Dated: 11th April, 2012

To,

Sub: Response to Information Technology diploma programme questionnaire.

Dear friend,

Gujarat Technological University is re-designing the curricula of its diploma engineering programmes to match with the needs of the industries. For this purpose, we have collaborated with National Institute of Technical Teachers' Training and Research Bhopal (NITTTR Bhopal) who have the expertise in developing the curricula for technical educational programmes at national level.

It has been decided by NITTTR Bhopal and GTU to design the curricula on the outcome/competency-based approach so that pass outs are not only theoretically knowledgeable, but are also able to perform well in the industry at the time of joining the industry from the polytechnic system. Once this curriculum is developed it would guide efforts of teachers and students to achieve the identified competencies.

For development of such a scientific curriculum, identification of the competencies to meet the requirements of the industry is the first step.

For the project, this questionnaire is jointly developed by GTU and NITTTR, which is designed to identify the entry-level competencies expected of **Information Technology** diploma holders required to perform their jobs independently in an industry to avoid the present long-term training given to freshly recruited engineering diploma holders.

We would be thankful if the person, who is actually taking work from the **Information Technology** Diploma passouts, responds to this questionnaire. Your response is voluntary and would be used only for academic purposes and would not be shared with any other agency. Only the collated responses of all the industries would be used for decision making.

Thank you very much for your valuable responses.

Yours sincerely,

Dr. Akshai Aggarwal

<p style="text-align:center">**Curriculum Development Project**</p>

<p style="text-align:center">**Identification of Competencies Required of**</p>

<p style="text-align:center">**Information Technology Diploma Holders**</p>

<u>Terms of Reference for this Project</u>

'Competency' is what you expect a fresh engineering diploma holder to do at the entry level, i.e. *'a statement which describes the integrated demonstration of a cluster of related skills and attitudes that are observable and measurable necessary to perform a **job** independently at the workplace, at a prescribed proficiency level'*.

While a *'job'* is that which you will call upon your engineering diploma holder to do i.e. *'a complete activity having a definite beginning point and an ending point, which can be performed over a short period of time independent of other works resulting in a product, service or decision'*.

The *'prescribed proficiency level'* is the *'threshold level'* at the end of three years of study at the polytechnic.

With these *terms of reference* in the background, your opinion of the competencies concerning a **fresh** engineering diploma passouts are listed here. Against each, you are required to **state your opinion** by ticking (√) in the most appropriate box in the enclosed **one sheet** questionnaire.

Name of the Industry…………………………………………..
Main Product**……………………………………………………………..**
Address of the industry **………………………………………………..**
………………………………………………..
………………………………………………...

Approximate number of engineering diploma holders employed in your industry:
   a) Computer/IT Engineering Diploma Holders   ………..Nos.
   b) Electrical Engineering Diploma Holders   ………..Nos.
   c) Mechanical Engineering Diploma Holders   ………..Nos.
   d) Electronics Engineering Diploma Holders   ………..Nos.
   e) Instrumentation Engineering Diploma Holders   ………..Nos.
   f) Civil Engineering Diploma Holders   ………..Nos.
   g) Chemical Engineering Diploma Holders   ………..Nos.
   h) Automobile Engineering Diploma Holders   ………..Nos.

Table – 1

Preferably this questionnaire needs to be filled up by *those who take work* from *Information Technology diploma holders*

	TECHNICAL COMPETENCIES ▪ *Essential* means it is core competency and used frequently ▪ *Not applicable* means not required in your industry at all.	*Essen tial*	*Desira ble*	*Rarely used*	*Not appli cable*
	The Students will be able to:				
	Office Automation Software				
C1	Develop professional documents using MS-Word.				
C2	Analyse data and graphically represent it using MS-Excel.				
C3	Prepare professional presentations using MS-Power Point.				
C4	Install, Configure and manage outlook Express software for managing email.				
C5	Work with Internet technology.				
	Programing Languages				
C6	Develop Programs using C Language.				
C7	Develop a sample application using object oriented features of C++.				
C8	Develop a Java Applications using Abstract Window Toolkit (AWT) & Java Applets.				
	TECHNICAL COMPETENCIES ▪ *Essential* means it is core competency and used frequently ▪ *Not applicable* means not required in your industry at all.	*Essen tial*	*Desira ble*	*Rarely used*	*Not applic able*

C9	Develop an application using Visual Basic as front end tool and backend database connectivity.				
C10	Develop Programs using Computer Graphics Algorithms.				

Database Management System

C11	Develop programs for stack, queue, linked list, tree, graphs, and sorting, searching etc. algorithms.				
C12	Establish Database relationship and execute queries to Manage the Database using Structured Query Language (SQL) with Oracle.				

Web Technologies

C13	Create static web pages using HTML tags.				
C14	Develop a web application using Database Connectivity. -Develop a Visual Basic Application With Oracle Database Connectivity.				
C15	Develop Dynamic Web Application using Active Server Page (ASP) and Extensive Markup Language (XML) Technology.				
C16	Develop a VisualBasic.NET Application with ADO.net.				

Network Communication

C17	Comprehend the Concepts of data Communication and Computer Networks.				
C18	Comprehend the various Wireless Technologies for data Communication.				
C19	Comprehend the various Mobile Computing Technologies.				
C20	Develop Mobile based Application				
C21	Install, Configure, administer, manage Computer Networks using Window and Linux Operating Systems.				
C22	Troubleshoot and Maintain Computer Networks.				

Operating System & Computer Hardware

C23	Test the working of different digital building blocks.				
C24	Carry out Test on various combinational circuits				
C25	Comprehend the Logical Architecture of Computer. Implement Micro Control Programs.				
C26	Analyze and procure computing requirement.				
C27	Install, configure, manage and maintain computing hardware.				
C28	Comprehend, Implement various Data Security Algorithms and set firewall.				
	TECHNICAL COMPETENCIES ▪ *Essential* means it is core competency and used frequently ▪ *Not applicable* means not required in your industry at all.	*Essential*	*Desirable*	*Rarely used*	*Not applicable*
C29	Comprehend the Management Function of Operating System.				
C30	Develop a Sample Shell Script in Unix.				

	Project Execution & Enterprise Resource Planning (ERP)				
C31	Apply the Concepts of Software Engineering to Implement a Software Project.				
C32	Identify Design, Develop and Execute an Industry Related project.				
C33	Prepare project report.				
C34	Use Enterprise Resource Planning (ERP) software for an organization.				
	Any Other (Please Specify)				
C35					
C36					
C36					
C37					
C38					
C39					

Table – 2

Some generic *competencies* required by a diploma holder in Information Technology are also listed below. Kindly rate them by placing a tick in the appropriate column.

	GENERIC COMPETENCIES ▪ *Essential* means it is core competency and used frequently ▪ *Not applicable* means not required in your industry at all.	Esse ntial	Desi rable	Rarel y used	Not appli cabl e
	The Student will be able to:				
G1	Communicate effectively in English in oral and written form with superiors, subordinates and peers				
G2	Manage people at work				
G3	Work as a group leader & as a team member to achieve goals				
G4	Lead group discussions and meetings independently				
G5	Creatively think and apply innovative skills in problem solving				
G6	Take Critical and logical decisions				
G7	Prepare detailed project proposals and reports				
G8	Prepare tender documents & comparative statements				
G9	Use all resources like media, market survey, technical literature etc. to gather information for taking decisions				
G10	Adapt according to the market trends				
G11	Apply basic science skills				
	Any other (Please specify)				
G12					
G13					
G14					
G15					
G16					

State the job functions of engineering diploma holders(Information Technology) in the initial five years after joining your organization from the polytechnic.

1.……………………………………..   7. ……………………………………..
2. ……………………………………..   8. ……………………………………..
3. ……………………………………..   9. ……………………………………..
4. ……………………………………..   10. ……………………………………..
5. ……………………………………..   11. ……………………………………..
6. ……………………………………..   12. ……………………………………..

Table – 3

List the major Information Technology equipment used in your industry.

Sr. No.	Name of the equipment/Instrument	Broad type/rating/specifications
1		
2		
3		
4		
5		
6		
7		

Table – 4

State the career growth opportunity for an average engineering diploma holder in Information Technology.

Designation	*Example:* Junior Engineer (or Technician)					
Years of Experience required to reach the position	at Entry Level	After 3 years	After 6 years	After 10 years	After 15 years	After 20 years

Do you think that industrial training must be provided to the students as an integral part of the curriculum?   Yes / No.

a) If yes, for how many months?   One/ Two/ Three/ Six Months...

b) If yes, in which semester/s the industrial practical training need to be included?

Signature:……………………………..

Name & Designation of person responding:…………………………………………..

Phone:

Mobile:

Email:

Thank you very much for your valuable responses.

<div align="right">

Dr. Akshai Aggarwal
Vice Chancellor
Gujarat Technological University

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