Files Management Representation and Organization F1051008 Knowledge Base F1051099 Other Data n.e.c
	<b>F1051100</b>	<b>Database Technology</b>
		F1051101 Database F1051102 Data Mining F1051103 Data Warehousing F1051104 Intelligent Database F1051105 Mobile Database

CATEGORY	GROUP	AREA	
		F1051106	Multidimensional Database
		F1051107	Multimedia Database
		F1051199	Other Database Technology n.e.c
	<b>F1051200</b>	<b>ICT Policy and Social Impact</b>	
		F1051201	Augmenting Individuals and Transforming Societies
		F1051202	E-Community
		F1051203	ICT Policies
		F1051204	Social Impact
		F1051205	ICT Outsourcing
		F1051206	Information System (IS) Planning
		F1051207	Telecommuting and Teleworking
		F1051208	E-Strategy
		F1051209	ICT Law
		F1051210	ICT Ethics
		F1051211	Intellectual Property Rights
		F1051212	Digital Divide and E-Inclusion
		F1051213	Open System Standards
		F1051299	Other ICT Policy and Social Impact n.e.c
	<b>F1051300</b>	<b>ICT Applications</b>	
		F1051301	Bioinformatics
		F1051302	E-Commerce
		F1051303	Education
		F1051304	E-Government
		F1051305	Finance and Insurance
		F1051306	Healthcare
		F1051307	Manufacturing
		F1051308	Teleworking
		F1051309	Edutainment
		F1051310	Virtual Reality
		F1051311	M-Commerce
		F1051312	M-Government
		F1051313	Telehealth
		F1051314	E-Culture
		F1051315	E-Tourism

CATEGORY	GROUP	AREA	
		F1051316	E-Museum
		F1051317	E-Library
		F1051318	E-Dictionary
		F1051319	E-Architecture
		F1051320	E-Law
		F1051321	Food Traceability
		F1051399	Other ICT Applications n.e.c
	<b>F1051400</b>		<b>Software Engineering</b>
		F1051401	Software Process Models
		F1051402	Software Tools
		F1051403	Software Metrics
		F1051404	Software Quality
		F1051405	Software Management
		F1051406	Component Based Software Development
		F1051407	Project Management
		F1051499	Other Software Engineering n.e.c
	<b>F1051500</b>		<b>Web Technology</b>
		F1051501	Web Services
		F1051502	Semantic Web
		F1051503	Web Wrapping
		F1051504	Collaborative Computing
		F1051505	Grid Computing
		F1051599	Other Web Technology n.e.c
	<b>F1051600</b>		<b>Advancement of ICT Knowledge</b>
	<b>F1059900</b>		<b>Other Information, Computer and Communication Technology (ICT) n.e.c.</b>

## APPLIED SCIENCES AND TECHNOLOGIES

CATEGORY	GROUP	AREA
F1060000	F1060100	Aerospace
		F1060101 Advance Materials-Composite Special Alloys
		F1060102 Aerodynamics
		F1060103 Aero-Elasticity
		F1060104 Aeronautical Technology
		F1060105 Aerospace Electrical Systems
		F1060106 Aerospace Manufacturing SN: Including Manufacturing of Transportation Component for Defence and Security System e.g Rotary and Fixed Wing and Instrumentation Manufacturing Such As On-Board Computer for Satellites
		F1060107 Aerospace Materials
		F1060108 Aerospace Structures
		F1060109 Aircraft Performance
		F1060110 Assembly, Integration and Test (AIT) System
		F1060111 Avionics
		F1060112 Earth Observation System (EOS)
		F1060113 Experimental Aerodynamics
		F1060114 Flight Control Systems
		F1060115 Flight Dynamics
		F1060116 Ground and Space Stations
		F1060117 Intelligent Navigation System
		F1060118 Missile Systems
		F1060119 Propulsion
		F1060120 Remote Sensing
		F1060121 Rocketry
		F1060122 Satellite and Spacecraft Design
		F1060123 Sensor
		F1060124 Thermal System
		F1060125 Unmanned Aerial Vehicle
		F1060126 Advance and Emerging Methods SN: Including Quantitative Analysis such as Forecasting, Modelling, Inference, Data Mining; Survey Techniques (Complex Survey, Rank Set Sampling, Market Survey), and Performance

CATEGORY	GROUP	AREA
		Measurement (Hierarchical Modelling, Data Envelopment Analysis, Stochastic Frontier Analysis and Risk Analysis)
		F1060127 Advancement of Aerospace Knowledge n.e.c.
		F1060199 Other Aerospace n.e.c.
	<b>F1060200</b>	<b>Process Technology and Engineering</b>
		F1060201 Control Technology
		F1060202 Drying Technology
		F1060203 Extraction Technology
		F1060204 Fermentation Technology
		F1060205 Hazard Analysis and Risk Assessment
		F1060206 Material Processing Technology
		F1060207 Membrane Technology
		F1060208 Printing Technology
		F1060209 Roasting Technology
		F1060210 Separation Technology
		F1060211 Supercritical Fluid Technology
		F1060212 Textile Technology
		F1060213 Welding Technology SN; Including Standard Supporting Technologies for Heat Treatment and Welding Technologies
		F1060214 Bioprocess Engineering
		F1060215 Microwave Technology
		F1060216 Supermagnet Processing
		F1060217 Process Control
		F1060218 Clean Technology
		F1060219 Green Technology
		F1060220 Gerontechnology SN: Including R&D for advancement of knowledge in gerontechnology
		F1060221 Joining Technology
		F1060299 Other Process Technology and Engineering n.e.c SN: Including Standard Supporting Technologies for Printed Circuit Board (PCB) Fabrication and Assembly

CATEGORY	GROUP	AREA
	<b>F1060300</b>	<b>Nuclear Technology</b>
	F1060301	Accelerator Technology
	F1060302	Ionising Radiation Technology
	F1060303	Non Destructive Testing
	F1060304	Non-Ionising Radiation Technology
	F1060305	Radiation Technology
	F1060306	Reactor Technology
	F1060307	Neutron Science and Technology
	F1060308	Isotope/Isotopic Tracer Technology, Ion Beam Technology, Electron Beam and Radiography
	F1060399	Other Nuclear Technology n.e.c
	<b>F1060400</b>	<b>Educational Technology</b>
	F1060401	Computer Assisted Instruction (CAI)
	F1060402	Computer Based Training
	F1060403	E-Learning
	F1060404	Multimedia
	F1060405	Web Based Courses
	F1060499	Other Educational Technology n.e.c
	<b>F1060500</b>	<b>Resource-Based Technology</b>
	F1060501	Minerals
	F1060502	Oils and Fats
	F1060503	Petroleum and Gas
	F1060504	Rubber
	F1060505	Water SN: Include Bio-Defence Technology
	F1060506	Wood and Non Wood-Based Forest Products
	F1060507	Commodity Crops
	F1060599	Other Resource-Based Technology n.e.c SN: Including Bio-Defence for Foods and Air
	<b>F1060600</b>	<b>Energy Technology</b>
	F1060601	Bio-Gas and Bio-Fuel
	F1060602	Biomass Energy Technology e.g Refuse-derived Fuel (RDF)



CATEGORY	GROUP	AREA
		F1060603 Coal Energy Technology
		F1060604 Electrical Power Generation and Supply
		F1060605 Energy Management and Audit
		F1060606 Energy Storage
		F1060607 Fuel Cell Technology / Microbial Fuelcell
		F1060608 Geo-Thermal
		F1060609 Hydro Power Technology
		F1060610 Natural Gas Technology
		F1060611 Nuclear Technology / Nuclear Energy / Power Technology
		F1060612 Ocean Thermal Energy Conversion (OTEC)
		F1060613 Recyclability
		F1060614 Solar Energy Technology
		F1060615 Energy Transportation
		F1060616 Waste-Heat Recovery
		F1060617 Wind
		F1060618 Ocean Wave
		F1060699 Other Energy Technology n.e.c
	<b>F1060700</b>	<b>Water Technology</b>
		F1060701 Control Devices
		F1060702 Disinfection
		F1060703 Filtration
		F1060704 Pipe Material
		F1060705 Reclamation, Reuse and Recycling
		F1060706 Wastewater Treatment
		F1060707 Water Meters
		F1060708 Water Treatment
		F1060709 Water Delivery System
		F1060710 Water Enrichment
		F1060799 Other Water Technology n.e.c
	<b>F1060800</b>	<b>Nanotechnology</b>
		F1060801 Medical Devices
		F1060802 Micro Electro-Mechanical System (MEMS)
		F1060803 Microsphere Technology
		F1060804 Nano Particle

CATEGORY	GROUP	AREA
		F1060805 Nano Photonic
		F1060806 Nanotube
		F1060807 Quantum Device
		F1060808 Nano Materials
		F1060899 Other Nanotechnology n.e.c
	<b>F1060900</b>	<b>Engineering Materials</b>
		F1060901 Alloy Materials
		F1060902 Bio-Waste
		F1060903 Ceramics
		F1060904 Composite Materials
		F1060905 Concrete
		F1060906 Plastics
		F1060907 Polymers
		F1060908 Steel
		F1060909 Timber
		F1060910 Wood
		F1060911 Non-Ferrous Metals
		F1060912 Glue & Adhesive
		F1060913 Mineral & Chemical Admixtures
		F1060914 Superconducting Material
		F1060915 Optical Material
		F1060916 Refractories
		F1060917 Ferrocement
		F1060918 Rubber
		F1060919 Bricks
		F1060920 Bitumen, Asphalt
		F1060999 Other Engineering Materials n.e.c. SN: Including Materials Testing, Performance and Processes Analysis such as Audiological Materials, Bio Materials, Cement and Concrete Materials, Dental Materials, Dynamic Testing, Ear Mould Materials, Highway Basement Performance, Material Reliability and Performance, Metals, Micro-Mechanical Measurement and Techniques, Non-Destructive Testing (NDT), Ophthalmic Materials Polymeric Materials Performance Testing, Smart Materials

CATEGORY	GROUP	AREA	
			Spectroscopic Techniques, Stone, Ceramics and Clay Materials Structural Assessment, Thin Film Technologies, Timber Materials and Semi Metals
	<b>F1061000</b>		<b>Architecture</b>
		F1061001	Building Design
		F1061002	Design for Disables
		F1061003	Design Management and Professional Practice
		F1061004	Design Studio Practice
		F1061005	Heritage and Conservation
		F1061006	High Rise and Intelligent Building
		F1061007	Built Environment
		F1061008	Hospital Design
		F1061009	Interior and Environment Design
		F1061010	E-Architecture
		F1061011	Indigenous Architecture
		F1061012	Naval Architecture
		F1061013	Open Building
		F1061099	Other Architecture n.e.c
	<b>F1061100</b>		<b>Urban Environmental Planning</b>
		F1061101	Geographical Information System (GIS)
		F1061102	Land Use
		F1061103	Parking System
		F1061104	Planning Administration and Practice
		F1061105	Remote Sensing
		F1061106	Resort Development
		F1061107	Tourism Planning and Development
		F1061108	Traffic Planning and Management
		F1061109	Urban and Regional Planning
		F1061110	Security System
		F1061111	Facilities for Disables
		F1061199	Other Urban Environmental Planning n.e.c

CATEGORY	GROUP	AREA
	F1061200	Landscape Design and Planning
	F1061201	Ecotourism
	F1061202	Geographical Information System (GIS)
	F1061203	Landscape Ecology
	F1061204	Landscape Management
	F1061205	Landscape Planning
	F1061206	Landscape Technology
	F1061207	Parks and Recreation
	F1061208	Remote Sensing
	F1061209	Therapeutic Garden
	F1061299	Other Landscape Design and Planning n.e.c
	F1061300	Construction Technology
	F1061301	Building and Construction
	F1061302	Building Economics
	F1061303	Building Services
	F1061304	Construction Techniques
	F1061305	Facilities Management
	F1061306	Procurement
	F1061307	Project Management and Costing
	F1061308	Quantity Surveying
	F1061309	Real Estate
	F1061310	Construction Materials
	F1061311	Industrialised Building System (IBS)
	F1061399	Other Construction Technology n.e.c SN: Including Construction of Deployable Defence System such as Make Shift Building, Road System and Bridges
	F1061400	Advancement of Knowledge in Applied Sciences and Technologies n.e.c; SN including Aerospace, Nanotechnology, Microwave
	F1069900	Other Applied Sciences and Technology n.e.c.

## ENGINEERING SCIENCES

CATEGORY	GROUP	AREA	
F1070000	<b>F1070100</b>	<b>Mechanical Engineering</b>	
		F1070101 Acoustic Engineering	
		F1070102 Air-Conditioning and Refrigeration	
		F1070103 Combustion and Fuel Engineering	
		F1070104 Corrosion Science and Engineering	
		F1070105 Hydraulic and Pneumatic Engineering	
		F1070106 Machine Design	
		F1070107 Mechanical Control	
		F1070108 Optical Engineering	
		F1070109 Power Plant Engineering	
		F1070199 Other Mechanical Engineering n.e.c	
		<b>F1070200</b>	<b>Chemical Engineering</b>
			F1070201 Catalyst and Reaction Engineering
			F1070202 Chemical Engineering Design
			F1070203 Chemical Process Simulation
			F1070204 Chemical/ Physical Modification
			F1070205 Fluid Mechanics
			F1070206 Heat/ Mass Transfer Operations
			F1070207 Indigenous Raw Materials Processing
			F1070208 Industrial Chemical Production
			F1070209 Plant Design and Testing
			F1070210 Polymerisation Process
			F1070211 Process Control
			F1070212 Separation Process
			F1070213 Biochemical Engineering
			F1070299 Other Chemical Engineering n.e.c
		<b>F1070300</b>	<b>Mining and Mineral Processing Engineering</b>
			F1070301 Extractive Metallurgy
			F1070302 Geomechanics
			F1070303 Mineral Evaluation/ Appraisal
			F1070304 Mining Engineering

CATEGORY	GROUP	AREA
		F1070305 Mineral Processing Engineering F1070306 Precious Metals Recovery F1070307 Biomining F1070308 Bioleaching F1070399 Other Mining and Mineral Processing Engineering n.e.c
	<b>F1070400</b>	<b>Civil Engineering</b>
		F1070401 Coastal and Offshore Engineering F1070402 Foundation Engineering F1070403 Geology and Rock Engineering F1070404 Geotechnical Engineering F1070405 Highway Engineering F1070406 Hydrology and Hydraulic Engineering F1070407 Infrastructural Engineering n.e.c SN: Including Equipment and Infrastructure for Defence System such as Materials and Advanced Materials, Bridge System, Industrialised Construction System Connection System, Bunkers and Underground Structures, Blast Resistance Buildings, Under Water Structures and Coastal Protection Structures F1070408 River Engineering / Integrated River Basin Management F1070409 Storm Water Management F1070410 Structural Engineering F1070411 Surveying F1070412 Traffic and Transportation F1070413 Urban Drainage / Water Sensitive Urban Design F1070414 Water Resources Management / Integrated Water Resources Management F1070415 Planning of Construction SN: Including Commercial Building, Community Planning, Construction Open Building, Development Models, Environmental Sustainable Habitat, Industrial Building, Seaport and Airport, Residential, Residential and Public Building, Road, Bridge and Highway, Spatial and Physical

CATEGORY	GROUP	AREA
		<p>Planning, Urban Renewal, Integrated Construction, Intelligent Building, Land Reclamation and Land Readjustment, Dam and Irrigation Systems</p> <p>F1070416 Design of Construction SN: Including of Bridges, Commercial Building, Construction, High Rise Building, Industrial Building, Industrialised Building/Construction System (IBS/ ICS), Port and Airport, Residential, Residential and Public Building, Road and Highway, Seismic and Dynamic Resistant, Structural Design and Assessment, Smart Building, Intelligent Building, Dam and Irrigation Systems</p> <p>F1070417 Construction Processes SN: Including of Commercial Building Construction Processes, Housing Construction Processes, Industrial Building Construction Processes, Industrialised Building/Construction System, K-Based Construction, Seaport and Airport Construction Processes, Road and Highway Construction Processes, Standard Regulation and Legislation and Construction Waste Materials</p> <p>F1070418 Building Management and Services of Construction SN: Including of Commercial Building Management Services, Housing Management Services, Industrial Building Management Services, Industrialised Building/Construction System (IBS/ICS), Structural Products (Wall/ Floor Tiles, Roofing Tiles) n.e.c.</p> <p>F1070499 Other Civil Engineering n.e.c SN: Including Manufacturing of Construction Machinery and Equipment</p>
	<b>F1070500</b>	<b>Electrical and Electronic Engineering</b>
		<p>F1070501 Control Engineering</p> <p>F1070502 Device Fabrication and Process Simulation</p> <p>F1070503 Device Physics and Simulation</p>

CATEGORY	GROUP	AREA
		F1070504 Digital and Analogue Electronics
		F1070505 Discrete Devices
		F1070506 IC Design
		F1070507 IC Testing and Failure Analysis
		F1070508 Instrumentation and Control
		F1070509 Machines and Drives
		F1070510 Mechatronics
		F1070511 Microwave SN: Including Manufacturing of Machinery and Equipment
		F1070512 Power Engineering
		F1070513 Embedded System
		F1070514 Autonomous System
		F1070515 System-On-Chip (SOC)
		F1070516 Lab-On-Chip (LOC)
		F1070599 Other Electrical and Electronic Engineering n.e.c SN: Including Manufacturing of Appliances
	<b>F1070600</b>	<b>Agricultural Engineering</b>
		F1070601 Agriculture Robotics and Automation
		F1070602 Agro Waste Management
		F1070603 By-Product Utilisation SN: Including Activated Carbon, Animal Feed, Bio-Fertilisers, Cement Board, Control Release Materials, Emulsifier, Fibre Board, Food Additives, Hemicelluloses, High Fructose Syrup, Jelly, Lubricant / Grease, Mattress and Cushions, Moulded Particles, Non-Food Product, Paint, Paper and Pulp, Pentose, Plasticizer, Printing Ink, Slow Release Material, Stabiliser, Treated Sludge, Treated Wastewater, Useful Chemicals, Bioenergy, Bioresin, Zeolite Products, Carbohy Methayl Cellulose, Compost, Bio-Control Agents, Probiotic, Plant Enzymes, Phytochemicals, Mushroom Production and Biofuel
		F1070604 Farm Machinery Design
		F1070605 Farm Structure and Growth Environment
		F1070606 Irrigation and Drainage Engineering
		F1070607 Mechanisation System



CATEGORY	GROUP	AREA
		F1070608 Non-Food Processing n.e.c SN: Including Manufacturing of Machinery and Equipment for Bio-Fuel, Renewable Energy, Solar Energy and Green House Structure
		F1070609 Post Harvest Handling
		F1070610 Precision Farming
		F1070611 Primary Processing and Storage
		F1070612 Soil Engineering
		F1070613 Transportation System for Agriculture Products
		F1070614 Harvesting Technology
		F1070615 Rubber Tapping Technology
		F1070616 Bio-Sensor SN: Including BT: Instrumentation in Agricultural Engineering
		F1070617 Non-Destructive Testing (NDT) for Agriculture
		F1070618 Machinery and Equipment Manufacturing
		F1070699 Other Agriculture Engineering n.e.c.
	<b>F1070700</b>	<b>Food Engineering</b>
		F1070701 Engineering Properties of Food and Biological Materials
		F1070702 Extraction System
		F1070703 Food Dehydration
		F1070704 Food Engineering Unit Operations
		F1070705 Food Extrusion
		F1070706 Food Mechanisation
		F1070707 Food Process Control and Automation
		F1070708 Food Processing Plant and Machinery Design SN: Including Manufacturing of Machinery and Equipment for Food Processing
		F1070709 Food Transfer Process
		F1070710 Packaging and Handling Technology
		F1070711 Post Harvest Engineering
		F1070712 Radiation Processing
		F1070713 Storage and Secondary Processing
		F1070714 System Modelling
		F1070715 Thermal Processing
		F1070716 Waste Handling and Processing
		F1070717 Genetically Modified Food

CATEGORY	GROUP	AREA	
		F1070718	Cook Chilled System
		F1070719	Non Destructive Technique (NDT), Bio- Sensor
		F1070799	Other Food Engineering n.e.c.
	<b>F1070800</b>		<b>Environmental Engineering</b>
		F1070801	Air Pollution Engineering
		F1070802	Factory Environment
		F1070803	Hazardous Waste Management
		F1070804	Life Cycle Analysis
		F1070805	River Rehabilitation
		F1070806	Sewerage Management
		F1070807	Solid Waste Management
		F1070808	Sustainable Sanitation
		F1070809	Water and Wastewater Processes
		F1070810	Water Sanitary Engineering
		F1070811	Zero Emissions
		F1070812	Ex-Mining Land Management
		F1070813	Water and Wastewater Management
		F1070814	Water Body Management
		F1070899	Other Environmental Engineering n.e.c.
	<b>F1070900</b>		<b>Nuclear Engineering</b>
		F1070901	Irradiation Effect
		F1070902	Safety Assurance
		F1070903	Radiation Sterilization, Quality Control
		F1070999	Other Nuclear Engineering n.e.c.
	<b>F1071000</b>		<b>Marine Engineering</b>
		F1071001	Coastal and Offshore Engineering
		F1071002	Hydroinformatics
		F1071003	Naval Engineering
		F1071004	Ocean Engineering
		F1071005	Ship and Platform Hydrodynamics
		F1071006	Ship and Platform Structure
		F1071007	Ship Design and Building
		F1071008	Special Vehicles SN: Including Manufacturing for

CATEGORY	GROUP	AREA
		Sea Transport for Defence and Security Purpose e.g Patrol Vessel and Riverine-Craft Submersible Vehicle SN: Including Manufacturing of Unmanned Vehicles for Defence and Security System
	F1071009	
	F1071099	Other Marine Engineering n.e.c.
	<b>F1071100</b>	<b>Industrial Engineering</b>
	F1071101	Ergonomic Aspects
	F1071102	Plant Design
	F1071103	Production Engineering
	F1071104	Quality Assurance
	F1071105	Work Measurement
	F1071106	Productivity Measurement
	F1071107	Manufacturing Instrument SN: Including Industrial, Scientific, Test and Measurement, Transducer and Sensor
	F1071199	Other Industrial Engineering n.e.c.
	<b>F1071200</b>	<b>Manufacturing and Production Engineering</b>
	F1071201	CAD/ CAM/ CAE Applications
	F1071202	Casting
	F1071203	Collaborative Engineering
	F1071204	Computer Integrated Manufacturing
	F1071205	Cutting Tool Technology
	F1071206	Design for Manufacturing and Assembly
	F1071207	Electrical Discharge Machining
	F1071208	Elite Machining
	F1071209	Fabrication Technology SN: Including Manufacturing of High Speed/Precision Equipment Fabrication Machinery and Equipment and Standard Supporting Technologies of Fabrication for Metal and Plastic
	F1071210	Flexible Manufacturing Systems
	F1071211	Forging
	F1071212	Foundry Technology
	F1071213	Grinding

CATEGORY	GROUP	AREA
		F1071214 Laser Machining
		F1071215 Machining
		F1071216 Metrology SN: Including Instrumentation Manufacturing such as Metrological Instrument
		F1071217 Nano Technology SN: Including Standard Supporting Technologies for Nano Machining
		F1071218 Non-Conventional Machining
		F1071219 Plastic Moulding Technology
		F1071220 Polishing SN: Including Standard Supporting Technologies
		F1071221 Powder Metallurgy
		F1071222 Precision Engineering SN: Including Standard Supporting Technologies of Precision Machining and Micro Machining
		F1071223 Product Life Cycle
		F1071224 Rapid Prototyping and Tooling SN: Including Standard Supporting Technologies of Precision Machining and Micro Machining
		F1071225 Reverse Engineering SN: Including Standard Supporting Technologies
		F1071226 Robotics and Mechatronics
		F1071227 Surface Engineering SN: Including Standard Supporting Technologies in Surface Treatment and Welding Technologies
		F1071228 Textile Engineering
		F1071229 Thixo-Moulding
		F1071230 Tool and Die Design and Manufacturing SN: Including Standard Supporting Technologies of Mould and Die Technology
		F1071231 Virtual Manufacturing
		F1071232 Latex Products Processing Manufacturing SN: Including Depolymerisation, Deproteinization, Dipping, Epoxidation, Extrusion, Foaming, Rubber Moulding, Vulcanisation, Hydrogenation and Latex Modification
		F1071233 Packaging Technology and Materials SN: Including Standard Supporting Technologies
		F1071234 Milling and Process Materials SN: Including Conversion Into Value-Added Products, Cost-

CATEGORY	GROUP	AREA
		<p>Effective Process for Existing Products, Fibre Reinforced Concrete, High Strength Concrete, In Field Treatment Process, Lightweight Concrete, On-Line Quality Indicator and Minimal Waste, Pilot Testing, Concrete Materials (Pre-Strength Concrete, Pre-Stressed Concrete), Production Modelling, Smart Window Technology Packaging, Validating Technology and Zero-Waste Technology</p> <p>F1071299 Other Manufacturing and Production Engineering n.e.c. SN: Including Manufacturing of Machinery and Equipment as in Industrial, Laser, Machine Tools, Metal Casting, Mining and Mineral Processing, Telecommunication, Transport, Quarrying, Quarrying and Extraction, Robotics, Palm Oil Milling, Palm Oil Refinery, Oleo Chemical Production, Rubber Products Manufacturing, Raw Rubber Processing, Fishing Technology Equipment and Material Handling Equipment</p>
	<b>F1071300</b>	<b>Automotive Engineering</b>
		<p>F1071301 Air Pollution Control</p> <p>F1071302 Automotive Control</p> <p>F1071303 Automotive Design</p> <p>F1071304 Automotive Design and Styling</p> <p>F1071305 Automotive Fuels</p> <p>F1071306 Automotive ICT</p> <p>F1071307 Automotive Manufacturing SN: Includes Manufacturing of Vehicle Sub-System and Land Transport; Track and Wheel Vehicle in Defence and Security System</p> <p>F1071308 Automotive Prototyping</p> <p>F1071309 Drivetrain Engineering</p> <p>F1071310 Engine Management System</p> <p>F1071311 Intelligent Vehicle</p> <p>F1071312 Materials</p> <p>F1071313 Passenger Comfort and Human Factors</p>

CATEGORY	GROUP	AREA
		F1071314 Powertrain Engineering
		F1071315 Traffic Safety Technology
		F1071316 Valvetrain Engineering
		F1071317 Vehicle Electronics
		F1071318 Vehicle Engineering
		F1071319 Hybrid Vehicles
		F1071320 Chassis Engineering
		F1071321 Emission Control Devices
		F1071322 Road Handling
		F1071323 Fuelling/ Intake Systems
		F1071324 Collision Avoidance Technology
		F1071325 Internal Combustion Engines
		F1071326 Fuel Cell
		F1071327 Off-Highway Vehicles
		F1071328 Performance, Evaluation and Optimization
		F1071329 Telematics
		F1071330 Commercial Vehicles and Trucks
		F1071331 Lightings
		F1071332 Embedded System and Sensors
		F1071333 Stability Control
		F1071334 Motorsports Engineering
		F1071335 Instrument Cluster Technology
		F1071336 In-Vehicle Entertainment System
		F1071337 Electronics
		F1071338 Design, Packaging, and Styling
		F1071339 Electric Vehicles
		F1071340 Tyre Technology
		F1071341 Suspension System
		F1071342 Braking System
		F1071343 Ergonomics
		F1071344 Air-Conditioning Systems
		F1071345 Onboard Navigation
		F1071346 By-Wire Technology
		F1071347 Energy Storage and Battery
		F1071348 Turbo and Supercharging Technology
		F1071349 Auxiliary Components
		F1071350 In-Vehicle Safety Features
		F1071351 Tribology and Lubrication
		F1071352 Noise, Vibration and Harshness (NVH)

CATEGORY	GROUP	AREA
		F1071399 Other Automotive Engineering n.e.c.
	<b>F1071400</b>	<b>Geomatic Engineering</b>
		F1071401 Cartography
		F1071402 Deformation Monitoring
		F1071403 Digital Image Processing
		F1071404 Fast Mapping
		F1071405 Field Astronomy
		F1071406 Geodesy and Geodetic Controls
		F1071407 Geographic Information System (GIS)
		F1071408 Geometry, Radiometry Calibration Analysis
		F1071409 Global Navigation Satellite System (GNSS)
		F1071410 Global Positioning System (GPS)
		F1071411 Hydrography
		F1071412 Hyperspectra Sensing
		F1071413 Image Understanding and Analysis
		F1071414 Industrial and Automated Measurement System
		F1071415 Land Information System (LIS)
		F1071416 Laser Measurement
		F1071417 Microwave and Radar Sensing
		F1071418 Modern Surveying Techniques
		F1071419 Navigation and Positioning System
		F1071420 Oceanography
		F1071421 Photogrammetry
		F1071422 Real-Time Measurement System
		F1071423 Remote Sensing
		F1071424 Robotic Surveying Technology
		F1071425 Spatial Data Modelling and Databasing
		F1071426 Spatial Information Systems
		F1071427 Surveying and Mapping
		F1071428 Synthetic Aperture Radar (SAR)
		F1071429 Vehicle Navigation and Location
		F1071430 Vision Metrology
		F1071499 Other Geomatic Engineering n.e.c.
	<b>F1071500</b>	<b>Materials Engineering and Metallurgy</b>
		F1071501 Alloy Materials

CATEGORY	GROUP	AREA
		F1071502 Bio-Material
		F1071503 Building and Construction Materials
		F1071504 Ceramics
		F1071505 Composite Materials
		F1071506 Crystal
		F1071507 Electronic Materials
		F1071508 Material Recyclability
		F1071509 Metal
		F1071510 Nano Materials
		F1071511 Physical Metallurgy
		F1071512 Plastics
		F1071513 Polymers
		F1071514 Powder Metallurgy
		F1071515 Process Metallurgy
		F1071516 Pulp and Paper
		F1071517 Smart Materials
		F1071518 Super Alloy
		F1071519 Synthetic Materials
		F1071520 Timber
		F1071521 Smelting
		F1071599 Other Materials Engineering and Metallurgy n.e.c.
	<b>F1071600</b>	<b>Biomedical Engineering</b>
		F1071601 Biomaterials Engineering
		F1071602 Biomechanical Engineering
		F1071603 Bio-Metrics
		F1071604 Clinical Engineering
		F1071605 Diagnostic Tools
		F1071606 Medical Electronics
		F1071607 Rehabilitation Engineering
		F1071608 Artificial Organs
		F1071609 Modelling & Prototyping
		F1071610 Implant Technology
		F1071611 Medical Imaging Technology
		F1071612 Artificial Intelligent Diagnostic Technique
		F1071613 Robotic Technology
		F1071614 Artificial Organ Engineering



CATEGORY	GROUP	AREA
		F1071615 Screening Device & Equipment Technology
		F1071616 Rehabilitation Technology
		F1071617 Monitoring Technology
		F1071618 Surgical Technology
		F1071619 Virtual Reality Software
		F1071620 Radiological Technology
		F1071621 Support System Technology
		F1071622 Treatment Technology
		F1071623 Bio Photonic Technology
		F1071624 Telemedicine Technology
		F1071625 Mass Screening Systems & Tools
		F1071699 Other Biomedical Engineering n.e.c.
	<b>F1071700</b>	<b>Computer Hardware</b>
		F1071701 Arithmetic and Logic Structures
		F1071702 Display Technology
		F1071703 High Performance Computers
		F1071704 Input, Output and Data Devices
		F1071705 Logic Design
		F1071706 Memory Structures
		F1071707 Multi-Processor
		F1071708 Processor Architectures
		F1071709 Redundant Array of Independent Disks (RAID)
		F1071710 Control Structures and Microprogramming
		F1071711 Register - Transfer - Level Implementation
		F1071712 Integrated Circuits and Devices SN: Including Communication Equipment
		F1071713 Special Purpose and Application Based Systems
		F1071714 Quantum Computer
		F1071715 Neural Network Computer
		F1071716 Wearable Computer
		F1071717 Hardware Services SN: Including GRID Computing, Web Hosting, Asset Management Services and Resource Sharing
		F1071799 Other Computer Hardware n.e.c. SN: Including Automated Production, Computer Equipment, Sensors, Modules-Other Processes, Modules-

CATEGORY	GROUP	AREA
		Special and Attached Processors, Electronic Office Equipment, Integrated Systems, Intelligent Machine Control, Electronic Intelligent System and Manufacturing System
	<b>F1071800</b>	<b>Communication Engineering</b>
		F1071801 Antenna Technology
		F1071802 Base Band Technology
		F1071803 Broadband Network Technology
		F1071804 Computer Communications Networks
		F1071805 Digital Systems
		F1071806 Electro Magnetic Compatibility (EMC)
		F1071807 Microwave and Millimetrewave Technology
		F1071808 Modem Technology
		F1071809 Optical and Photonic Systems
		F1071810 Radio Communications and Broadcasting
		F1071811 Satellite Communications
		F1071812 Wireless Technology
		F1071813 Radio Frequency Identification Device (RFID) including Malaysia Microchip (MM Chip)
		F1071899 Other Communications Engineering n.e.c.
	<b>F1071900</b>	<b>Process Design Engineering</b>
		F1071901 Design Engineering
		F1071902 Process Simulation
		F1071999 Others Process Design Engineering
	<b>F1072000</b>	<b>Space Science and Engineering</b>
		F1072001 Celestial and Orbital Mechanics
		F1072002 Experimental and Scientific Satellites
		F1072003 Ionospheric and Magnetospheric Science
		F1072004 Solar-Terrestrial Interaction
		F1072005 Space Launchers
		F1072006 Space Probes Design and Engineering
		F1072099 Other Space Science and Engineering n.e.c.

CATEGORY	GROUP	AREA
	F1072100	Interdisciplinary Engineering
		F1072101 Fluid Mechanics
		F1072102 Fluidisation
		F1072103 Heat and Mass Transfer Operations
		F1072104 Nanotechnology
		F1072105 System Engineering
		F1072106 Thermodynamics
		F1072107 Turbulent Flows
		F1072108 Non-Destructive Testing (NDT)
		F1072109 Forensic Engineering
		F1072199 Other Interdisciplinary Engineering n.e.c.
	F1072200	Robotic Engineering
		F1072201 Aerial
		F1072202 Biologically-Inspired Robot
		F1072203 Field Robots
		F1072204 Humanoids
		F1072205 Intelligent Robot
		F1072206 Medical
		F1072207 Space and Planetary
		F1072208 Telerobotics and Virtual Reality
		F1072209 Underwater
		F1072210 Web-Based Robots
		F1072299 Other Robotic Engineering n.e.c. SN: Including Robotics System
	F1072300	Sports Science
	F1072400	Advancement of Knowledge Engineering Sciences
	F1079900	Other Engineering Sciences n.e.c.

## BIOLOGICAL SCIENCES

CATEGORY	GROUP	AREA
F1080000	F1080100	Biochemistry
		F1080101 Bioenergetics
		F1080102 Carbohydrates
		F1080103 Enzymology
		F1080104 Immunology
		F1080105 Lipids
		F1080106 Membrane Biology
		F1080107 Metabolic Pathways
		F1080108 Neurochemistry
		F1080109 Nucleic Acids
		F1080110 Proteins
		F1080111 Manufacturing Instruments SN: Including Bioglass, Biochips, Biometrics and Bio-reactor
		F1080199 Other Biochemistry n.e.c.
		F1080200
	F1080201 Biochemical Genetics	
	F1080202 Cell Biology	
	F1080203 Comparative Genetics	
	F1080204 Cytogenetics	
	F1080205 Developmental Genetics	
	F1080206 Heredity	
	F1080207 Molecular Genetics	
	F1080208 Mutagenesis	
	F1080209 Population Genetics	
	F1080210 Recombinant DNA Techniques	
	F1080211 Phylogenetics	
	F1080212 Single Nucleotide Polymorphism (SNPS)	
	F1080299 Other Genetics n.e.c.	
	F1080300	Microbiology
	F1080301 Bacteriology	
	F1080302 Microbial Systematic	

CATEGORY	GROUP	AREA
		F1080303 Mycology F1080304 Parasitology F1080305 Virology F1080306 Protozoology F1080399 Other Microbiology n.e.c.
	<b>F1080400</b>	<b>Botany</b>
		F1080401 Economic Botany F1080402 Phycology F1080403 Plant Pathology F1080404 Plant Systematic F1080405 Plant Taxonomy F1080406 Plant Health F1080407 Ethnobotany F1080499 Other Botany n.e.c.
	<b>F1080500</b>	<b>Zoology</b>
		F1080501 Anatomy F1080502 Animal Systematics F1080503 Animal Taxonomy F1080504 Entomology F1080505 Ethnology F1080506 Ethology F1080507 Herpetology F1080508 Histology F1080509 Ichthyology F1080510 Immunology F1080511 Invertebrates F1080512 Mammology F1080513 Neurobiology F1080514 Ornithology F1080599 Other Zoology n.e.c.
	<b>F1080600</b>	<b>Ecology</b>
		F1080601 Ecological Engineering F1080602 Estuarine Ecology

CATEGORY	GROUP	AREA
		F1080603 Freshwater Ecology F1080604 Karst Ecology F1080605 Landscape Ecology F1080606 Limnology F1080607 Mangrove Ecology F1080608 Montane Ecology F1080609 Palaeoecology F1080610 Population Ecology F1080611 Social Biology and Behaviour Ecology F1080612 Terrestrial Ecology F1080613 Physiological Ecology F1080614 Marine Ecology F1080615 Molecular Ecology F1080699 Other Ecology n.e.c.
	<b>F1080700</b>	<b>Physiology</b>
		F1080701 Animal Physiology-Biophysics F1080702 Animal Physiology-Cell F1080703 Animal Physiology-Systems F1080704 Comparative Physiology F1080705 Insect Physiology F1080706 Microbial Physiology F1080707 Plant Physiology F1080799 Other Physiology n.e.c.
	<b>F1080800</b>	<b>Biodiversity and Conservation</b>
		F1080801 Bioethic and Environmental Ethic F1080802 Biogeography F1080803 Conservation Genetics F1080804 Ecosystem Diversity F1080805 Evolutionary Biology F1080806 Freshwater Ecology F1080807 Genetic Diversity F1080808 Landscape Ecology F1080809 Life History BT: Population Ecology F1080810 Mapping, Monitoring and Modelling F1080811 Palaeoecology

CATEGORY	GROUP	AREA
		F1080812 Parks and Protected Areas Conservation
		F1080813 Phylogeography
		F1080814 Socio-Biology and Behavioural Ecology
		F1080815 Species Diversity
		F1080816 Terrestrial Ecology
		F1080817 Wildlife Conservation
		F1080818 Brackish Water Biodiversity and Conservation
		F1080819 Indigenous Microbes Biodiversity and Conservation
		F1080820 Plant Biodiversity and Conservation
		F1080821 Livestock Biodiversity and Conservation
		F1080822 Fungal Biodiversity and Conservation
		F1080823 Wildlife Biodiversity and Conservation
		F1080824 Marine Biodiversity and Conservation
		F1080825 Freshwater Biodiversity and Conservation
		F1080826 Terrestrial Biodiversity and Conservation
		F1080899 Other Biodiversity and Conservation n.e.c.
	<b>F1080900</b>	<b>Advancement of Biological Science Knowledge</b>
		F1080901 Evolutionary Biology
		F1080999 Other Advancement of Biological Science Knowledge n.e.c.
	<b>F1089900</b>	<b>Other Biological Sciences n.e.c.</b>

## AGRICULTURAL SCIENCES

CATEGORY	GROUP	AREA	
F1090000	<b>F1090100</b>	<b>Soil and Water Sciences</b>	
		F1090101 Drainage F1090102 Irrigation F1090103 Soil Fertility F1090104 Soil, Land Management and Conservation F1090105 Soil Biology F1090106 Soil Chemistry F1090107 Soil Physics F1090199 Other Soil and Water Sciences n.e.c.	
		<b>F1090200</b>	<b>Crop Production</b>
		F1090201 Agronomy F1090202 Crop Ecophysiology F1090203 Crop Improvement F1090204 Crop Manipulation F1090205 Crop Nutrition F1090206 Crop Physiology F1090207 Farm Mechanisation F1090208 Other Crop and Pasture Production F1090209 Pasture Nutrition F1090210 Pasture Physiology F1090211 Pests and Diseases F1090212 Pre-Harvest and Post-Harvest F1090213 Production System F1090214 Root Studies F1090215 Seed Production F1090216 Weed Sciences F1090217 Acclimatize Plants SN: Including Grapes, Flowers, Vegetables, Mushrooms, Herbs and Strawberry F1090218 Pasture, Browse and Fodder Crops SN: Including Native Vegetation, Sown Grasses and Sown Legumes F1090299 Other Crop Production n.e.c. SN: Field Crop and Herbal Crop Including Field Treatment and	



CATEGORY	GROUP	AREA
		Chemical Protection for Cereal Crops, Corn, Kenaf, Legumes, Oilseed, Rice, Spices, Sugar Cane, Tapioca, Tea Tree, Tobacco, GMO Crops; Herbal, Spices and Medicinal Plants (such as <i>Aloe Vera</i> (Lidah Buaya), <i>Andrographis paniculata</i> (Hempedu Bumi), <i>Centella asiatica</i> (Pegaga), <i>Cinnamomum zeylanicum</i> (Kayu Manis/Cinnamon), <i>Curcuma domestica</i> (Kunyit/Tumeric), <i>Cymbopogon citratus</i> (Serai Makan/Lemon Grass), <i>Cymbopogon nardus</i> (Serai Wangi/Citronella), <i>Eugenia caryophyllata</i> (Bunga Cengkeh/Clove), <i>Eurycoma longifolia</i> (Tongkat Ali), <i>Kaempferia galanga</i> (Cekur), <i>Labisia potheria</i> (Kacip Fatimah), <i>Melaleuca alternifolia</i> (Tea Tree), <i>Morinda citrifolia</i> (Mengkudu), <i>Myristica fragrans</i> (Buah Pala/Nutmeg), <i>Ocimum basilicum</i> (Selasih/Sweet Basil), <i>Orthosiphon stamineus</i> (Misai Kucing), <i>Piper Nigrum</i> (Lada Hitam/Pepper), <i>Pogostemon cablin</i> (Nilam/Patchouli), <i>Polygonum minus</i> (Kesum), <i>Zingiber officinale</i> (Halia/Ginger), <i>Henna plant</i> (Inai), Limau Purut, Mas Cotek, Neem (Sentang), <i>Hylocereus undatus</i> (Dragon Fruit)
	F1090300	Horticulture
	F1090301	Floriculture
	F1090302	Fruit Crops
	F1090303	Oenology
	F1090304	Ornamentals
	F1090305	Plantation Crops SN: Banana, Cocoa, Coconut, Coffee, Oil Palm, Pepper, Pineapple, Rubber, Sago, Sugarcane, Tea, Papaya, Oil Palm Mixed With Other Crops (e.g Dragon Fruit)
	F1090306	Vegetable SN: Including Hydroponic Vegetables and Fruits
	F1090399	Other Horticulture n.e.c. SN: Productions of Flowers, Fruits, Mushroom, Nuts, Ornamental Plants and Vegetables

CATEGORY	GROUP	AREA
	<b>F1090400</b>	<b>Animal Production</b>
		F1090401 Animal Growth and Development
		F1090402 Animal Health
		F1090403 Animal Husbandry
		F1090404 Animal Nutrition
		F1090405 Animal Pests and Pathogens
		F1090406 Animal Reproduction
		F1090407 Breeds and Breeding
		F1090499 Other Animal Production n.e.c.
	<b>F1090500</b>	<b>Veterinary Sciences</b>
		F1090501 Anaesthesiology
		F1090502 Avian Diseases
		F1090503 Bacteriology
		F1090504 Biologics
		F1090505 Clinical Science
		F1090506 Epidemiology
		F1090507 Equine Diseases
		F1090508 Immunochemistry
		F1090509 Immunologic Diseases
		F1090510 Immunology
		F1090511 Medicine
		F1090512 Metabolic Disorders
		F1090513 Neoplasm
		F1090514 Non-Ruminant Diseases
		F1090515 Nutritional Diseases
		F1090516 Obstetrics and Theriogenology
		F1090517 Parasitology
		F1090518 Pathology
		F1090519 Pet and Domestic Animal Diseases
		F1090520 Pharmacology
		F1090521 Physiology
		F1090522 Public Health and Zoonosis
		F1090523 Radiology
		F1090524 Surgery
		F1090525 Therapeutics
		F1090526 Virology

CATEGORY	GROUP	AREA
		F1090527 Wildlife and Zoo Animal Diseases F1090599 Other Veterinary Sciences n.e.c.
	<b>F1090600</b>	<b>Pest and Disease Management</b>
		F1090601 Biological Control F1090602 Early Warning System F1090603 Entomology F1090604 Good Agricultural Practices F1090605 Integrated Pest Management F1090606 Mammology F1090607 Nematology F1090608 Pathology F1090609 Pesticide Application Techniques F1090610 Quarantine Pest and Treatment F1090611 Virology F1090612 Geospatial Information Technology F1090699 Other Pest and Disease Management n.e.c.
	<b>F1090700</b>	<b>Fisheries Sciences</b>
		F1090701 Capture Fisheries F1090702 Fish Stock Assessment F1090703 Fisheries Ecology and Conservation F1090704 Fisheries Sciences F1090705 Inland Fisheries F1090706 Mapping, Monitoring and Modelling F1090707 Marine Fisheries F1090708 Ornamental/ Aquarium Fish and Plants F1090709 Recreational Fisheries F1090710 Commercial Feed Products F1090711 Commercial Fisheries F1090799 Other Fisheries Sciences n.e.c.
	<b>F1090800</b>	<b>Food Sciences and Nutrition</b>
		F1090801 Additives and Contaminants F1090802 Enzymes F1090803 Food Analysis

CATEGORY	GROUP	AREA
		F1090804 Food Chemistry
		F1090805 Food Emulsion Products
		F1090806 Food Microbiology
		F1090807 Food Preservation
		F1090808 Food Processing SN: Including The Manufacturing of Processed Food Products and Beverages, Agrobases, Beverage, Carcass Meat, Dairy Products, Fish Products, Food Preservation and Additive, Fruit, Genetically Modified Food, Grain Mill Products Processing, Meat Products, Oils and Fats (Incl. Margarine), Starch Products Processing, Tobacco Products, Vegetable Products Processing, Bakery Products, Probiotics, Enzyme Drink, Microbial Polysaccharides, Microbial Protein, Health Drink, Microbial Preservatives, Nutraceuticals, Herbal Products, Health Food, Marine Products and Baby Food Products
		F1090809 Food Quality
		F1090810 Food Safety
		F1090811 Food Security SN: Including Food Logistics, Food Production and Culture
		F1090812 Food Sensory Evaluation
		F1090813 Improvement of Finish Products
		F1090814 Ingredients
		F1090815 Nutrient Bioability
		F1090816 Nutrient Composition of Food
		F1090817 Pilot Testing and Technology
		F1090818 Product Development
		F1090819 Production Modelling
		F1090820 Nutraceuticals BT: Agricultural Chemicals
		F1090821 Halal Food Production
		F1090822 Functional Food
		F1090823 Food Toxicology
		F1090824 Halal Products
		F1090899 Other Food Science and Nutrition n.e.c.

CATEGORY	GROUP	AREA
	<b>F1090900</b>	<b>Aquaculture</b>
		F1090901 Aquaculture Engineering
		F1090902 Aquaculture Mechanisation
		F1090903 Aquatic Environment
		F1090904 Diseases of Aquatic Organisms
		F1090905 Drug and Chemical
		F1090906 Effluent Treatment and Waste Management
		F1090907 Farming System and Technology of Aquatic Organisms
		F1090908 Fish Nutrition
		F1090909 Fish Reproduction
		F1090910 Genetic Selection
		F1090911 Husbandry of Aquatic Organisms
		F1090912 Indigenous Live Feed Production
		F1090913 Fry Production
		F1090914 Aquatic Plants
		F1090915 Culture System
		F1090916 Brood Stock Management
		F1090917 Aquaculture Products SN: Including Fish and Prawns
		F1090918 Post Harvest Handling
		F1090999 Other Aquaculture n.e.c.
	<b>F1091000</b>	<b>Plant Physiology</b>
		F1091001 Growth Regulators
		F1091002 Leaf Gas Exchange
		F1091003 Physicochemical Assimilation
		F1091004 Plant and Water Relation
		F1091005 Post Harvest Physiology
		F1091006 Radiation Interception
		F1091007 Reduction of Juvenile Period
		F1091008 Seasonality
		F1091009 Stress Physiology
		F1091010 Translocational Studies
		F1091099 Other Plant Physiology n.e.c.

CATEGORY	GROUP	AREA
	F1091100	Animal Sciences
	F1091101	By-Products (Edible and Non-Edible) SN: Including Bee and Bee Products , Beef, Eggs, Fishgelatine, Hides, Milk (Minimally Processed), Mutton, Pork, Poultry, Raw Wool, Skins, Birds Nest, Food Supplement, Food Ingredient, Collagen, Hormone, Enzyme, Animal Manure, Holuthoria Spp (Sea Cucumber/ Gamat), Ostrich Meat, Rabbit Meat, Venison, Frog Legs and Lamb
	F1091102	Dairy Science and Technology
	F1091103	Livestock Product SN: Including Beef, Cattle, Breeders, Broilers, Buffalo, Dairy Cattle, Deer, Goats-Meat, Goats-Milk, Horses, Layers, Ostrich, Pigs, Rabbit, Sheep-Meat, Sheep-Wool, Frog, Animal Production in Oil Palm Plantation, Seladang, Banteng, Barking-Deer, Larger Mouse-Deer (Napuh), Lesser Mouse-Deer (Kancil), Crocodile, Sea Turtle, River Terrapin, Porcupine, Serow, Jungle Fowl, Pheasant, Swiftlet, Snail, Sago Worm, Chicken, Duck, Earthworm and Cengkerik/Sicada
	F1091104	Meat Science and Technology
	F1091105	Pilot Plant Technology
	F1091106	Poultry Egg Technology
	F1091107	Product and Ingredient Technology
	F1091108	Value-Added Product
	F1091199	Other Animal Sciences n.e.c.
	F1091200	Agriculture Information System and Technology
	F1091201	Crop Modelling
	F1091202	Geographic Information System
	F1091203	Geospatial Information Technology
	F1091204	K-Agriculture
	F1091205	Precision Farming
	F1091206	Remote Sensing
	F1091207	Food Traceability

CATEGORY	GROUP	AREA	
		F1091299	Other Agricultural Information System and Technology n.e.c.
	<b>F1091300</b>	<b>Agrobiodiversity and Conservation</b>	
		F1091301	Crop Modelling
		F1091302	Geographic Information System
		F1091303	Geospatial Information Technology
		F1091304	K-Agriculture
		F1091305	Precision Farming
		F1091306	Remote Sensing
		<i>*Additional Areas. Please refer to page 96 for more details.</i>	
	<b>F1091400</b>	<b>Primary Products from Plants</b>	
		F1091401	Cocoa Products
		F1091402	Food Supplements
		F1091403	Herbal Products
		F1091404	Natural Rubber Latex
		F1091405	Palm Oil
		F1091406	Plants Products
		F1091407	Post Harvest
		F1091408	Speciality Oil
		F1091409	Timber Products
		F1091410	Tobacco Leaf
		F1091411	Unprocessed Cereals
		F1091412	Palm Kernel Oil
		F1091499	Other Primary Products from Plants n.e.c.
	<b>F1091500</b>	<b>Advancement of Knowledge on Agriculture</b>	
		F1091501	Agricultural Extension
		F1091502	Genetic Proteomic
		F1091503	Biodiversity Conservation / Utilisation
		F1091599	Other Advancement of Knowledge on Agriculture n.e.c
	<b>F1099900</b>	<b>Other Agricultural Sciences n.e.c. SN: Including Dry Rubber Products such as Tyres, Dock Fender, Seismic Bearing</b>	

## MEDICAL AND HEALTH SCIENCES

CATEGORY	GROUP	AREA
F1100000	F1100100	Immunology
		F1100101 Allergy
		F1100102 Cellular Immunology
		F1100103 Humeral Immunology
		F1100104 Immunochemistry
		F1100105 Immunogenetics
		F1100106 Nutritional Immunology
		F1100107 Transplantation Immunology
		F1100108 Tumour Immunology
		F1100109 Immunomodulation
		F1100199 Other Immunology n.e.c.
	F1100200	Medical Biochemistry and Clinical Chemistry
		F1100201 Anti-Oxidants
	F1100202 Carbohydrates	
	F1100203 Hormones	
	F1100204 Lipids	
	F1100205 Nucleic Acids	
	F1100206 Proteins	
	F1100207 Vitamins	
	F1100299 Other Medical Biochemistry and Clinical Chemistry n.e.c.	
F1100300	Medical Microbiology	
	F1100301 Bacteriology	
	F1100302 Mycology	
	F1100303 Parasitology	
	F1100304 Virology	
	F1100399 Other Medical Microbiology n.e.c.	
F1100400	Pharmacology	
	F1100401 Clinical Pharmacology	



CATEGORY	GROUP	AREA
		F1100402 Medical Pharmacology F1100403 Molecular Pharmacology F1100404 Radiopharmacology F1100405 Therapeutics F1100406 Toxicology F1100407 Traditional Medicine and Natural Product SN: Including Development of Traditional and Herbal Medicine F1100499 Other Pharmacology n.e.c.
	<b>F1100500</b>	<b>Physiology</b>
		F1100501 Cell Physiology F1100502 Comparative Physiology F1100503 Exercise/ Physical Fitness F1100504 Human Biophysics F1100505 Sports Physiology F1100506 Stress Physiology F1100507 Systems Physiology F1100599 Other Physiology n.e.c.
	<b>F1100600</b>	<b>Neurosciences</b>
		F1100601 Autonomic Nervous System F1100602 Cell Receptors F1100603 Cellular Nervous System F1100604 Central Nervous System F1100605 Mechanism of Tissue Damage F1100606 Molecular Characterization F1100607 Peripheral Nervous System F1100608 Sensory Systems F1100609 Auditory Neuroscience F1100610 Psychogeriatrics F1100611 Cerebral Palsy F1100612 Cerebral Vascular Disorder F1100613 Epilepsy F1100614 Migraine F1100615 Head Injury F1100616 Degenerative Diseases

CATEGORY	GROUP	AREA
		F1100617 Sleep Disorders
		F1100618 Neuropsychiatry
		F1100699 Other Neurosciences n.e.c.
	<b>F1100700</b>	<b>Clinical Medicine</b>
		F1100701 Allergies
		F1100702 Anaesthesiology
		F1100703 Carcinogenesis
		F1100704 Cardiology
		F1100705 Clinical Psychology
		F1100706 Dermatology
		F1100707 Emergency Medicine
		F1100708 Endocrinology
		F1100709 Forensic
		F1100710 Gastroenterology
		F1100711 Geriatrics
		F1100712 Gynaecology
		F1100713 Haematology
		F1100714 Infectious/ Communicable Diseases
		F1100715 Intensive Care
		F1100716 Medical Genetics
		F1100717 Neonatology
		F1100718 Nephrology
		F1100719 Neurology
		F1100720 Neuromuscular Diseases
		F1100721 Nuclear Medicine
		F1100722 Obstetrics
		F1100723 Occupational Therapy
		F1100724 Oncology
		F1100725 Ophthalmology
		F1100726 Orthopaedics
		F1100727 Otolaryngology
		F1100728 Paediatrics
		F1100729 Pathology
		F1100730 Physical Therapy
		F1100731 Psychiatry
		F1100732 Radiology
		F1100733 Radiotherapy

CATEGORY	GROUP	AREA
		F1100734 Rehabilitation F1100735 Reproduction F1100736 Respiratory Diseases F1100737 Rheumatology F1100738 Surgery F1100739 Traumatology F1100740 Urology F1100741 Venereology F1100742 Organ Transplants F1100799 Other Clinical Medicine n.e.c.
	<b>F1100800</b>	<b>Public Health, Environmental and Occupational Health and Safety Research</b>
		F1100801 Air Quality F1100802 Drinking Water Quality F1100803 Environmental Protection and Health Impact F1100804 Epidemiology F1100805 Health and Safety (Occupational) F1100806 Health Information Systems F1100807 Injuries F1100808 Mental Health F1100809 Noise Pollution F1100810 Preventive Medicine F1100811 Primary Health Care F1100812 Radiation Health and Safety F1100813 Urban and Rural Health F1100814 Vaccination F1100815 Vector Borne Diseases F1100816 Waste Water Management F1100817 Waterborne Diseases F1100818 Solid Waste Management F1100819 Ergonomics F1100820 Social Epidemiology F1100899 Other Public Health, Environmental and Occupational Health and Safety Research n.e.c.

CATEGORY	GROUP	AREA
	F1100900	<b>Nutrition (Clinical and Public Health Research)</b>
	F1100901	Clinical Nutrition
	F1100902	Food Services
	F1100903	Functional Foods
	F1100904	Nutrient and Micronutrient Deficiencies
	F1100905	Nutrient Requirement
	F1100906	Nutrition Promotion and Education
	F1100907	Nutrition Related Chronic Diseases
	F1100908	Nutrition Related to Performance and Mental Health
	F1100909	Nutrition Transition
	F1100910	Nutritional Databases
	F1100911	Eating Disorders
	F1100912	Obesity
	F1100913	Body Image
	F1100999	Other Nutrition (Clinical and Public Health Research ) n.e.c.
	F1101000	<b>Health Services Research (Including Bioethics)</b>
	F1101001	Bioethics
	F1101002	Health Care Administration
	F1101003	Health Economics
	F1101004	Health Education and Promotion
	F1101005	Health Systems Management
	F1101006	Mortality and Morbidity Studies
	F1101007	Screening
	F1101008	Telemedicine
	F1101009	Maternal Care
	F1101010	Social Care
	F1101011	Social Support System
	F1101012	Child Care
	F1101099	Other Health Services Research n.e.c.

CATEGORY	GROUP	AREA
	<b>F1101100</b>	<b>Health Care System, Industries and Technologies</b>
		F1101101 Biomechanics
		F1101102 Burden of Disease
		F1101103 Continuous Quality Improvement
		F1101104 Delivery Systems
		F1101105 Equity
		F1101106 Health Care Financing
		F1101107 Health Information Management
		F1101108 Health Legislation
		F1101109 Health Outcomes
		F1101110 Health Policy Analysis
		F1101111 Health Rehabilitation Service
		F1101112 Health Technology Assessments
		F1101113 Home Care Services
		F1101114 Human Resource Development SN: Including Technologies in Attitude Determination Control Instruments
		F1101115 Innovative Technology
		F1101116 Medical Biotechnology
		F1101117 Programme Evaluation
		F1101118 Quality Assurance of Health Instruments
		F1101119 Quality of Life
		F1101120 Standards and Calibration
		F1101121 Assistive Technology
		F1101199 Other Health Care System, Industries and Technologies n.e.c.
	<b>F1101200</b>	<b>Pharmaceutical Industry</b>
		F1101201 Botanical Pesticides SN: BT: Agricultural Chemical
		F1101202 Natural Products
		F1101203 Nutraceuticals SN: Including Manufacturing of Nutraceuticals Products
		F1101204 Personal Care Products and Cosmetics SN: Including Cosmoceuticals, Nutritional Supplements and; Manufacturing of Cosmetics,

CATEGORY	GROUP	AREA
		Cosmeceuticals, Toiletries, Soap , Household Cleaners and Detergents Products
		F1101205 Photochemical
		F1101206 Phytochemicals
		F1101207 Purification Technology
		F1101208 Screening Technology
		F1101209 Synthesis Technology
		F1101210 Law and Ethics
		F1101211 Labelling and Safety
		F1101212 Halal Labelling
		F1101213 Drug Pricing
		F1101214 Licensing
		F1101215 Regulation
		F1101216 Human Pharmaceutical Products SN: Including Blood Products, Diagnostic, Therapeutic Agents, Vaccine and Halal Products Including Manufacturing of Consumer Products
		F1101217 Veterinary Pharmaceutical Products SN: Including Antibiotics, Chemical Treatments, Diagnostics, Therapeutic Agents, Vaccine and Halal Products
		F1101299 Other Pharmaceutical Industry n.e.c
	<b>F1101300</b>	<b>Complimentary/Alternative Medicine</b>
		F1101301 Clinical Research
		F1101302 Education
		F1101303 Information Management
		F1101304 Natural Therapy
		F1101305 Quality and Safety
		F1101306 Sociological Research
		F1101307 Traditional Medicine and Natural Products
		F1101308 Toxicology
		F1101309 Ethnomedicine
		F1101310 Ethnopsychiatry
		F1101311 Practitioners
		F1101399 Other Complimentary and Alternative Medicine n.e.c.

CATEGORY	GROUP	AREA
	<b>F1101400</b>	<b>Pharmacy</b>
		F1101401 Bioassay Methods
		F1101402 Biopharmacy
		F1101403 Clinical Pharmacy
		F1101404 Drug Discovery
		F1101405 Medicinal Chemistry
		F1101406 Nuclear Pharmacy
		F1101407 Pharmaceutical Biotechnology
		F1101408 Pharmaceutical Technology
		F1101409 Pharmaco-Economics
		F1101410 Pharmaco-Genomic
		F1101411 Pharmacognosy
		F1101412 Pharmacokinetics
		F1101413 Social Pharmacy
		F1101499 Other Pharmacy n.e.c.
	<b>F1101500</b>	<b>Speech and Language Pathology</b>
		F1101501 Epidemiology of Speech and Language Pathology
		F1101502 Linguistic Analysis of Language Pathology
		F1101503 Multicultural and Cross-Cultural Aspects of Language Pathology
		F1101504 Normal Speech and Language Developments
		F1101505 Speech and Language Assessments/ Tests/ Therapy Materials
		F1101506 Swallowing Disorders
		F1101507 Aural Rehabilitation
		F1101508 Acquired Language Disorders
		F1101509 Motor Speech Disorders
		F1101510 Voice Disorders
		F1101511 Cleft Lip & Palate
		F1101512 Speech Dysfluency
		F1101513 Dyslexia
		F1101514 Articulation & Phonological Disorders
		F1101515 Child Language Disorders
		F1101516 Speech Acoustics
		F1101517 Speech and Language Disorders

CATEGORY	GROUP	AREA
		F1101599 Other Speech and Language Pathology n.e.c.
	<b>F1101600</b>	<b>Optometry</b>
		F1101601 Binocular Vision
		F1101602 Clinical Contact Lens Care
		F1101603 Clinical Optometry
		F1101604 Low Vision
		F1101605 Opto-Optical Sciences
		F1101606 Refractive Disorders
		F1101607 Vision Sciences
		F1101608 Vision Therapy
		F1101609 Visual Development
		F1101610 Ophthalmic Materials
		F1101699 Other Optometry n.e.c.
	<b>F1101700</b>	<b>Audiology</b>
		F1101701 Auditory Processing
		F1101702 Cochlear Hair Cells Function
		F1101703 Development of Diagnostic Materials
		F1101704 Diagnostic Audiology
		F1101705 Epidemiological Studies
		F1101706 Hearing Conservation
		F1101707 Hearing Psychology
		F1101708 Industrial Audiology
		F1101709 Presbycusis
		F1101710 Psychoacoustics
		F1101711 Rehabilitative Audiology
		F1101712 Auditory Processing Disorders
		F1101713 Cochlear Implant & Hearing Amplification
		F1101714 Early Hearing Detection & Intervention (EHDI)
		F1101715 Geriatric Audiology
		F1101716 Physiological Acoustics (Hearing Physiology)
		F1101717 Auditory Neuroscience
		F1101799 Other Audiology Disciplines n.e.c. SN: Including Audiological Instrumentation



CATEGORY	GROUP	AREA
	<b>F1101800</b>	<b>Medical Diagnostic Imaging</b>
		F1101801 Computed Tomography (CT Scan)
		F1101802 Image Construction and Management
		F1101803 Mammography
		F1101804 Medical Instrumentation
		F1101805 Medical Physics
		F1101806 Magnetic Resonance Imaging (MRI)
		F1101807 Nuclear Medicine
		F1101808 Radiology
		F1101809 Ultrasound
		F1101810 Bone Densitometry
		F1101899 Other Medical Diagnostic Imaging n.e.c.
	<b>F1101900</b>	<b>Radiotherapy</b>
		F1101901 Medical Physics
		F1101902 Radiation Biology
		F1101903 Radiation Biophysics
		F1101904 Radiation Physics
		F1101905 Tissue/ Tumour Sensitisation
		F1101906 Tissue Biophysics
		F1101907 Tissue Protection
		F1101908 Boron Neutron Capture Therapy (BNCT)
		F1101909 Brachy Therapy
		F1101910 Radiochemistry, Radionuclide Chemistry and Radioprotectant
		F1101999 Other Radiotherapy n.e.c.
	<b>F1102000</b>	<b>Anatomy</b>
		F1102001 Comparative Anatomy
		F1102002 Cytology
		F1102003 Histology
		F1102004 Technique and Instrumentation
		F1102099 Other Anatomy n.e.c.

CATEGORY	GROUP	AREA
	<b>F1102100</b>	<b>Dentistry</b>
		F1102101 Children's Dentistry
		F1102102 Community Dentistry
		F1102103 Conservative Dentistry
		F1102104 Dental Materials
		F1102105 Dental Technology
		F1102106 Dentistry Support
		F1102107 Forensic Dentistry
		F1102108 Geriatric Dentistry
		F1102109 Implantology
		F1102110 Oral and Maxillofacial Surgery
		F1102111 Oral Biology
		F1102112 Oral Pathology
		F1102113 Orthodontics
		F1102114 Orthognathic Surgery
		F1102115 Periodontology
		F1102116 Prosthetics Dentistry
		F1102117 Oral Imaging
		F1102118 Preventive Dentistry
		F1102119 Dental Education
		F1102199 Other Dentistry n.e.c.
	<b>F1102200</b>	<b>Nursing</b>
		F1102201 Cardiology
		F1102202 Critical Care Unit and Intensive Care Unit (CCU/ICU)
		F1102203 Complimentary/Alternative Medicine in Nursing
		F1102204 Ear, Nose and Throat (ENT)
		F1102205 Environment Health
		F1102206 Gerontology
		F1102207 Heamatology
		F1102208 HIV/ AIDS
		F1102209 Hospice Care
		F1102210 Immunology
		F1102211 Industrial Nursing
		F1102212 Medical
		F1102213 Mental Health

CATEGORY	GROUP	AREA
		F1102214 Neonatal
		F1102215 Nephrology
		F1102216 Neurology/ Neurosurgery
		F1102217 Nutrition
		F1102218 O&G / Midwifery
		F1102219 Ophthalmology
		F1102220 Oncology
		F1102221 Orthopedic
		F1102222 Palliative Care
		F1102223 Pediatric
		F1102224 Perioperative
		F1102225 Plastic Surgery
		F1102226 Public/Community Health
		F1102227 Rehabilitation
		F1102228 Surgical
		F1102229 Transreligious/Transcultural Nursing
		F1102230 Trauma
		F1102231 Urology
		F1102232 Nursing Care
		F1102233 Nursing Education
		F1102234 Nursing Management
		F1102235 Nonsurgical Cosmetic Surgery
		F1102299 Other Nursing n.e.c.
	<b>F1102300</b>	<b>Nursing Education</b>
		F1102301 Continuous Nursing Education
		F1102302 Curriculum Development
		F1102303 Curriculum Evaluation
		F1102304 Health Education
		F1102305 Programme Assessment
		F1102306 Students Evaluation
		F1102307 Tests Psychometric
		F1102399 Other Nursing Education n.e.c.
	<b>F1102400</b>	<b>Nursing Management</b>
		F1102401 Clinical Pathway
		F1102402 Health Administration

CATEGORY	GROUP	AREA	
		F1102403	Health Care Financing/Economic
		F1102404	Health Outcome
		F1102405	Health Policy
		F1102406	Health System Management
		F1102407	Health Technology
		F1102408	Law and Ethics
		F1102409	Leadership
		F1102410	Nursing Audit
		F1102411	Nursing Advocacy
		F1102412	Personal Professional Development
		F1102413	Quality Assurance
		F1102414	Tele-Medicine
		F1102499	Other Nursing Management n.e.c.
	<b>F1102500</b>	<b>Medical Device, Equipment &amp; System</b>	
		F1102501	Implant Device
		F1102502	Medical Imaging Instrument
		F1102503	Artificial Intelligent Diagnostic System
		F1102504	Robotic Systems
		F1102505	Artificial Organ
		F1102506	Screening Device and Equipment
		F1102507	Rehabilitation Equipment
		F1102508	Monitoring Equipment
		F1102509	Surgical Equipment
		F1102510	Virtual Reality Software
		F1102511	Biomechanical Device
		F1102512	Radiological System
		F1102513	Support System for Disable
		F1102514	Treatment Equipment
		F1102599	Other Medical Device, Equipment & System n.e.c
	<b>F1102600</b>	<b>Advancement of Medical and Health Services Knowledge</b>	
		F1102601	Immunology
		F1102602	Medical Biochemistry and Clinical Chemistry
		F1102603	Medical Microbiology

CATEGORY	GROUP	AREA
		F1102604 Pharmacology
		F1102605 Physiology
		F1102606 Neurosciences
		F1102607 Clinical Medicine
		F1102608 Public Health, Environmental and Occupational Health and Safety Research
		F1102609 Radiotherapy
		F1102610 Dentistry
		F1102611 Anatomy
		F1102612 Dietetics
		F1102613 Nursing
		F1102614 Nutrition
		F1102615 Health Services Research (Including Bioethics)
		F1102616 Health Care System, Industries and Technologies
		F1102617 Pharmaceutical Industry
		F1102618 Pharmacy
		F1102619 Medical Diagnostic Imaging
		F1102620 Speech and Language Pathology
		F1102621 Optometry
		F1102622 Audiology
		F1102623 Nursing Education
		F1102624 Nursing Management
		F1102625 Auditory Neuroscience
		F1102626 Physiological and Psychological Acoustics
		F1102627 Vision Sciences
		F1102628 Medical Physics
		F1102629 Health Economics
		F1102630 Health Care Financing
		F1102699 Other Advancement of Medical and Health Services Knowledge n.e.c.
	F1109900	Other Medical and Health Sciences n.e.c. SN: Including Manufacturing of Instrument such as Medical Instruments and Devices

## ENVIRONMENTAL SCIENCES

CATEGORY	GROUP	AREA
F1110000	F1110100	Environmental Issues and Assessment
		F1110101 Agrowaste
		F1110102 Air Pollution
		F1110103 Aquatic Environment
		F1110104 Climate Change
		F1110105 Environmental Impact Assessment (EIA)
		F1110106 Environmental Protection
		F1110107 Groundwater Contamination
		F1110108 Heavy Metal Waste
		F1110109 Natural Ecosystem
		F1110110 Noise Pollution
		F1110111 Nutrient Removal Process
		F1110112 Ozone Depletion
		F1110113 Radioactive Waste
		F1110114 Remote Sensing
		F1110115 Sediment Transport and Silting
		F1110116 Toxic and Hazardous Waste
		F1110117 Waste Water
		F1110118 Water Pollution
		F1110119 Water Quality Simulation Modelling
		F1110120 Water Resources Study
		F1110121 Coastal Erosion
		F1110122 Land Reclamation
		F1110123 Global Warming / Climate Change
		F1110124 Acid Rain
		F1110125 Environmental Racism
	F1110126 Environmentalism	
	F1110127 Renewable Energy	
	F1110199 Other Environmental Issues and Assessment n.e.c.	
	F1110200	Environment Technology/Industry
		F1110201 Biodegradable Packaging
		F1110202 Cloud Seeding Technology

CATEGORY	GROUP	AREA
		F1110203 Environmental Friendly Products and Technologies
		F1110204 Gaseous Treatment
		F1110205 Geographical Information System (GIS)
		F1110206 Incineration
		F1110207 Integrated System and Building
		F1110208 Landscape Technology
		F1110209 Organic Waste Treatment
		F1110210 Pollution Control Products
		F1110211 Pollution Sensing Devices
		F1110212 Reduction of Bad-Odour
		F1110213 Reduction of Noise and Vibration
		F1110214 Steep Slopes and Hill Development Technology
		F1110215 Tropicalisation of Products and Process
		F1110216 Water and Wastewater Treatment Technology
		F1110217 Zero-Discharge Technologies
		F1110218 Erosion Control
		F1110219 Pollution Prevention and Control SN: Including Agricultural Chemicals, Basic Metal Products, Ceramic, Glass and Industrial Mineral Products, Communication Equipment, Computer Hardware and Electronic Equipment, Fabricated Metal Products, Fibre, Processing and Textiles; Footwear and Leather Products, Human Pharmaceutical Products, Incineration, Industrial Chemicals and Related Products, Instrumentation, Machinery and Equipment, Processed Food Products and Beverages, Quarry and Mining, Transport Equipment, Wood, Wood Products and Paper, Bio Based Chemicals and Related Products, Building Materials and Bio Base Pollution Control
		F1110299 Other Environment Technology/ Industry n.e.c
	<b>F1110300</b>	<b>Environment Management and Bioremediation</b>
		F1110301 Catchment Management SN: Including Water Catchments in The Forest

CATEGORY	GROUP	AREA
		F1110302 Disaster Management
		F1110303 Drinking Water Quality Standards
		F1110304 Drought Management
		F1110305 Environmental Risk Assessment and Bionomics
		F1110306 Environmental Standards
		F1110307 Soil Bioremediation
		F1110308 Solid Waste Management
		F1110309 Storm Water Management
		F1110310 Waste Bioremediation
		F1110311 Waste Management
		F1110312 Integrated Water Resource Management
		F1110313 Flood Mitigation Management
		F1110314 River Basin Management
		F1110315 Water Resources Management
		F1110399 Other Environmental Management and Bioremediation n.e.c.
	F1110400	Advancement of Environmental Sciences Knowledge
	F1119900	Other Environmental Sciences n.e.c. SN: Including Instrumentation Manufacturing in Water and Air Quality Instrumentation



## MATERIAL SCIENCES

CATEGORY	GROUP	AREA
F1120000	F1120100	<b>Electronic Materials</b>
		F1120101 Electro-Active Polymers
		F1120102 Electrochemical Materials
		F1120103 Electronic Packaging Materials
		F1120104 Magnetic Materials
		F1120105 Molecular Electronics
		F1120106 Optoelectronic Materials
		F1120107 Semiconductor Materials
		F1120108 Superconductor Materials
		F1120109 Thin-Film Dielectrics
		F1120199 Other Electronic Materials n.e.c.
	F1120200	<b>Functional Materials</b>
		F1120201 Adhesives
		F1120202 Bio-Compatible Materials
	F1120203 Catalyst	
	F1120204 Coating	
	F1120205 Display Materials	
	F1120206 Ear Mould Materials	
	F1120207 Electrochromic Materials	
	F1120208 Hard and Brittle Materials	
	F1120209 Magnetic Materials	
	F1120210 Optical Materials	
	F1120211 Soft and Brittle Materials	
	F1120299 Other Functional Materials n.e.c.	
F1120300	<b>Polymeric Materials</b>	
	F1120301 Adhesive, Coating and Ink	
	F1120302 Bio-Polymers	
	F1120303 Conducting Polymers	
	F1120304 Elastomers	
	F1120305 Inorganic Polymers	
	F1120306 Membranes	

CATEGORY	GROUP	AREA
		F1120307 Polymer Composites F1120308 Polymer Electrolytes F1120309 Thermoplastic F1120399 Other Polymeric Materials n.e.c.
	<b>F1120400</b>	<b>Advanced Materials</b>
		F1120401 Bio-Compatible Materials/Biomaterials F1120402 Ceramics F1120403 Composite Materials F1120404 Electro-Active Ceramics F1120405 Epitaxy F1120406 Metals and Metal Alloy Materials F1120407 Nano-Materials F1120408 Photonics Materials F1120409 Polymer Compounds F1120410 Textile Compounds F1120499 Other Advanced Materials n.e.c.
	<b>F1129900</b>	<b>Other Material Science n.e.c.</b>

## MARINE SCIENCES

CATEGORY	GROUP	AREA
F1130000	F1130100	Marine Biology
		F1130101 Breeding of Marine Organisms
		F1130102 Culture of Marine Organisms
		F1130103 Marine Ecophysiology
		F1130104 Marine Microbiology
		F1130105 Marine Benthic Biology
		F1130106 Marine Planktonology
		F1130107 Marine Phycology
		F1130108 Marine Ichthyology
		F1130109 Marine Mycology
		F1130110 Marine Mammalogy
		F1130111 Marine Productivity
		F1130112 Marine Parasitology
		F1130113 Marine Products SN: Including Sea Cucumber and Algae/Seaweed
		F1130199 Other Marine Biology n.e.c.
	F1130200	Marine Biotechnology
	F1130201 Development of Marine Pharmaceutical Products	
	F1130202 Marine Products Biotechnology	
	F1130203 Marine Bioprospecting	
	F1130204 Genetic Manipulation of Marine Organisms	
	F1130205 Molecular Systematics	
	F1130299 Other Marine Biotechnology n.e.c.	
	F1130300	Marine Technology
	F1130301 Biofouling/ Structural Deterioration	
	F1130302 Fishing Gear Technology	
	F1130303 Remote Sensing and GIS	
	F1130304 Artificial Reefs and Fish Aggregating Devices	
	F1130305 Acoustic and Instrumentation	
	F1130306 Marine Biofilters	
	F1130399 Other Marine Technology n.e.c.	

CATEGORY	GROUP	AREA
	<b>F1130400</b>	<b>Marine Biochemistry</b>
		F1130401 Marine Natural Products
		F1130402 Marine Bioproducts Synthesis
		F1130499 Other Marine Biochemistry n.e.c.
	<b>F1130500</b>	<b>Marine Ecology</b>
		F1130501 Ecotourism
		F1130502 Marine Conservation
		F1130503 Mangrove Ecology
		F1130504 Coral Reef Ecology
		F1130505 Benthic Ecology
		F1130506 Seagrass and Seaweed Ecology
		F1130507 Tidal Flats Ecology
		F1130508 Estuarine Ecology
		F1130509 Lagoon Ecology
		F1130510 Microbial Ecology
		F1130511 Population and Community Ecology
		F1130599 Other Marine Ecology n.e.c.
	<b>F1130600</b>	<b>Marine Toxicology</b>
		F1130601 Harmful Algal Blooms (HABs) and Toxins
		F1130602 Marine Poisonous Organisms
		F1130603 Endocrine Disruptors
		F1130604 Indicators and Biomonitoring
		F1130699 Other Marine Toxicology n.e.c.
	<b>F1130700</b>	<b>Oceanography</b>
		F1130701 Biological Oceanography
		F1130702 Chemical Oceanography
		F1130703 Fisheries Oceanography
		F1130704 Geological Oceanography
		F1130705 Marine Pollution
		F1130706 Oceanography Instrumentation
		F1130707 Physical Oceanography
		F1130708 Satellite Oceanography

CATEGORY	GROUP	AREA
		F1130709 Meteorological Oceanography F1130710 Coastal Oceanography and Processes F1130711 Land-Sea Interactions and Processes F1130712 Hydrodynamic and Sedimentation Modelling F1130713 Optical Oceanography F1130799 Other Oceanography n.e.c.
	<b>F1130800</b>	<b>Marine Chemistry</b>
		F1130801 Eutrophication F1130802 Seawater and Sediment Chemistry F1130803 Heavy Metals F1130804 Petrochemical and Hydrocarbon F1130805 Radioactive Contaminants F1130806 Carbon Sequestration F1130807 Ecotoxicology F1130808 Establishment of Marine Standard Reference Materials F1130899 Other Marine Chemistry n.e.c.
	<b>F1130900</b>	<b>Marine Geology</b>
		F1130901 Sediment Transport F1130902 Mineralogy F1130903 Palaeontology F1130904 Geochemistry F1130905 Seismology F1130906 Mapping and GIS F1130907 Tracer Application F1130908 Sediment Dating F1130999 Other Marine Geology n.e.c.
	<b>F1131000</b>	<b>Marine Economics</b>
		F1131001 Ecological Valuation F1131002 Cost-Benefits Evaluation F1131099 Other Marine Economics n.e.c.

CATEGORY	GROUP	AREA
	<b>F1131100</b>	<b>Marine Archeology</b>
		F1131101 Exploration Technology
		F1131102 Artefacts Preservation
		F1131103 Artefacts Dating
		F1131199 Other Marine Archeology n.e.c.
	<b>F1131200</b>	<b>Coastal Zone Management</b>
		F1131201 Environmental Impact Assessment (EIA)
		F1131202 Pollution Management
		F1131203 Coastal Habitats Management
		F1131204 Socio-Economics of Coastal Communities
		F1131205 Sustainable Utilization of Marine Resources
		F1131206 Risk Analysis
		F1131299 Other Coastal Zone Management n.e.c.
	<b>F1131300</b>	<b>Marine Laws and Policies</b>
		F1131301 Law of the High Seas
		F1131302 Policies on Transboundary Pollution and Shared Stocks
		F1131303 Exclusive Economic Zone (EEZ)
		F1131304 Marine Territory Disputes and Settlement
		F1131305 Code of Conduct for Responsible Fisheries and Aquaculture Practices
		F1131306 National Biodiversity Policy
		F1131307 Marine Water Quality Standards and Criteria
		F1131399 Other Marine Laws and Policies n.e.c.
	<b>F1131400</b>	<b>Advancement of Marine Sciences Knowledge</b>
		F1131401 Essential Fish Habitats
		F1131402 Marine Radioactivity
		F1131403 Physical Oceanography
		F1131404 Marine Biotechnology
		F1131405 Larval Biology
		F1131406 Marine Biodiversity, Conservation and Management

CATEGORY	GROUP	AREA
		F1131407 Seabed Properties and Stability
		F1131408 Marine Pollution
		F1131409 Marine Archaeology
		F1131410 Sea Level Changes
		F1131411 Tsunami
		F1131499 Other Advancement of Marine Sciences Knowledge n.e.c
	<b>F1131500</b>	<b>Estuaries &amp; Coasts</b>
		F1131501 Sediment Transport
		F1131502 Pollution Transport and Modelling
		F1131503 Hydrodynamics and Mixing Processes
		F1131504 Morphology Changes
		F1131505 Coastal Erosion
		F1131506 Mangrove Habitats
		F1131507 Mud Flat and Cohesive Sediment
		F1131599 Other Estuaries & Coasts n.e.c
	<b>F1139900</b>	<b>Other Marine Sciences n.e.c.</b>

## FORESTRY SCIENCES

CATEGORY	GROUP	AREA
F1140000	F1140100	Forest Engineering and Operation
		F1140101 Harvesting System Design F1140102 Minimal Impact Logging F1140103 Road Design F1140104 Surveying Techniques F1140105 Laser Technology F1140199 Other Forest Engineering and Operation n.e.c.
	F1140200	Forestry Information System and Technology
		F1140201 Geographical Information System (GIS) F1140202 Geospatial Information Technology F1140203 Precision Forestry F1140204 Remote Sensing (Satellite Based) F1140205 Airborne Hyperspectral Imaging F1140299 Other Forestry Information System and Technology n.e.c.
	F1140300	Biodiversity and Conservation
		F1140301 Coastal Zone Management F1140302 Genetic Diversity F1140303 Hill and Mountain Forests F1140304 Inventory and Documentation F1140305 Lowland Forests F1140306 Wetlands F1140307 Conservation Areas F1140308 Peat Swamp Forest F1140309 Mangrove Forest F1140399 Other Biodiversity and Conservation n.e.c.
	F1140400	Pest and Disease Management
		F1140401 Biological Control F1140402 Entomology



CATEGORY	GROUP	AREA
		F1140403 Integrated Pest Management F1140404 Mammology F1140405 Nematology F1140406 Pathology F1140407 Virology F1140499 Other Pest and Disease Management n.e.c.
	<b>F1140500</b>	<b>Agroforestry</b>
		F1140501 Cropping System F1140502 Soil Compaction F1140503 Sustainable Production F1140599 Other Agroforestry n.e.c.
	<b>F1140600</b>	<b>Forest Management</b>
		F1140601 Fire Planning and Control F1140602 Forest Ecology F1140603 Forest Inventory F1140604 Silviculture F1140605 Soil and Land Improvement F1140606 Wildlife Management F1140607 Forest Sampling F1140608 In-Situ Conservation F1140609 Ex-Situ Conservation F1140610 Reforestation F1140611 Sustainable Forest Management F1140612 Forest Modelling F1140699 Other Forest Management n.e.c.
	<b>F1140700</b>	<b>Tree Improvement</b>
		F1140701 Breeding F1140702 Micropropagation Techniques F1140703 Seed Technology F1140799 Other Tree Improvement n.e.c.

CATEGORY	GROUP	AREA
	<b>F1140800</b>	<b>Wood and Non Wood Forest Products</b>
	F1140801	Bamboo and Rattans
	F1140802	Medicinal Plants
	F1140803	Wood Processing
	F1140804	Wood Sciences
	F1140805	Wood Utilization
	F1140806	Oil and Resin
	F1140899	Other Wood and Non Wood Forest Products n.e.c SN: Including Hardwood Plantations, Native Forest, Softwood Plantations and Neem Tree , Chipboard Manufacture, Furniture Products, Glue Laminated Timber, Hardwood Sawing and Veneer, Paper Products Manufacture, Particle Board Manufacture, Printing and Publishing Processes, Publishing Services, Pulp and Paper Manufacture, Softwood Sawing and Veneer, Woodchips and Smart Paper
	<b>F1140900</b>	<b>Forest Production and Forest Products</b>
	F1140901	Transportation SN: Including Land, Water and Air, Road Design and Survey
	F1140902	Harvesting SN: Including Machineries, Reduced Impact Logging and Rehabilitation of Logged Forest Ecosystems
	F1140903	Natural Forests SN: Including By Product Utilization, Improved Planting Stock, Medicinal Plants, Phytochemicals, Timber, Ecotourism, Wildlife, Conservation and Mushrooms
	F1140904	Plantation Forests SN: Including Composites, Furniture, Improved Planting Stock, Pulp and Paper and Landscaping
	F1140905	Information & Communication Services in Forestry SN: Including Decision Support System
	F1140999	Other Forest Production and Forest Products n.e.c.

CATEGORY	GROUP	AREA
	F1141000	Advancement of Forestry Sciences Knowledge
	F1141001	Airborne Hyperspectral Imaging
	F1141002	Biodiversity Conservation
	F1141003	Laser Technology
	F1141004	Forensic Forestry
	F1141005	Biodiversity Conservation/Utilisation
	F1141006	Carbon Sequestration, Legal Aspects of Forestry
	F1141099	Other Advancement of Forestry Sciences Knowledge n.e.c.
	F1149900	Other Forestry Sciences n.e.c. SN: Including of Manufacturing Forestry Machinery and Equipment

## BIOTECHNOLOGY

CATEGORY	GROUP	AREA	
F115000	F1150100	<b>Molecular Biology</b>	
		F1150101 Gene Isolation	
		F1150102 Gene Probes	
		F1150103 Gene Transformation	
		F1150104 Genomic	
		F1150105 Microarray	
		F1150106 Molecular and Structural Biology	
		F1150107 Polyploidization	
		F1150108 Proteomics	
		F1150109 Semantic Dicaryotization	
		F1150110 Transgenic Studies	
		F1150199 Other Molecular Biology n.e.c.	
		F1150200	<b>Plant Biotechnology</b>
		F1150201 Anther Culture	
		F1150202 Artificial Seeds	
		F1150203 Cryopreservation	
		F1150204 Micropropagation	
		F1150205 Molecular Marker	
		F1150206 Post Harvest Technology	
		F1150207 Protoplast Technology	
	F1150208 Tissue Culture		
	F1150209 Transgenic Plant SN: Including Transgenic Corps such as Papaya, Pineapple, Rice, Cocoa, Banana, Oil Palm, Chilli, Corn, Tomato, Passion Fruits (Markisa) from The Aspects of Pest and Disease Resistant, Increase Shelf Life, Colour and Nutritional Enhancement, Drought, Salinity and Flooding Resistant		
	F1150210 Nano Technology		
	F1150299 Other Plant Biotechnology n.e.c.		

CATEGORY	GROUP	AREA		
F1150000	F1150300		<b>Animal Biotechnology</b>	
		F1150301	Biofeed	
		F1150302	Cell Line Culture	
		F1150303	Cloning	
		F1150304	Cryopreservation	
		F1150305	Diagnostic	
		F1150306	Feed and Nutrition	
		F1150307	Reproduction	
		F1150308	Transgenic Animal	
		F1150309	Vaccine	
		F1150399	Other Animal Biotechnology n.e.c.	
		F1150400		<b>Industrial and Environmental Biotechnology</b>
		F1150401	Biocontrol Agent	
		F1150402	Bioconversion	
		F1150403	Biofertilizer	
		F1150404	Biofuel	
		F1150405	Bioplastic	
		F1150406	Bioprocess Design	
		F1150407	Bioremediation	
	F1150408	Bioseparation		
	F1150409	Cell Culture Technology		
	F1150410	Composting		
	F1150411	Design Technology		
	F1150412	Downstream Processing		
	F1150413	Enzyme Technology		
	F1150414	Fermentation Technology		
	F1150415	Immobilized Technology		
	F1150416	Product Recovery		
	F1150417	Solid Substrate Technology		
	F1150418	Biosensor		
	F1150419	Submerged Fermentation		
	F1150499	Other Industrial and Environmental Biotechnology n.e.c.		

CATEGORY	GROUP	AREA	
F1150000	F1150500		Medical Biotechnology
		F1150501	Diagnostics
		F1150502	Gene Therapy
		F1150503	Graft Engineering
		F1150504	Human/Population Genetics
		F1150505	Pharmacogenomics
		F1150506	Stem Cell Technology
		F1150507	Vaccines
		F1150508	Nano Technology
		F1150509	Biomaterial
	F1150599	Other Medical Biotechnology n.e.c.	
	F1150600		Forensic Biotechnology
		F1150601	Databasing
		F1150602	DNA Archiving
		F1150603	DNA Damage
		F1150604	DNA Probe Technology
		F1150605	Forensic Genetics
		F1150606	Forensic Statistics
		F1150607	Human Identification Systems
		F1150608	Population Genetics
		F1150609	Wildlife Forensic
		F1150610	Trace DNA
		F1150699	Other Forensic Biotechnology n.e.c.
	F1150700		Food Biotechnology
		F1150701	Algal Products
		F1150702	Bioconversion
		F1150703	Bioprocessing
		F1150704	Bioreactor
		F1150705	Cell Culture Technology
		F1150706	Enzyme Technology
		F1150707	Immobilized Technology
		F1150708	Microbial Technology
		F1150709	Mushroom Products
		F1150710	Nutraceuticals

CATEGORY	GROUP	AREA	
F1150000		F1150711	Post Harvest Technology
		F1150712	Product Recovery
		F1150713	Submerged Fermentation
		F1150714	Biosensor
		F1150715	Solid Substrate Fermentation
		F1150716	Functional Food
		F1150799	Other Food Biotechnology n.e.c.
	<b>F1150800</b>	<b>Biopharmacy Biotechnology</b>	
		F1150801	Biopharmaceuticals
		F1150802	Biopharming
		F1150803	Drug Discovery
		F1150804	Pharmacogenomics
		F1150805	Transgenic
		F1150899	Other Biopharmacy Biotechnology n.e.c.
	<b>F1150900</b>	<b>Marine Biotechnology</b>	
		F1150901	Algae
		F1150902	Biopharmaceuticals
		F1150903	Cryopreservation
		F1150999	Other Marine Biotechnology n.e.c.
	<b>F1151000</b>	<b>Bioinformatics</b>	
		F1151001	Data Mining
		F1151002	Gene Bank
		F1151003	Networking
		F1151004	Protein Bank
		F1151005	Software Development
		F1151099	Other Bioinformatics n.e.c.
	<b>F1151100</b>	<b>Biosafety and Bioethics</b>	
		F1151101	Eugenics
		F1151102	Public Awareness
		F1151103	Risk Assessment
		F1151104	Risk Management

CATEGORY	GROUP	AREA
		F1151199 Other Biosafety and Bioethics n.e.c
	F1159900	Other Biotechnology, including Instrumentation and Instrumentation Manufacturing n.e.c.
F1990000		NON-ORIENTED NATURAL SCIENCES, TECHNOLOGIES AND ENGINEERING RESEARCH

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F1091300	Agrobiodiversity and Conservation
	F1091307 In-Situ Conservation
	F1091308 Ex-Situ Conservation
	F1091309 Cryopreservation
	F1091310 Micropropagation
	F1091311 Cropping System / Mix Farming
	F1091399 Other Agrobiodiversity and Conservation n.e.c