DEPARTMENT OF PROJECT MANAGEMENT TECHNOLOGY

SCHOOL OF MANAGEMENT TECHNOLOGY (SMAT)

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI (FUTO)

P.M.B. 1526 OWERRI, IMO STATE - NIGERIA

Undergraduate Manual & Information Guide

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UNDERGRADUATE MANUAL AND INFORMATION GUIDE

2007

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Federal Republic of Nigeria

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BRIEF HISTORY OF THE DEPARTMENT

The Department of Project Management Technology is one of the three Departments that constituted the nucleus of the School of Management Technology (SMAT) of the Federal University of Technology, Owerri (FUTO). The Department was established in 1982 while it admitted its first batch of undergraduates in 1983/84 academic year. This first batch was made up of eight (8) undergraduate students. The eight students successfully graduated in the 1987/88 academic year. At inception, the Department had only two full time academic staff. Currently the undergraduate student population is more than 900 while the academic staff strength is more than 25.

The Department started its post-graduate programmes in 1990 and currently runs programmes at Post-graduate Diploma; MBA; M.Sc and Ph.D levels.

PHILOSOPHY:

The philosophy of the Project Management Technology programme is to develop a total human being who is self-reliance in a complex and technologically oriented society. Such individuals will be creators of jobs rather than job seekers.

VISION:

The vision of the Department is to develop into a centre of excellence South of Sahara where Project Management is nurtured and developed for the purpose of enhancing the growth and development of the Nigerian economy in particular and African economy in general.

GOALS:

The goals of the Department include the followings:

i.   To produce technocrat managers who will proactively drive the wheel of growth and development of the Nigerian nation.

ii.   To produce technocrat managers who will be job providers and employers of labour rather than job seekers.

iii.   To produce men and women who are equipped with policy formulation and interpretation skills.

OBJECTIVES:

The objectives of the Department include among others:

i.   To train and educate technocrat managers who can efficiently and effectively manage technological oriented organizations in all sectors of the national economy.

ii.   To train managers to be able to understand the relationship between project initiations and operations in order to achieve the stakeholders goals and aspirations.

iii.   To impart the necessary knowledge that would lead to full understanding of the relationship between theory and practice in business organizations.

iv.   To provide the necessary platform from which the client's requirements can be meet within the constraints of cost, time and quality specifications.

v.   To establish appropriate linkages and relationships with other national and international institutions and organizations who

are engaged in education, research and development activities in the field of management technology.

ORGANIZATIONAL STRUCTURE:

The Department is headed by a Head of Department (HOD) who is appointed by the Vice-Chancellor. The HOD is therefore responsible to the Vice-Chancellor through the Dean of the School for the day to day administrations of the Department. The Department is administered through the Committee System. The most important of the Committees is the Departmental Board of Studies which is a Committee of all academic staff of the Department. All major Departmental decisions are taken by this Board. Every intake has an academic staff assigned to it as the academic adviser. Our policy is that one adviser moves with the intake until the students graduate. The academic advisers are counselors to the students both academically and socially.

ADMISSION REQUIREMENTS:

Admission into the programme of Project Management Technology is either through the University Matriculation Examination (UME) or through Direct Entry.

i.   *Admission Through UME*

In addition to an acceptable pass in JME, candidates must have passed at least five (5) papers (OL) at Credit Level from any of the approved public examination bodies in Nigeria

in not more than two sittings. The required subjects are English Language, Mathematics, Physics, Economics and Chemistry. The passes must be from the same examination body.

ii.   *Direct Entry Requirements*

In addition to the five papers at the ordinary level for the UME candidates, direct entry candidates must posses (a) Three requisite papers at Higher School Certificate (HSC) or GCE. Advanced Level or (b) OND or HND in appropriate areas preferably at Upper Credit Levels.

LEADERSHIP OF THE DEPARTMENT

From inception till date, the following have piloted the affairs of the Department:

Prof. C. C. Ntamere	From inception to 1991
Mr. F.A. Obiocha	1991 – 1993
	Jan 1995 – June 1995
Mr. C. M. Anyaogu	1993 – 1994
Prof. G. E. Nworuh	1993 – 1994
	1995 – 2000
Dr. M. U. Anuolam	2000 – 2002
Prof. E. O. P. Akpan	2002 – 2004
Dr. E. E. Chigbu	2004 – 2005
Dr. G. F. Okorafor	2005 – Date

PROGRAMME CONSTITUENTS

The undergraduate programme in the Department leads to an award of a B. Tech Degree in Project Management Technology and this on completion of an average of 180 credit units achieved in a minimum of five years. The constituents of the programme are as follows:

- Engineering and Science/Technology   - -   56.65%

- Management/Economics -   -   - -   33.53%

- Humanizing/General Studies   -   - -   5.19%

- Students Industrial Work Experiences (SIWES) - 4.63%

All students of the Federal University of Technology, Owerri (FUTO) go through common courses in the first and a good portion of their second year of study. This situation is applicable to all students of Project Management Technology, hence, the basic requirements of science subjects as basis for admission.

EMPLOYMENT OPPORTUNITIES

The Project management Technology programme when successfully completed prepares students for employments in all sectors of the economy where capital projects are carried out. Specifically, graduates find themselves as junior management executives, project management executives, cost analysts, feasibility study experts,; planning experts, etc.

The current areas where the services of the graduands are in high demand include:

1. International organizations assisted projects like those of the World Bank, UNDP, UNICEF, WHO, AFDB, EU, etc.

2. Multinational Oil Companies and Oil Service Companies.

3. Banks and other Financial Institutions.

4. Public Utility Companies.

5. Construction Companies

6. Government Ministries, Parastatals and Agencies

7. Various Private Sector, Large Scale Enterprises and Small Scale Enterprises.

8. Venture Projects.

DEPARTMENT ACADEMIC STAFF LIST

S/N.	Name	Qualification
1.	Prof. C. C. Ntamere	BA – Econs MA – Econs PhD – Econs Post-Doctoral Studies in Demography
2.	Prof. E.O.P. Akpan	B.Sc.- Mgt. & Engineering Production M.Sc.- Production Tech & Production Mgt. Ph.D – Industrial Technology

3. Dr. S.M.Nzotta
   (Reader)
   - B.Sc. – Finance
   - MBA – Banking & Finance
   - Ph.D - Banking & Finance

4. Dr. E. E. Chigbu
   (Senior Lecturer)
   - B.Sc. – Economics
   - M.Sc. - Economics
   - Ph.D – Money & Banking

5. Dr. G. F. Okorafor
   (Reader)
   - B.Sc. – Economics
   - M.Sc. – Project Planning & National Dev.
   - Ph.D. – Project Management Technology

6. Dr. N. C. Nwezeaku
   (Reader)
   - B.Sc. - Business Administration
   - MBA – Banking & Finance
   - Ph.D – Banking & Finance

7. Dr. F.P.O. Ukwuoma
   (Reader)
   - B.Sc. – Chemical Engineering
   - M.Sc. – Chemical Engineering
   - Ph.D - Chemical Engineering

8. Engr. G. O. Anya
   (Senior Lecturer)
   - B.Sc. - Systems Engineering
   - M.Sc. – Management

9. Mr. P.A. Anyanwu
   (Senior Lecturer)
   - B.Sc. – Economics
   - MBA – Banking & Finance

10. Engr. C.U.B. Nnadi
    (Senior Lecturer)
    - B.Sc.–Construction Management
    - MEM.–Engineering Management

11. Dr. L. E. Akujuobi
    (Lecturer I)
    - B.Sc. – Finance
    - M.Sc. – Banking & Finance
    - Ph.D – Banking & Finance

12. Dr. O. T. Ebiringa
(Lecturer I)

B.Tech – Project Management
Technology
M.Sc. – Banking & Finance
Ph.D - Banking & Finance

13. Dr. C. I. Anyanwu
(Lecturer I)

B.Sc. – Construction Technology
M.Sc. – Industrial Professional
Tech.
Ph.D – Project Management
Technology

14. Engr. Dr. E. C. Ubani
(Lecturer I)

B.Tech – Materials Engineering
M.Tech - Industrial Engineering
Ph.D – PMT

15. Dr. A. C. Ogbonna
(Lecturer I)

B.Sc. – Estate Management
M.Sc. – Project Management
Technology
Ph.D – PMT

16. Mr. K.A. Okorocha
(Lecturer I)

B.Sc – Estate Management
MBA – Banking & Finance
M.Sc – Economics
Ph.D Candidate – PMT

17. Mrs. M. N. Okoli
(Lecturer I)

B.Sc. – Economics
M.Sc. – Banking & Finance
Ph.D Candidate –FMT

18. Engr. Dr. S.O.Okpighe
(Lecturer II)

B. Eng – Mechanical
M. Eng – Management
Ph.D – Project management
Technology

19. Mr. C. N. Ononuju　　　　B. Eng – Civil
　　(Lecturer II)　　　　　　M.Sc. – Project Management
　　　　　　　　　　　　　　Technology

20. Mr. C. C. Nwachukwu　　B.Sc. – Estate Management
　　(Lecturer II)　　　　　　M.Sc. – Estate Management

21. Mr. A. C. Abara　　　　　B.Sc. – Estate Management
　　(Lecturer II)　　　　　　M.Sc. – Construction
　　　　　　　　　　　　　　Management

22. Dr. Akujuobi A.B.C.　　　B.Sc.- Accounting
　　(Lecturer II)　　　　　　M.Sc - Fin. Management Tech.
　　　　　　　　　　　　　　P.hD – Fin. Management Tech.

23. Mr. B.A. Ozurumba　　　B.Sc. – Economics
　　(Asst. Lecturer)　　　　　M. Sc. – Fin. Mgt. Technology
　　　　　　　　　　　　　　Ph.D Candidate – FMT

24. Rev. C. C. Alajemba　　　B. Tech – Project Management
　　(Asst. Lecturer)　　　　　Technology
　　　　　　　　　　　　　　M.Sc. – Project Management
　　　　　　　　　　　　　　Technology

25.　　Mr. E. O. Okorafor　　B. Sc. – Accountancy
　　　　(Asst. Lecturer)　　　M. Sc. – Fin. Management
　　　　　　　　　　　　　　Technology
　　　　　　　　　　　　　　Ph. D Candidate – FMT

EXAMINATION RESULTS

Performance in a course shall be recorded in letter grades after due conversion from percentage scores as follows:

% Score	Grade	Grade Point Equivalent
70 – 100	A	5
60 – 69	B	4
50 – 59	C	3
45 – 49	D	2
40 – 44	E	1
0 – 39	F	0

Scores for courses with laboratory works are as follows:

Examination - - - - - 60%

Tests (Continuous Assessments) - - 20%

Lab - - - - - - 20%

The scores for those without Laboratory works are as follows:

Examinations - - - - - 70%

Tests (Continuous Assessments) - - 30%

CLASSIFICATION OF DEGREE RESULTS

CLASS OF DEGREE	CUMULATIVE GRADE POINT
First Class Honours	4.50 – 5.00
Second Class Honours Upper Division	3.50 – 4.49
Second Class Honours Lower Division	2.40 – 3.49
Third Class Honours	1.50 – 2.39
Pass Degree	1.00 – 1.49
Fail	0.00 – 0. 99

PROBATION, EXPULSION, WITHDRAWAL

Refer to Section 5 and 26 of the Handbook on Academic Regulations, 1991-96, which states as follows:

SEC. 5: WITHDRAWAL FROM THE UNIVERSITY
Voluntary Withdrawal:

(i)   Students who wish to withdraw from the University are required to notify the Registrar in writing as well as Dean of the School through the Head of Department. The period of withdrawal shall not exceed one academic year and subject to approval by Senate.

(ii)   For returning students a written notice of withdrawal shall be given not later than four weeks after the beginning of the semester. For fresh students notice shall be given not later than two weeks after matriculation.

(iii)   Any student withdrawal of the reason and the effective date of leaving.

(iv)   In the case of such voluntary withdrawal, the refund of fees paid in excess of the period stayed in the University will be made by the Bursar's Office.

(v)   Such a student may retain grades made for semester examinations (in semester courses taken prior to the date of withdrawal).

(vi)   Students who so withdraw from the University shall, in order to be re-admitted send a formal application to and received official clearance from the Registrar.

(vii)   Senate may prescribe conditions, which shall be fulfilled before students may resume their programmes of studies.

Unauthorized Withdrawal:

Students who withdraw from the University without authority may not be considered for re-admission until their cases have been dealt with on their individual merits by Senate.

Withdrawal for Academic Reasons:

All students who are admitted into the University are expected to maintain acceptable standards of academic performance. Every student is also expected to maintain a minimum Grade Point Average for his/her year of study. Specially, students obtaining a Cumulative Grade Point Average of less than 1.00 shall be asked to withdraw from the University.

Withdrawal for Health Reasons:

A student may withdraw or be asked to withdraw for health reasons certified by the Director of Health Services of the University. Such a student shall be re-admitted into the University on production of a valid medical report from an approved Medical Office, and certified by the Director of Health Services.

Disciplinary Withdrawal:

Students who are suspended on grounds of disciplinary action may not be re-admitted unless with the express permission of the Vice-Chancellor.

SEC. 26   EXPULSION   FROM   THE UNIVERSITY

Any student who has been found involving in cases of gross misconduct, such as (but not limited to) examination mal-practice, convicted felony or other cases of criminal offences, association with or membership of secret cult or of any organization proscribed by the University or the Government shall on approval of the Senate and without prejudice to Section 16 of the Federal University of Technology, Owerri Law be:

(i)   Expelled from the University, and

(ii)   Handed over to the police for prosecution under the appropriate Laws/Decrees.

COURSE CODES, TITLE, UNITS & DESCRIPTION

YEAR ONE

A: HARMATTAN SEMESTER

CODE	TITLE	L	T	P	UNITS
MTH 101	Elem Maths I	3	I	0	4
PHY 101	General Physics I	2	I	I	4
CHM 101	General Chemistry I	2	I	I	4
BIO 101	Biology for Physical Sciences	2	0	I	3
ENG 101	Workshop Practice I	0	0	I	I
ENG 103	Engineering Drawing I	0	0	I	I
GST 101	Use of English I	I	I	0	2
GST 103	Humanities	I	0	0	I
					20

B. RAIN SEMESTER

CODE	TITLE	L	T	P	UNITS
MTH 102	Elem Maths II	3	I	0	4
PHY 102	General Physics II	2	I	I	4
CHM 102	General Chemistry II	2	I	I	4
ENG 102	Workshop Practice II	0	0	I	I
ENG 104	Engineering Drawing II	0	0	I	I
GST 102	Use of English II	I	I	0	2
GST 108	Polity & Economy of Nigeria	I	I	0	2
GST 110	Science, Tech and Society	I	0	0	I
					19

YEAR TWO

A: HARMATTAN SEMESTER

CODE	TITLE	L	T	P	UNITS
MTH 201	Mathematical Methods	2	1	0	3
MTH211	Statistics	2	1	0	3
CSC 201	Computer and Application I	2	1	1	4
ENG 201	Workshop Practice III	0	0	1	1
ENG 213	Engineering Mechanics I	1	0	1	2
ENG 205	Intro to Engineering Materials	2	1	1	4
ECN 201	Economics I	2	1	0	3
GST 201	Nigeria & African Cultural Development	1	0	0	1
					21

B: RAIN SEMESTER

CODE	TITLE	L	T	P	UNITS
MGT 202	Principles of Management	3	0	0	3
MGT 204	Basic Accounting	2	1	0	3
MGT 206	Industrial Psychology	2	1	0	3
ECN 202	Economics II	2	1	0	3
CSC 202	Computer & Applications II	1	1	1	3
ENG 206	Workshop Practice IV	0	0	1	1
ENG 224	Engineering Mechanics II	1	0	1	2
					18
SIWES 200	Industrial Attachment				2

YEAR THREE

A. HARMATTAN SEMESTER

CODE	TITLE	L	T	P	UNITS
PRT 301	Intro to Project Mgt Tech	2	1	0	3
PRT 305	Industrial Location	2	1	0	3
PRT 307	Quality Management and Control	2	1	0	3
FMT 305	Financial Accounting	1	1	0	2
ENG 303	Strength of Materials	1	1	1	3
ENG 315	Principles of Engineering Survey	1	1	1	3
PRT.309	Intro to Electrical Technology	1	0	1	2
					19

B. RAIN SEMESTER

CODE	TITLE	L	T	P	UNITS
PRT 304	Materials Management	2	1	0	3
PRT 308	Management Information System	2	0	1	3
PRT 310	Project Design and EIA	2	1	0	3
PRT 312	Construction Materials and Eqpt	2	1	0	3
MGT 312	Taxation	2	1	0	3
MGT 304	Marketing Management	2	0	0	2
MGT 306	Operations Research I	2	1	0	3
					20

YEAR FOUR

A: HARMARTAN SEMESTER

CODE	TITLE	L	T	P	UNITS
MGT 403	Operations Research II	2	1	0	3
MGT 401	Industrial Economics	2	0	0	2
MGT 405	Technical Report Writing	1	1	0	2
PRT 405	Research Methodology	1	1	0	2
PRT 407	Project Planning and Control	2	1	0	3
PRT 409	Systems Engineering	2	1	0	3
PRT 411	Strategic Management	2	0	0	2
PRT 413	Maintenance management	1	1	0	2
					19

B. RAIN SEMESTER

CODE	TITLE	L	T	P	UNITS
SIWES 400	Industrial Attachment	0	0	4	4
SIWES 401	Industrial Attachment (Long Vac)	0	0	2	2
					6

YEAR FIVE

A . HARMATTAN SEMESTER

CODE	TITLE	L	T	P	UNITS
PRT 501	Management Accounting	2	0	0	2
PRT 503	Operations Management	2	1	0	3
PRT 505	Computer based Project Mgt	2	0	1	3
PRT 513	Contract law and Admin	2	0	0	2
PRT 500A	Research Project I	0	0	3	3
	ELECTIVES				5/6
					18/19

ELECTIVES: CHOOSE ANY TWO AS APPROPRIATE

CODE	TITLE	L	T	P	UNITS
IPE 403	Work Study	2	1	0	3
PET 411	Oil Pollution and Control	1	1	0	2
EVT 405	Law for Environmental Mgt	1	1	0	2
PET 519	Petroleum Economics	2	1	0	3
AEC 503	Agricultural Policy	2	0	0	2

B. RAIN SEMESTER

CODE	TITLE	L	T	P	UNITS
PRT 502	Human Resources Mgt	2	0	0	2
PRT 504	Project Risk Mgt	2	0	0	2
PRT 506	Cost Estimation and Tendering	2	1	0	3
PRT 508	Entrepreneurial Development	3	0	0	3
PRT 500B	Research Project II	0	0	3	3
	ELECTIVES				5/6
					18/19

ELECTIVES: Choose any two as appropriate

CODE	TITLE	L	T	P	UNITS
CIE 504	Construction Technology	2	0	1	3
PET 518	Nigerian Oil Mining Law	2	1	0	3
EVT 528	Oil Spillage Mgt and Control	2	0	0	2
EVT 526	Modelling of the Environment	2	0	1	3
TRP 502	Transport Infrastructural Planning	2	1	0	3

MTH 101 – ELEMENTARY MATHEMATICS I (3,1,0)

Number system, indices, surds and logarithms, polynomials. Reminder and factor theorem. Polynomial equations. Rational function. Partial fractions. Fields, order fields. Inequalities. Mathematics induction. Permutations and combinations. Binominal theorem, sequences and series. The quadratic equation and function. Relation between the roots and the co-efficient. Complex numbers. Addition, subtraction, multiplication and division. Argand diagram. De-Moivre's theorem. N-th roots of complex number. Elementary properties of basis trigonometric functions. Addition formulae and basis identities. Sine and cosine formulae. Half angle formulae. Area of a triangle. Solution trigonometric equations. Inverse trigonometric functions. Function. Conception notation. Examples. Composition. Exponential and logarithmic functions. Graphs and properties. Limits Calculation from first principles. Techniques of differentiation. Chain rule / higher order derivatives. Extreme problems. Mean-value theorem. Applications. Indeterminate forms and L' Hospital's rule. Taylor and Maclaurin's series. Curve sketching. Integration as the reverse of differentiation, as area, as limit and integrals. Properties of definite integrals. Applications. Pre-requisite: Credit in O.L. Mathematics.

PHY 101 – GENERAL PHYSICS (2,1,1)

Mechanics; Space and Time. Units and Dimensions, Vectors, kinematics, Newton's law, Galilean invariance, Statics and Dynamics of particle, Universal Gravitation, work and potential Energy, Conservation of Energy and momentum, Rigid Bodies, Fluid mechanics. Thermal physics. Thermal properties including elementary thermodynamics and kinetics theory.

Pre-requisites: Credit at WASC/GCE ordinary level in Physics and mathematics and concurrent registration in MTH 101.

CHM 101 – GENERAL CHEMISTRY (2,1,1)

Atomic structure and the periodic classification of the elements, ionic and covalent bonding including the effect of dipole-dipole interaction on physical properties. Redox reactions and the concept of oxidation numbers, introduction to gas kinetics, introduction to nuclear chemistry. Solids and lattices structure, acid-base reaction, general principles of extraction of metals.

Pre-requisites: Credit at WASC/GCE O/L Chemistry.

BIO 101 – BIOLOGY FOR PHYSICAL SCIENCES (2,0,1)

Science methods and characteristics of living and non living things. Cell and tissue biology. Elements of biological chemistry and cellular metabolism. Taxonomy of living things, heredity and evolution. Elements of ecology and types of habitats.

ENG 101 – WORKSHOP PRACTICE (0,0,1)

General: Use of engineering measuring instruments, e.g. callipers, gauges, etc. introduction to hand tools, e.g. Practice in wood planners, saws sanders and pattern making, sampling and sizing techniques of raw materials.

Sheet-metal work: production of sheet metal products – layout, cutting and shaping, gas welding, soldering brazing, fastening and assembly.

Woodwork: Basic woodwork principles and tools – layout methods, cutting and evolution, finished products.

ENG 103 – ENGINEERING DRAWING I (0,0,1)

Introduction to the use of drawing / drafting instruments, Descriptive geometry and geometry construction. Drawing, measuring, lettering and dimensioning objects

in various position. Principles of orthographic projections in the first and third angle.

GST 101 – USE OF ENGLISH I (1,1,0)
Library orientation, study aids through dictionary practice, Vocabulary Development techniques, reading and comprehension techniques, listening and note-taking techniques-outlining and summarizing, dealing with examination question.

GST 103 – INTRODUCTION TO LOGIC & PHILOSOPHY (1,0,0)
Introduction to the humanities – definition and rationale. Role of literature in the humanities, aspects of the contemporary Africa novels, significant examples of Africa / Western poetry, dramatic art – role and relevance in modern Nigeria with practical demonstrations / performances. Role of philosophy on the humanities, man and his quest for selected concepts-freedom, responsibility, obligation, the "good life", art beauty, values-relative and not relative, inductive arguments and scientific reasoning. Exposure to African History – its role and relevance, African Art and music – its history and development, Religion and the life-past, present and future.

MTH 102 – ELEMENTARY MATHEMATICS II (3,1,0)
Transcendental functions. Hyperbolic function. Inverse functions. Logarithmic differentiation. Method of integration. Applications. Area and volumes. Centre of mass. Ordinary differential equations. First-order equations with variable separation. First order linear equation. Second order homogenous equation with constant coefficient. Applications. Plane analytic geometry. Rectangular Cartesian coordinates. Distance between

two points. The straight line. Loci. The circle. Parabola. Ellipse and hyperbola. Second degree curves. Plane polar coordinate system. Graph of polar equations. Plane areas in polar coordinates. Vectors. Vector addition and multiplication. Transpose. Determinants. Inverse of non-singular matrices. Cramer's rule and application to the solution of linear equation.

(Examples should be limited to m x n matrices where m, n) Transformation of the plane. Translation, reflection rotation, enlargement, shear. Composition of transformations. Invariant points and lines Pre-requisites: Credit O.L. Math.

PHY 102 – GENERAL PHYSICS II (2,1,1)

Electricity and Magnetism, electrostatics, conductors currents, dielectrics, Magnetic fields and induction, Macwell's equation, electromagnetic oscillations and waves. Geometrical optics, Geometrical methods applied to the optics of mirrors, lenses and prisms. Pre-requisites: Previous registration in PHY 101 and MTH 101.

CHM 102 – GENERAL CHEMISTRY II (2,1,1)

Physical and chemical equilibrium electro-chemistry kinetics. Survey of reactions of functional group in aliphatic and aromatic compounds. Concept of hydride bonds, alkynes reaction of carbon-carbon multiple bonds. Elimination and substitution reactions of alcohols and alkyl halides, Addition and elimination reaction in benezene, Hydroxyl groups and carbonbonl compounds, Organic acids, bases and derivatives. Pre-requisites; Credit at WASC/GCE/O/L Chemistry.

ENG 102 – WORKSHOP PRACTICE II (0,0,1)

Industrial safety, Behaviours analysis, safety consciousness, Survey of sources of common accidents, Accident prevention and control, Machine-shop work, Lathe work,

Instruction of metal working process, Shaping Milling, Grinding, Drilling and metal spinning etc. Design of simple jigs and fixtures, Automobile work, Simple automobile diagnosis and repairs, Electrical workshop practice, Convention and application of colors codes and signs, etc. Use of the electrical tools, machines, cables and conductors.

ENG 104 – ENGINGEERING DRAWING II (0,0,1)

Isometric projection. Freehand and guided sketching, sectioning conventional practice, Conic sections and development, methods of reading and reproducing drawings, graphs and charts. Interpretation of solids.

GST 102 – THE USE OF ENGLISH II (1,1,0)

Second Stage in library work with emphasis on effectives search techniques, paragraph development, essay writing principles and practices; term-paper writing; technical report; business letter; grammar and mechanics review, referencing and documentations.

GST 108 – POLITY & ECONOMY OF NIGERIA I (1,1,0)

Introduction: The nature and scope of politics and economics

Definition: Of basic concept in economics and political science.

Nigerian's public sector: The political setup in Nigerian. The civil service structure. Public investment and economic infrastructure. The economic role of government. Government expenditure and revenue, fiscal federalism and revenue allocation. Nigeria's private sector in the development process. The industrial sector and public investment in Nigeria. Human resources development and utilization in Nigeria, national development planning –

problems and prospects, aspects of economic and technological dualism, political and economic future of Nigeria.

A global perspective of economics. Economics systems and development of nation's economic. International trade and economic development. Balance of payment commercial policies of Nigeria and other developing countries. Economic integration, stage and structure of economics of ECOWAS countries. The ECA and Economic Co-operation in Africa. Foreign aid and investment. The multinational corporations, technological dependence. Global interdependence and the new International Economic Order. World economic crises – Energy and OPEC, food storage and armament.

GST 110 – SCIENCE, TECHNOLOGY AND SOCIETY (1,0,0)

The scientific, Evolution of man – science and need for science, history of science, classification, modern scientific methods.

Science and mans' environment – Terrestrial and cosmic life, harnessing science – climate and vegetation. Production, processing conservation, distribution.

Energy Resources – Solar, thermal, nuclear energy – fossil fuels, estimates of energy reserves in Nigerian Key Revolution in Technology – technology, electronics and computer technology in the national economy, Education for Technology – pasty. Present and future. Construction in the utilization of New Technology products – reliability, quatity control, cost effectiveness, politics and environment, effects of mechanization, consumerism, social implications of scientific Advances – science in the civilization of man, science and culture: Society – social of

scientific advance e.g. population explosion, environmental pollution. Social implications of Technological Research and Advance – e.g. displacement of man by machines, space travel, threat of nuclear and neutron war, genetic research, energy crisis, ethics in technology – ethics, professionalism, legal aspecs.

MTH 201 – MATHEMATICAL METHODS I ((2,1,0)

Functions of two or more variables. Limits and continuity. Partial derivatives, directional derivatives, tangent plane and normal lime. Gradient. Chain rule. Total differentiation. Implicit functions. Jacobeans. Inverse functions. Maxima and minima. Lagrange multipliers. Higher order derivatives. The Laplacian. Second derivative test for maxima and minima. Exact differentials. Derivative of intergrals. Taylor's theorem. Multiple integrals. Calculations of areas, volumes centres of mass moments of inertia etc. infinite sequences and series. Tests for convergence. Absolute and conditional convergence. Power series.

MTH 211 – INTRODUCTION TO STATISTICS AND PROBABILITY (2,1,0)

Frequency distributions, measures of location and dispersion in simple and grouped data. Laws of probability. The binomial Poisson and normal distributions. Estimation and tests of hypothesis. Assembly drawing of engineering system models. Preparation of parts and a given assembly. Pre-requisites: ENG 103, ENG 104.

CSC 201 – COMPUTER AND APPLICATIONS I (2,1,1)

Brief history of Computer and Computer Generation. Classifications of computers. Structure of a general-purpose computer. Number systems. The stored program.

Technique of problem solving. Flow-charting. Stepwise refinement. Algorithm for searching sorting and merging of ordered lists. Date preparation. I/O Devices. Data type. Data representation. Data capture. Problem-oriented languages. BASIC and FORTRAN programming: arithmetic expressions, assignment statement, I/O commands, logical expression, arrays, sequencing, alternation and iteration, subprogrammes and parameters. Elementary Numerical Algorithms. Pre-requisites MATH 101 MATH 102.

ENG 201 – WORKSHOP PRACTICE III (0,0,1)
Foundry: sand testing, missing of sands, preparation of moulds. Pattern making-solid, split sweep pattern, hoisting gates and rises, Melting and pouring of metals. Detection of defects.

Welding: manual are welding – butt, T-joints, edge preparation, surface cladding argon are welding, CO MIG welding, SA.

ENG 203 – ENGINEERING DRAWING I I I (0,0,1)
Pre-requisites: ENG 103, ENG 104
Tolerance: Allowances and clearance between matting parts. Different types of fits, Machining symbols including welding symbols. Detailed assembly drawing of machine components for engineering and technology. Assembly drawing of engineering system models. Preparation of drawing of parts and a given assembly. Preparation of pictoral and exploded views of assembly.

ENG 205 – INTRODUCTION TO ENGINEERING MATERIALS (2,1,1)
Pre-requisite: CHM 102, PHY 102
Atomic structure, molecular structure, classification of engineering materials – metals, ceramics, polymers, etc.

Metals: Extraction of metals, iron and steel making, aluminum smelting and extraction and non-ferrous metals e.g. tin.

Application and limitations of pure metals.

Crystal structures: Lattice unit, bravais lattice, symmetry, lattice planes and directions, miller indices, interplaner spacing, packing of spheres, simple cubic, body-centred cubic, face-centred cubic and hexagonal packing.

Interstitial Sites: Sizes and distribution. Imperfections in crystal, surface and boundary defects, vacancies and interstitial. Dislocation twinning. Phase diagrams and alloy theory, heat treatment of carbon steels, Precipitation hardening. Non-ferrous engineering alloys, processing methods.

Mechanical Properties of materials: plastic deformation of a single crystal, stain hardening, stress-strain curves. Creep, toughness and resilience hardness. Principles of mechanical testing, impact, tensile, hardness, fatigue, creep and non-destructive tests, mechanism of fracture ductile brittle transition, fatigue, electrical, optical and magnetic properties of metal. Conduction and carriers, conductivity in metals, semi-conductors and insulators hall effect, magnetic circuit and magneti properties. Emission, absorption, reflection, transmission and refraction.

Non-metallic materials: ceramics – structure, properties, processing and applications. Plastics related products, dispersion strengthened composite, fibre-feinforced composites. Wood – softwood, hardwood, structures. Nigerian timbers- strength, properties and tests Environmental stability of material: corrosion – types of corrosion and corrosion control. Thermal degradation of polymers, dissolution and swilling, radiation damage.

Laboratory
Loading modes in tension compression, torsion and bending. Hardness measurement, stress-strain curves.

Ductile and brittle behaviour.
Communication, sizing and compaction of powders.

ECN 201 – ECONOMICS I (2,1,0)
Nature of paradigms in the social sciences Abstract models and models and socio-economic change. The nature and method of Economic system. Supply, Demand and Elasticity. The cost of production. Price and output determination under pure competition, monopoly, monopolistic competition and oligopoly. Demand for economic resources, wages, rents, interests and profit determination. Unionism. Current economic problems the social control of industry, the farm problem, rural to urban migration, the economics of income distribution, the economic of war and defense.

GST 201 – NIGERIA AND AFRICAN CULTURAL DEVELOPMENT II (1,0,0)
Concept and meaning of development, traditional Africa – its geographical and ethnographical review, its family structure, kinship system etc, socio-economic preoccupations, political systems, art and music, modes of communication in art and aesthetics, nationalism and cultural revival, mass media and national development.

MGT 202 – PRINCIPLES OF MANAGEMENT (3,0,0)
Evolution management thought and practice, different schools of management thought, Management function and processes, Organisational management, classical and Neo classical theories, Contemporary Organisation Theories, management by objective.

MGT 204 – BASIC ACCOUNTING (2,1,0)
Book-keeping, preparation of ledger accounting, trial balance, profit and loss account, income and expenditure

account and sheet, Analysis and interpretation of various financial and accounting statements, cost accounting, fixed and various costs, structural costs, Techniques for cost estimation and control, Management accounting, Profitability planning and measurement.

MGT 206 – INDUSTRIAL PSYCHOLOGY (2,1,0)

Nature and scope of industrial psychology, psychology of human development and personality, social psychology, working in groups, group dynamics and effectiveness, work integration, social skills in supervision and management community and national behaviour, psychology and socio-technical systems, selection and training procedures.

ECN 202 – ECONOMICS II (2,1,0)

National income accounting: Various definitions and measurements of invome and output. The circular flow of income, the business cycle – unemployment and inflation. The consumption function, savings and investment, Change in equilibrium level of net national product and the multiplier, The acceleration principle, the making system – the supply and demand for money, deflation, elements of international economics and balance of payment, introduction to population economics, economics growth and development, The origin of under development and dependency.

CSC 202 – COMPUTERS AND APPLICATION II (1,1,1)

Fortran dialects, Features of Fortran IV Further FORTRAN IV programming – double precision arithmetic, complex number computation, logical, if statements, external statements, coding parameter technique, string processing, File Linear list, stacks, queues, deques, Linked list and three basic computer architecture, Assembly language, Loaders, operating systems, PASCAL programming.

ENG 206 ENGINEERING WORKSHOP IV (0,0,1)

Manufacture of simple engineering/technology products to specifications using machining, foundry, welding and woodworking technologies. Inspection and testing of the manufactured products for accuracy using appropriate equipment and methods.

ENG 213 & 224 – ENGINEERING MECHANICS I & II (101)

PRE-REQUISITES: MTH 101, MTH 102, PHY 101.
STATICS of particles and rigid bodies in a plane: analysis of forces; distributed forces, flexible cables, friction –static and dynamic.

Areas, centroids, masses, centres of gravity of structures; internal forces, Newton's third law, shearing, moments, trusses and frames. Newtonian principles of dynamics of particles and rigid bodies applied to one-dimensional and two-dimensional motions:

Kinematics and kinematics of partcles and riged body motions; cethods of impulse and relative motion concepts. Laboratory.

PRT 301: INTRODUCTION TO PROJECT MANAGEMENT (2,1,0,)

The nature of project Management: Choice of product/ Services; Market Research; Production Planning and Development; Choice of Technology; Technical Feasibility Assessment; Economic Analysis; Financial Feasibility Assessment; Evaluation of Infrastructural Facilities. Site selection; Social Cost/Benefit Analysis; Project Finance; Sources and Cost of Capital.

PRT 305: INDUSTRIAL LOCATIONS (2,1,0)

The approach to industrial location; plant location in context of industrial location; location factors; spatial economic analysis; Approach to theory; Critique and reform. The variable cost model; demand and time dimensions; operational models; Elements of Empirical analysis; Selected case studies; the impact of Industrial activity; The spatial strategy of industrial development; case studies in industrial development planning.

PRT 307: QUALITY MANAGEMENT & CONTROL (2,1,0)

Concepts of quality control; Objectives of quality control; consequences of quality control; Costs associated with quality control; Manufacture quality; Inspection of purchased materials / Wild 377 and parts; the economics of quality control.

Acceptance sampling; the design of single acceptance, sampling plans; Double and multiple sampling.

Control charts: Types of control charts; the use of the "Average outing quality limit" (AOQL) of a single sampling table, the use of the 'lot tolerance per cent defective' (LTPD).
Computers in quality control; dimension signals; The wait, Accept or reject signals.
People as inspectors; Item characteristic with a defined standard; Inspection of variables (i.e. measurement); Inspection of attributes (i.e. assessment).

PRT 309 – INTRODUCTION TO ELECTRICIAL TECHOLOGY (1,0,1)

Basic electrical engineering: Basic Concepts: Conductors and Insalators, Electrical Components, DC (Direct Current) Electrical Circuit; Ohm's Law; Series Resistances,

Resistances in Parallel; Voltage Divider Circuits; current Divider circuits Inductance and Capacitance Circuits. Energy and Power in DC circuits.

Network Theorems: Kirchloffs Current Law; Kircholoffs Voltage lens, Norton's Theorem.

DC Transients: Linear Differential Equations; Charging a Capacitor, Current in R-L-C circuits. Alternation Current. Alternating current (AC); Sinusodal Alternating, Circuits – Current; Resistance / Inductance in AC-Circuit; Power circuits.

Electronics: Semiconductor Physics; The P-N Junction, Rectifiers, Transistor Operation; Vacuum Tubes.
Magnetic Fields and Circuits: Magnetic Fields; Induced voltage (Faraday's Law), Energy stored in a magnetic Field.

Measurements: Indicating Instruments; Amneters, Voltmeters, Wheatstone bridge; AC bridge circuits.
Transformers: Basic Parts; Transformer Operation; Transformer test, Voltage regulation, Auto-transformers.

DC Generators and Motors

Three-phase circuits – Three-phase voltages and currents star connection, Measurement of power in 3-phase circuit, alternators, AC Motors. The practice in Nigeria.

Electrical installation: Generation and transmission of electricity; emergency power systems-megning types, uses, etc. Cables; wiring distributing and control equipment – transformers and converters. Electrical installation-design, planning and implementation; law/regulations and institutions. Installations-mains-power, lighting, electrical

appliance, earthing/lightening protection, other installations-security, sound, etc. for different types of constructions/facilities e.g for residential, industrial and other buildings/civil works.

FMT 305 – FINANCIAL ACCOUNTING (2,0,0,)
Pre-requisite: MGT 204
Managing short-term finance: working capital management, receivable management, Inventory management, cash management, sources of short-term and intermediate financing. Raising long-term funds, capital structure, common stock, fixed Income Securities, Term Loans, Internal Financing. Financial institutions in Nigeria and International financing institutions.

ENG 303 – STRENGTH OF MATERIALS I (1.1.1)
pre-requisite: ENG 222
Elementary concepts in two dimensional theory of elasticity – generalized Hook's law, equations of equilibrium, stain displacement and stress-strain relations, axial force, shear force and bending moments – simple bending theory, shear and moment diagrams, Torsion – combined torsion and bending. Stress – tansformation of stresses, moh,s circle. Deflection of beams, elementary buckling of columns.

Laboratory
Mechanical testing of members under axial, bening and torsional loads. Deformation and characteristics stress-strain curves-strength, ductility, brittleness.

ENG 315 PRINCIPLES OF ENGINEERING SURVEY (1,1,1,)
Introduction to branches of surveying, principles of Survey practice, survey methods, Uses of basic surveying

instruments e.g. Theodolite and levels. Lens, Measurement of distances, Angles, Compass and plane table. Bearings, theodolite traversing and computation. Adjustment of traverse leveling with Dumpy, Tilting and Automatic levels. Traverse computation, Area computation. Subsistence bar, Tacheometric survey. Topographic surveying. Introduction to National grids.

Laboratory
Adjustment of theodolite and levels. Traversing, leveling, computation and plotting. Service load conditions; Shear strength, Including Cracking and Shear reinforcement; Bonding, Stress and development of Reinforcement; Design of one-way slabs; T-Sections in Bending; Continuous Slab-beam-Girder and Concrete joist floor system; Monolithic Bean-to-column joints; Retaining walls; members in compression and Bending.

PRT 304: MATERIALS MANAGEMENT (2,1,0)
Materials Purchase Management; Organization of materials purchasing department; purchase procedures and records; purchase price.

Material Control; ABC Analysis; determination of stock levels re-order quantity.

Stores organization; types of organization, centralized stores, impress stores and decentralized stores; stores location and layout; classification and coding of materials.

Stores routine records; materials requisition control; receipts and issue of materials; stores material control records.

Perpetual inventory control system; Methods of valuing materials issue; materials ledger; methods of pricing materials issue; treatment of loss of materials in stores.

PRT 310 – PROJECT DESIGN & E. I.A. (2, 1, 0)

Scientific Design Methodology: An appreciation of the process of engineering design, and of systematic procedures and tools usable in the design process, with particular reference to mechanical systems and devices. Topics include systematic problem definition, search for possible solutions, statistical analysis of stress / strength interference. Experiment planning techniques, optimum design for minimum weight and cost, management of the design process.

Design Project: Students will be required to conduct a design project under supervision using the techniques presented above an taken at least to a workable layout drawing of the device. The design should involve simple mechanical systems (e.g. testing and assembling devices, heat drives, etc.) for a specified duty, analyse its operating conditions and after considering the design criteria, choose between potential solutions. Reports submitted by students should contain all calculations, a comparison of potential solutions, justification for the design finally chosen and instruction on detail design, manufacture, testing and use.

PRT 312 – CONSTRUCTION MATERIALS (2,1,0)

i)   Fundamentals of construction materials science, Classification and Requirement for materials and products. Properties of materials and products. Evaluation of quality.

ii)   Construction Materials and Products. Wood-General characteristics, Types of wood materials and product, Conversion, Defects and preservation seasoning, treatment.

iii)   Stone – Rocks and minerals – inner structure and properties. Quarrying, milling and surface finishing types and properties of natural stone

materials; maintenance / preservative treatments of stone.

iv) Structural Clay products – classification, Raw materials and manufacturing processes. Main structural clay products and their properties, Metals – structure and properties. Ferrous and non-ferrous metals – basic manufacturing processes, protection against corrosion and fire.

v) Material and products based on mineral binders; Mineral binders – types, properties and application; Mortars and concretes, reinforce and concrete products. Asbestos-cement and other man-made materials and products.

vi) Synthetic polymers, Synthetic resins and Resin-based materials. Polymeric building materials and products – basic types and properties polymeric-based composites.

vii) Glass, Plastics and Rubbers – Manufacture, types and properties. Uses.

viii) Adhesives and types – natural; synthetic, thermosetting, rubber-based properties, manufacture and uses. Joining materials – mortars, mastics and gaskets.

ix) Materials for External Works: landscaping; grassing; erosion Control/reclamation; roads and pavements; drainage.

PRT 308: MANAGEMENT INFORMATION SYSTEMS (2,0,1)

Introduction to information system in business. Fundamentals of information system solving business problem with information system. Overview of computer hardware, software, telecommunication and database management system analysis and design.

MIS Application in business and management - information system for business operation, management decision making and support and strategic advantage. Managing information technology enterprise.

MGT 304: MARKETING MANAGEMENT (2,1,0)
The role or marketing in today's organization
Tasks and philosophies of Marketing Management
The marketing system; Applications to Nigeria
The distribution structure: Physical distribution
Promotional strategy: Decisions; Brand strategy decisions
Pricing decisions and policies.

MGT 306: OPERATIONS RESEARCH I (2,1,0)
History of operation research (O.R). Phases of an O.R. project O.R. and its systems orientation. Linear programming model (Graphical only). Sensitivity analysis. Applications. Some variations of linear programming – The transportation model and the Assignment model. Flow-graph theory in general. Decision theory. Inventory control (Deterministic Case Only.)

MGT 312: TAXATION (2, 1, 0)
The fiscal systems; tax principles and concepts; tax incidence; income taxation; taxable income, tax relief, tax loopholes, personal income taxation, partnership, corporate taxation capital gains tax, the petroleum profits tax; capital transfer tax; excise tax.

MGT 403: OPERATIONS RESEARCH II (2,1,0)
Simplex method of linear programming, Principles of the simplex method, Duality theory and its applications, Non-linear Programming-lagrangian multipliers and Equality-Constrained problems, Kuhn-Tucker conditions.

Applications Decision Networks - application, replacement problems etc. Introduction to waiting line (Question models); Arrival time Distributions, Service Time Distributions, The Basic waiting line model, Multiple Channel Models; Applications Simulation - Simulation of stochastic processes (Monte Carlo); Applications Markov chains-Markov systems, n-step Transition probabilities; Classification of Finite Markov Chains; Some applications.

MGT 401 – INDUSTRIAL ECONOMICS (2, 0, 0)

1) The Scope and method of Industrial Economics.
2) The theory of the firm
3) Industrial Market structure
4) Market structure – Conduct and performance
5) Business pricing practice.
6) Economics of Vertical Integration
7) Merges and Acquisitions.
8) Diversification
9) Multinational Corporations.
10) Industrial Economics and government.

MGT 405: TECHNICAL REPORT WRITING (1,1,0)

Introduction to principles of effective communication, principles of technical writing organization and presentation of technical reports, feasibility studies, technical proposals, technical description and instructions, technical correspondence, oral presentation of technical ideas, technical aids in presentation, Practical application

PRT 405: RESEARCH METHODOLOGY (1, 1, 0)

The following topics should be covered: Definition of research, scope of research, characteristics of research, how to select research topics, planning for research, methods of data collection; instruments used in collecting

information; sampling procedures, research design and the nature of the research. Methods of analyzing data and hypothesis testing; illustrative examples. Guidelines for writing the research report proposal and format for the completion project.

PRT 407: PROJECT PLANNING & CONTROL (2,1,0)

The project concept and project idea formulation; Scope of project evaluation; Project location and Exhaustive cost analysis; Break-down of project cost and investment expenditures. Types of benefits and benefit analysis; Profitability analysis; Simple rate of return method, pay-back period method; net present value method and internal rate of return; Financial analysis; Social consideration and assessment of success factors; Disaggregated planning; Project in the context of Development Planning; Cost benefit analysis of projects; Programming Project execution; applications of Critical path method (CPM) and Projects; Project control.

PRT 409: SYSTEMS ENGINEERING (2,1,0)

Meaning of a system; Systems concept; static and Dynamic system, Feed-back.

System behaviour and representation; mathematical description of Physical variables; system decomposition, system graphs and diagrams.

Formulation of system models; the state space approach; Non engineering and engineering systems.
Solution of system models; time domain solutions, model solution by Transformation.

Systems design; concepts of control and optimization, Computer applications in systems design and simulation.

PRT 411:   STRATEGIC MANAGEMENT (2,0,0)

Overview of strategic management, evolution concepts and processes. Purposes of strategic management and its relationship with business planning. Methods of future planning including the role of information technology; SWOT (Strength, Weaknesses, Opportunities and Threats) analysis and evaluation. Competitive advantages – its meaning in different markets and industries of nations and the implication for organization success; approaches of competitive advantage used by organizations and management of other countries and lessons for Nigeria. Strategies formulation, implementation and evaluation. The future for nations, organizations and workforce (including management). Forecasting trends and developments using qualitative and quantitative methods.

PRT 413 – MAINTENACE MANAGEMENT (2,0,0)

Concepts and importance of maintenance: Definitions, Causes of defects/failures/malfunctions in the built environment and machines, maintenance needs, resources for maintenance, maintenance manuals/equipment, etc.
Types/Nature of Maintenance: Maintenance systems – planned, unplanned, ad-hoc, etc.
Alterations and improvements.
Maintenance Economics: Specifications, measurements, measurement and pricing of maintenance work, cost-in-use, life-cycle cost.
Planning and financing of Maintenance Work: Maintenance management – contract and direct labour, organization, maintenance contracts and agreements, quantitative technique in maintenance management.
Repairs: Repairs, Replacement policies.

PRT 501: MANAGEMENT ACCOUNTING (2,0,0)

Cost accounting framework; Overhead cost; Cost systems; Budgetary control and Standard cost system; Method of cost analysis such as linear programming and other mathematical models.

MGT 503: OPERATIONS MANAGEMENT (2,1,0)

Foundations of production/operations management (POM). Production process design and management. Facility location and layout. Modern tools and machinery of production/operations. Standards definition. Line balancing. Automation. Production scheduling and control. Work methods. Work measurements. Maintenance of tools and equipment. Total quality management. Quality control. Quality control deployment (QCD). Inventory control. Project planning Material resource planning. Location theories and models. Production engineering. Engineering economics. Production/operations management decision –making (Make–or-buy decisions). Decision support systems in production/operations management. Quantitative methods for production/operation management.

PRT 505: COMPUTER-BASED PROJECT MANAGEMENT (2,0,1)

The application of computers to the solution of project management problems; Advance Network analysis.

PRT 513: CONTRACT LAW AND ADMIN (2,0,0)

Contract Law and its development; Courts and remedies; General Survey of Decree 51 known a Companies Act 1968; and as amended Incorporation of companies and Incidental matters; Law of contracts; Sales and Right of parties; Corporations - Characteristics; Organization and Dissolution; Security devices. Types and sources of capital for project financing; Models for Investment decision making; Cost of capital; Purchase vs leasing; Sales lease back vs. Hire Purchase; Project Appraisal and performance evaluation; Replacement strategies; Nature of contract management; Stage by stage evaluation; CPM application to ensure early execution of contract; Problems of contractor financed capital projects.

PRT 502: HUMAN RESOURCES MANAGEMENT (2,0,0)

Human behaviour; Perception, learning and Motivation; Theories of personality; Attitude Formation, Group Dynamics; Factors Affecting Group Performance; Group Decision making and Conflict Resolution; Informal Groups, Leadership styles and their Effect on performance, Strategies for Organizational Development and Growth.

PRT 504: PROJECT RISK MANAGEMENT (2,0,0)

Risk management overview: Definition of risk; tolerance for risk; Definition of management; Certainty; risk and uncertainly; Risk management methodology; Risk identification; Risk quantification; Risk response control; Estimating high risk projects; The Monte - Carlo process; Risk management assessment.

PRT 506: COST ESTIMATION AND TENDERING (2, 1, 0)

Tendering: Legal interpretation as an offer, purpose of tendering; forms of tender – bill of quantities / materials; schedules of rates; types of tender – standing offer; simple offer; tendering and contract formation.

Procurement and Contract choices:- Procurement methods; standard forms of contract; contract terms / clauses; roles and obligations of parties.

Tendering arrangements: Open, selective (single and double stage), negotiated, serial, package deal design and build, BOT, DBOT, etc); tendering procedure; tender documents – purpose / use, content, etc.

Cost estimation estimating as formulation of a bids; elements of cost – plant, labour, material, etc; standard methods measurement of quantities; pricing bills of quantities / materials and specifications; bill of approximate quantities; role quantity surveyor/cost engineer in tendering and tender analysis/reporting; Activity-based costing (ABC) and other approaches; lifecycle costing.

PRT 508: ENTREPRENEURAL DEVELOPMENT (3, 0, 0)

The following areas are covered: meaning of entrepreneurship; Entrepreneurship vs Management; Importance of entrepreneurship; Benefits of entrepreneurship; Environmental variables that favour

entrepreneurship; Psychological and sociological factors that favour an entrepreneur; Entrepreneurical process; Distinctive competences; Strategic planning; Entrepreneurical organizations; Barriers to entrepreneurship; Nurturing the entrepreneurical spirit; Ideas identification and venture opportunities; Government regulations.

PRT 500 A & B: RESEARCH PROJECT (0, 0, 6)

This is a research work carried out by each student in any specific problem area in project Management Technology. The essence is to find solutions to existing or potential problem areas in the execution of projects. It is expected that students submit proposals on their areas of interest by the end of their fourth year in order to enable them start work in the harmattan semester of their fifth year. The final work would be defended towards the end of the rain semester of the fifth year.