

# **B.Tech. (Agricultural Information Technology)**

*Spearheading Communication Revolution in Agriculture*

Information Technology Services in India, as we know it today, represents the major share of IT exports. Indian IT services is growing at the annual growth rate of 29 % and it is estimated to reach over 300 billion USD by 2012 and it is expected that it would overtake commodity exports. Though a zillion of institutes are offering IT courses, this is the only program designed for Applied Information Technology.

## **Career opportunities**

More IT careers are available than there are qualified people in the service sector. The shortage will be greatest for Land use planners, landscape ecologists, IT managers, eCommerce system designers, agricultural ERP specialists- the critical careers that our program focuses on.

- IT Services Facility Manager
- Biological Database Designer
- eLearning Specialist
- Commodity Trader
- ERP systems Manager
- Farm/Plantation Manager
- ECommerce Portal Manager
- Financial Analyst
- Supply chain Manager
- BPO Services Manager
- Crop Insurance Manager
- e-Governance Portal Designer

## *System of Active Learning*

- Professional IT executives as visiting faculty
- Individual and group projects encouraged to gain competencies.
- Internship opportunities to provide with job experience
- Blended eLearning with classroom learning

**Core Courses - 45 Credits Max (15 Courses - 1 to 8 compulsory)**

- 1. AIT101 Fundamentals of computers, Operating systems 2+1**
- 2. AIT Design and Analysis of Algorithms and Data Structures 2+1**
- 3. AIT Computer Organization and Architecture 2+1**
- 4. STA/MAT Probability and Information Systems 2+1**
- 5. AIT Compiler Design and Programming Languages 2+1**
- 6. AIT Introduction to Database Systems and Design 2+1**
- 7. AIT Operations Research 2+1**
- 8. ARM Project Management for Information Systems 2+1**

AIT Communications Theory 3+0

AIT Parallel Processing, Supercomputing and Applications 2+1

AIT Computer Graphics, 3D Modeling and Visualization and Applications 2+1

AIT CAD and Multimedia Technology 2+1

AIT Applications of RFID and WI-FI Technology 2+1

AIT Applications of Global Positioning Systems in Agriculture 2+1

AIT GIS in Agriculture 2+1

AIT Remotesensing of Natural Resources 2+1

AIT CAD and Landscaping 2+1

**Supporting Courses - 35 Credits Max. (12-13 courses)**

AGR191 Orientation to Agricultural Systems 1+1

AGR Crop and Soil Management 2+1

PBG Principles of Genetics 2+1

ABT Introduction to Biotechnology 2+1

HOR Greenhouse Production technology 2+1

HOR Landscape Ecology (HOR/ENS) 2+1

AEC Introduction to Microeconomics 1+1

AEC Introduction to Macroeconomics 2+1

AEC Econometrics 2+1

ARM Supply chain Management 2+1

ARM eCommerce and Retailing Entrepreneurship 2+1

ARM Commodity Marketing 2+1

ARM Enterprise Resource Planning 2+1

ENS/ARM Environment Management 2+1

HOR/ARM Plantation Management 1+1

AEC Modeling, Simulation & Forecasting (MAT/AEC) 2+1

TAU Fundamentals and Applications of Nanotechnology 1+1

**Professional Electives - 20 Credits ( 7 courses - 4 groups)**

***ANY ONE of the FOUR Electives has to be chosen***

**I. Weather Forecasting, Climate and Crop Modeling**

<b>Sl. No.</b>	<b>Code No.</b>	<b>Title</b>	<b>Credit hours</b>
1.	AIT	Atmospheric Science	2+1
2.	AIT	FORTRAN Programming	1+2
3.	AIT	HPC Clusters and Parallel Computing for simulations	1+2
4.	AIT	FORTRAN programming for parallel computing	1+2
5.	AIT	MM5 Forecasting model	1+2
6.	AIT	WRF Forecasting Model	1+2
7.	AIT	WRF- NMM Forecasting nesting model	0+2
		<b>Total</b>	<b>20</b>

**II. Design and Management of Portals**

1.	AIT	Design and Management of Web Portals	2+1
2.	AIT	Programming for web portals – PHP, JAVA	0+2
3.	AIT	Agricultural Information Portals management	1+2
4.	AIT	Designing portals for e-governance	1+2
5.	AIT	Designing IVR systems and call center management	1+2
6.	AIT	Open Science Data bases and DBMS for Portals	1+2
7.	AIT	e-commerce portal Design	1+2
		<b>Total</b>	<b>20</b>

### III. Knowledge Management and eLearning

1.	AIT	Knowledge Resources and eLearning systems	2+1
2.	AIT	Knowledge process out sourcing (KPO)	1+1
3.	AIT	Progressing for knowledge repository - PHP, JAVA, MYSQL, Flash, Dreamweaver	1+2
4.	AIT	Designing Knowledge Repository	1+2
5.	AIT	Designing eLearning portal	1+2
6.	AIT	Knowledge Discovery and call center management	1+2
7.	AIT	Designing and programming LMS (Learning Management system)	1+2
		<b>Total</b>	<b>20</b>

### IV. Data Mining (DMM) and Knowledge Discovery (KDD)

1.	AIT	Open Source Data Bases and KDD (Knowledge Discovery Databases)	2+1
2.	AIT	SAS Programming – I	1+2
3.	AIT	SAS Programming – II	0+2
4.	AIT	SPSS, MATLAB and Knowledge Discovery	1+2
5.	AIT	Drug Discovery Informatics	1+2
6.	AIT	JAVA Data Mining	1+2
7.	AIT	Oracle Data mining	1+2
		<b>Total</b>	<b>20</b>

### Maths and Physics - 15 Credits ( 5 Courses)

MAT College Algebra 2+1

MAT Calculus - Functions of variables & vector calculus 2+1

STA Statistical Methods 2+1

PHY Engineering Physics 2+1

PHY Basic Electronics & Instrumentation Technology 2+1

**University Requirements - 20 credits ( 11 courses)**

COM101 Introduction to Computer Technology and Programming Languages (Off-class mode)	0+2
LAN Soft Skills (Off-class mode)	0+1
LAN English Speaking and Writing Skills (Off-class mode)	0+2
PED Physical Education	0+1
NCC / NSS	0+1
TAU Educational Tour	0+1
AIT3.. Seminar 1 ( 3rd year)	0+1
AIT4.. Seminar 2 ( 4th year)	0+2
AIT3.. Project 1 ( 3r year - group)	0+1
AIT4.. Project 2 ( 4th year - individual)	0+2
AIT4.. Internship ( instead of RAWWE)	0+6

**Total Number of Courses : 50 or 51 / 135 Credits**

**Abstract of Credit Distribution**

Details	Credits	Courses
<b><u>Core Courses</u></b>	45 (33%)	15
<b><u>Supporting Courses</u></b>	35 (26%)	12 to 13
<b><u>Professional Electives</u></b>	20 (15%)	7
<b><u>Maths and Physics</u></b>	15 (11%)	5
<b><u>University Requirements</u></b>	20 (15%)	11
<b>Total</b>	<b>135</b>	<b>50 or 51*</b>

\* 11 Courses offered **Off-Class**