

*PC-II*

**Feasibility Study of Establishment of University of  
Technology, Rawalpindi**

*ADP 2021-22 (GS No. 6712)*

**Total Cost: Rs. 21.000 Million**

**Duration: 05 Months**



***Industries, Commerce, Investment & Skills Development (ICI&SD)  
Department,  
Government of the Punjab***

Submitted on: August, 2021

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**PC-II**

1	<b>Name of Project</b>	Feasibility Study of Establishment of University of Technology, Rawalpindi
2	<b>Administrative Authorities responsible for:</b> <b>i. Sponsoring</b>  <b>ii. Execution</b>	Industries, Commerce, Investment & Skills Development Department (ICI&SDD), Lahore  Industries, Commerce, Investment & Skills Development Department (ICI&SDD), Lahore
3	<b>General Description and Justification</b>	<b>i. General Description of the Project</b>  The unhindered progress and prosperity of any country rest with sustainability in the growth and development of skilled workforce in different sectors of economy. Pakistan is currently among the countries with the highest youth population in the world, and Punjab being the most populous province in the country, needs special planning in terms of Higher Technical Education, so that the potential of youth population can be utilized efficiently and effectively for their employability, industrial growth, social uplift and holistic economic development of the country.  Recognizing the central role of skills development in achieving sustainable socio-economic development, maintaining global competitiveness and responding timely to changes in technology and work patterns, the Government of Punjab has committed to a major reform of its system of Technical Education and Vocational Training. Punjab has a predominantly young population with 57% of its population under the age of 24 years (“Census-2017”, Pakistan Bureau of Statistics), which is certainly a favorable situation as the workforce is available readily, provided enough

productive jobs or economic engagements could be provided to the youth entering the labor force. However, it is notable that a large number of youth in Punjab are unemployed and uneducated / unskilled, who are not getting absorbed in productive activities. The province currently has an estimated 11.5 million unengaged youth who are neither in employment nor in education or training. These also include a large number of over-aged out of school children in the province. With rising inflation and somber economic outlook created due to COVID-19 outbreak, the potential of this uneducated/unskilled and unemployed youth getting disenchanted is even higher and this can result in serious social consequences for the province. The Government has always stood for the youth of Pakistan and strongly believes that a substantial solution to our current socio-economic conditions lies in empowering our youth to become productive part of the economy.

In line with Punjab Growth Strategy 2023, Industries Commerce Investment & Skills Development Department has successfully established three technical universities in Punjab to impart technical skills to youth in order to provide employment opportunities and to develop a workforce for local & international market, viz:

- i. Punjab Tianjin University of Technology, Lahore
- ii. Punjab University of Technology Rasul, M.B Din
- iii. Mir Chakar Khan Rind University of Technology D.G Khan

The unavailability of trained workers, shortage of the requisite skills and scarcity of trainings on modern technology has resulted in rise

of unfilled jobs in the industry, which in turn has led to “skills gap” that is acting as a barrier to higher industrial growth. In order to cater the growing need of technological skill in the region of Rawalpindi, and to bridge the existing skills gap in the market, the need for the establishment of technical university is voiced at many forums.

At present, there are 29 technical/commercial/, vocational institutions (15 for men and 14 for women) in Rawalpindi. These feeder institutions are offering diploma courses in various technology fields (Pre-investment study-2012). From these institutions, more than 7,000 technicians, artisans and skilled workers are trained every year, who provide technical facilities in different industries and commercial units accordingly. However, these institutes alone are not enough to get along with growing population rate and demand of workforce in industries. In order to provide platform to TVET graduates for higher studies and research and to cater the demands of industrial and commercial sector, there is an eminent need to establish technical universities across Punjab.

For this purpose, the proposal of the establishment the University of Technology at Rawalpindi can be materialized by formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVTA. This project is deemed to be the need of the hour as this university would serve as a platform not only to youth of Punjab to acquire higher education in emerging technological fields but also to local as well as international industries to

meet the demand of technical workforce and research & development. The university will also provide further opportunities to already trained individuals and diploma holders to acquire higher technical education in the progressive technological field.

**ii. Location**

Rakh-Dhamial, Rawalpindi

**iii. Background**

It is a common perception that education is the most powerful weapon in alleviating poverty, enriching economic growth, generating skilled human capital, producing a healthy, enlightened social environment and making self-sufficient nations. Poverty and education has the direct inverse relationship to each other: if one is increased, the other decreases.

In current era of economic and technological development, in which Pakistan is going through economic revolution by adopting business-friendly policies and by implementing game-changer mega projects under China Pakistan Economic Corridor (CPEC), technical education plays an undeniable medium to provide direct employment to youth as well as works as catalyst for industrial development. In modestly growing industries in Pakistan, Higher Technical Education institutions, imparting education and conducting research, are the needed central mechanisms that can uplift the deteriorating social and economic infrastructure of the country. Punjab, despite rapid growth in technical education sector during the past decade, still faces several

challenges in its technical educational development. These challenges include gap between courses offered in technical institutes and demands of job-driven local industry, lack of access to higher technical education for the majority of its youth, result-oriented standards of pedagogical techniques of technical education, brain-drain of qualified human resource, lack of adaptability to changing paradigms of technical academic research accreditation, lack of research oriented technical education, dearth of skilled workers in emerging technological fields and scarcity of technological universities to serve as platform to provide demand driven technical skills.

As per analysis of NAVTTC, people who desired for employment as skilled workforce are numbered as 4,909,349 in Punjab. District wise estimates shows that highest employment trend is found in Sialkot district with 8.8% (430,647) of total number of people covered in the survey. It was followed by Lahore with 7.7% (375,988), **Rawalpindi with 7.5% (370,156)**, Gujranwala and Gujrat with each 6.8%, Faisalabad with 5.8% and DG Khan with 4.8% employment of trends in the skilled workforce. The least employment trend has been recorded in Chiniot with 0.1% followed by Pakpattan with 0.7% Nankana Shaib with 0.8 % and Khushab with 1%, respectively. Similarly, a mix employment trend is found in other districts (Skills Gap Analysis Punjab, NAVTTC).

The present world is the demand driven world in which higher technical education institutions play a crucial role in the development of technical workforce, professionals and researchers to generate

new knowledge, triumph new technology and support national innovation systems. In this context, economies through-out the globe are trying to ensure that their technical educational institutions operate at the cutting edge of scientific and technological development to support the needs of a knowledge driven economy.

Vision 2030, the key policy document for forthcoming growth in Pakistan, developed by the Planning Commission in 2007, envisions: “Developed, industrialized, just and prosperous Pakistan through rapid and sustainable development in a resource-constrained economy by employing knowledge inputs”. The country would be moving towards a balanced, internationally competitive, environment friendly and technologically knowledge driven economy for rapid and sustainable growth to become an industrialized nation in the next 25 years.

**iv. Objectives of the study**

The overall goal of the feasibility study is to conduct need assessment of all relevant parameters for the establishment the University of Technology at Rawalpindi required for formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVTA. The study is to check the viability of this project with respect to technical, socio-economic needs, financial sustainability, HR requirements industrial demands of technical workforce, higher education trends, international market requirements and other relevant dimensions given in the scope of work, while linking the same with growth and development of



Rawalpindi Division.

The main objectives of the study are as under:

- To conduct a holistic survey of industry, local & international market and population to prepare a comprehensive feasibility study for the assessment of present and future needs of University of Technology at Rawalpindi.
- Identification of study programmes / technological courses to be offered in the university by analyzing the current courses already being offered in technical institutes as well as the need of local and foreign market for the employment of skilled graduate of the university.
- Identification of all critical prerequisites required to ensure project viability in terms of Technical, Financial and Economic, Social, Human Resource and Sustainability to determine cost effectiveness of the project.
- To determine the requirement and relevance of the Higher Educational in technological fields of study with determination of No. of student to be enrolled in each discipline by analyzing the local need, market potential, population orientations, feeding institutes, job requirement.
- To evaluate the relevance of the academic discipline/courses (approved by HEC) of the Higher Technical Institutes with market requirements and future needs of the Punjab.

**Justification**

Presently, Pakistan is adopting business-friendly policies and implementing a number of development projects, including mega projects under CPEC, in order to boost economic development. In this scenario, technical education is an important tool to provide direct employment to youth as well as a catalyst to bridge skills gap. In modestly growing industries in Pakistan, Higher Technical Education institutions are the needed central

mechanisms that can raise the declining social and economic infrastructure of the country. Punjab, despite of rapid growth in technical education sector during the past decade, still faces several challenges in its technical educational development. These challenges include gap between courses offered and job-driven local industry, lack of access to higher technical education for the majority of its youth, result-oriented standards of pedagogical techniques, brain-drain of qualified human resource, lack of adaptability to changing paradigms of technical academic research accreditation, lack of research oriented technical education, dearth of skilled workers in emerging technological field and scarcity of technological universities to serve as platform to provide demand driven technical skills.

Technical education plays a key role in the development of human workforce that subsequently brings about the establishment of sound economies and financial sustainability. There are 1,836 TVET institutes registered in the province, including 666 technical institutes and 1,170 vocational institutes; out of which, 205 institutes are offering vocational training, whereas, 160 institutes are engaged in imparting technical education. At present, there are 545 vocational and 249 technical women institutes in the province whereas, number of functional male vocational and technical institutes are 420 and 257, respectively, to fulfill the demand of skilled workforce. The males' share in the annual skilled workforce supply is 74% while females share is around 26% in Punjab (Skills Gap Analysis Punjab, NAVTTC). There is an eminent need to establish technical universities so that these challenges can be

addressed proactively.

The analysis of supply and demand skills gap shows that manufacturing sector leads with demand of 81% (202,640) against 17% (41,918) supply indicating gap in supply to the sector. Services sector with supply of 64% (160,227) against demand of 24% (62,261) of total skilled persons presents a gap on demand side. Less difference between demand and supply of skilled workforce is found only in construction sector with demand of 14% (35,356) against supply of 10% (26,801). The least demand and supply of skilled workforce has been recorded in energy and power sector that comprises of 4% (7,665) of skilled persons against less demand of 2% (5,439) skilled persons. There is an urgent need to bridge the gap between supply and demand of skilled workforce in these sectors for relevant supply against ever changing demand to ensure improved industrial production (Skills Gap Analysis Punjab, NAVTTC).

As per analysis of NAVTTC, people who desired for employment as skilled workforce are numbered as 4,909,349 in Punjab. District wise estimates shows that highest employment trend is found in Sialkot district with 8.8% (430,647) of total number of people covered in the survey. It was followed by Lahore with 7.7% (375,988), **Rawalpindi with 7.5% (370,156)**, Gujranwala and Gujrat with each 6.8%, Faisalabad with 5.8% and DG Khan with 4.8% employment of trends in the skilled workforce. The least employment trend has been recorded in Chiniot with 0.1% followed by Pakpattan with 0.7% Nankana Shaib with 0.8 % and Khushab with 1%, respectively. Similarly, a mix employment trend is found in other districts (Skills

Gap Analysis Punjab, NAVTTC).

The present world is the demand driven world in which higher technical education institutions play a crucial role in the development of technical workforce, professionals and researchers to generate new knowledge, triumph new technology and support national innovation systems. In this context, economies through-out the globe are trying to ensure that their technical educational institutions operate at the cutting edge of scientific and technological development to support the needs of a knowledge driven economy.

The establishment of Technical University in Rawalpindi is intrinsically related to the core objective of the technical education. The Government is attaching high priority to manpower training as per need of the industry, commerce & business sector so that the national economy gets boosted up as a whole. The establishment of Technical University in Rawalpindi would cater the need of skilled workers for the existing major industries 124 in number (Large, Medium and Small) in Rawalpindi division, that are Arms and Ammunition, Bakery Products, Beverage, Cement, Chemical, Chip/Straw Board, Diaper Plant, Drugs & Pharmaceutical, Explosives, Flour Mills, Food Products, Fruit Juices, Heavy Engg., Ice Cream, Industrial /Burn Gases, LPG Cylinders, Poultry Feed, Refinery, Textile Composite, Textile Spinning, Textile Weaving, Tobacco, Tyre & Tubes and Woollen Textile Spinning /Weaving.

For this purpose, the proposal of the establishment the University of Technology at Rawalpindi can be materialized by formation of a purpose-built campus at

		<p>Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVTA. This project is deemed to be the need of the hour as this university would serve as a platform not only to youth of Punjab to acquire higher education in emerging technological fields but also to local as well as international industries to meet the demand of technical workforce and research &amp; development. The university will also provide further opportunities to basic-trained individuals and diploma holders to acquire higher technical education in the progressive technological fields.</p>
4	<b>Scope of Work</b>	<p>Scope of the study is given below:</p> <ol style="list-style-type: none"> <li>i. To carry out feasibility study as per proforma given in guidelines for the establishment of a new university or an institution of higher education</li> <li>ii. To analyze of literacy rate and technical education profile of Punjab, with special focus on Rawalpindi Division, in order to determine the existing potential among youth and future need of technical education in the region</li> <li>iii. To carry out survey of industries, labour market and population of Rawalpindi division, with reference to analysis of the parameters of Punjab, and to analyse existing statistical data/reports to assess the need of establishment of Technology University in Rawalpindi</li> <li>iv. To determine the present need and future impact of the technological university in Rawalpindi by analyzing the growth trends of economy, industrialization, job trends and financial capacity of locals</li> <li>v. To analyze the potential of local &amp; international market, foreign job requirement and avenues of e-commerce businesses for the determination of the role of Technology University in Rawalpindi in the development of well-trained technical workforce and innovative entrepreneurs.</li> <li>vi. To carry out need assessment of the technological university in Rawalpindi by conducting survey of all existing universities and institution of Rawalpindi</li> </ol>

		<p>region</p> <p>vii. To analyze the scope and potential of existing technical education/ feeder institutions and to assess the willingness of diploma holders (or equivalent) to attain higher technical education in their respective technical fields in order to determine the chances of the technological university in Rawalpindi to attract the most able students of the region</p> <p>viii. Assessment and identification of study programmes / technological courses to be offered in the university by analyzing the current courses being offered technical &amp; feeder institutes, as well as by the relevance of these academic programs and its internal quality assurance system for sustaining the continuous improvement to maintain relevance to modern labour market (local and foreign) demands in order to bridge up the existing skills gap</p> <p>ix. To analyze the availability of relevant faculty, well-qualified for technical courses/disciplines which are to be offered in the university to ensure the success of its graduates in professional employment or in further study at leading overseas universities, especially where there is a good chance of winning competitive overseas scholarships</p> <p>x. To carry out survey of local market and e-commerce to analyse the potential and opportunities of entrepreneurship with respect to role of university in equipping relevant skills to the individuals and ensuring job employment of graduates</p> <p>xi. To determine the requirement and relevance of the Higher Education academic disciplines (approved by Higher Education Commission) in technological fields of study with determination of No. of student to be enrolled in each discipline (including Student Teacher Ratio, etc) and at each level (Bachelors, Masters, PhD) by analyzing the present &amp; future needs of local &amp; international market, job-market potential and parameters, population orientation, feeding institutes and entrepreneurship trends</p> <p>xii. To analyze all aspects of organizational structure for running the affairs of the university smoothly</p> <p>xiii. To analyze and determine the academic strategy, the research priorities, discipline mix, methods of teaching, academic standards and admission practices in order to establish state-of-the-art</p>
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		<p>technological university in Punjab</p> <p>xiv. To analyze all aspects of employment management - strategies for building a concentration of talent, methods for selecting academic and administrative personnel on merit criteria, policies for remuneration and conditions of employment</p> <p>xv. To assess the need of technological university by comparing Engineering university with reference to skills gap analysis as well as present and future trends of employment in local &amp; international market</p> <p>xvi. To conduct need and impact analysis (direct &amp; indirect) of the establishment of technological university in Rawalpindi with respect to social, economic, financial, and environmental parameters, etc.</p> <p>xvii. To evaluate the options of funding resources and carry out cash-flow analysis for the development and operationalization of technological university in Rawalpindi in the form of loans, development funds, government support and carry out sustainability analysis with respect to development cost, recurring cost, operating expenditure, maintenance cost, different financing/investment options, revenue from tuition fees and service charges for other links with academic partners and industry investors, and linking the analysis with priorities for the academic programs/disciplines of the university</p> <p>xviii. To analyze all critical prerequisites required to ensure project viability</p> <p>xix. To determine the most suitable architecture design and structural map of the university</p> <p>xx. To conduct the preliminary study of the project to determine the suitability of site (Location and Geographical Perspective) for the establishment the University of Technology at Rawalpindi</p> <p>xxi. To carry out the Topographic Survey/Geo Tech investigation of allocated land</p> <p>xxii. Preparation of concept/ layout plan, detailed working drawings keeping in view the site configuration, access, design of building.</p> <p>xxiii. To carry out market survey to analyze competitive price of equipment and determine the cost of revenue</p>
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		component of the project				
		xxiv.	To determine the requirement of lab equipment, furniture, books & Journals, vehicles, stationary, IT equipment and other items and linking the same with the academic programs/disciplines of the university			
		xxv.	To develop a quality PC-I document			
		xxvi.	To prepare rough cost estimates of the building along with operation and maintenance costs etc			
<b>5</b>	<b>Implementation Period/ Plan</b>	05 months from the award of the work implementation line chart deliverables timelines given at <b>Annex-C</b>				
<b>6</b>	<b>Total Cost</b>	<b>Rs. 30 Million (Annex-A)</b>				
<b>7</b>	<b>Manpower Requirements Professional and Technical</b>	<b>Sr #</b>	<b>Name of specialist</b>	<b>Qualification and experience</b>	<b>No of persons</b>	<b>Months</b>
		1	Team Leader	B.S Hons (16 years of Education) / Masters in the field of Civil Engineering from HEC recognized university. Candidates with Masters in Engineering Management/MBA would be preferred Minimum 15 years of relevant experience	1	5
		2	Geological Expert	B.S Hons (16 years of Education) / Masters in the field of Geotechnical or Geological Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	1
		3	Civil Expert	B.S Hons (16 years of Education) / Masters in the field of Civil Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	3
		4	Environmental Specialist	B.S Hons (16 years of Education) / Masters in the field of Environmental Engineering or Environmental Sciences from HEC recognized university. Minimum 8 years of relevant experience	1	1
		5	Social Expert	B.S Hons (16 years of Education) / Masters in the field of sociology from HEC recognized university.	1	2



			Minimum 8 years of experience in surveying and analysis of data on population		
		6	Financial Specialist B.S Hons (16 years of Education) / Masters in Finance or MBA (Finance) from HEC recognized university. Minimum 10 years of relevant experience	1	4
		7	Architect B.S Hons (16 years of Education) / Masters in Architecture / Architectural Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	2
		8	IT and Stat Expert B.S Hons (16 years of Education) / Masters in IT/ software engineering / computer engineering / computer sciences with Minimum 10 years' experience in Economic Development	1	2
		9	Electrical Expert B.S Hons (16 years of Education) / Masters in the field of Electrical Engineering from HEC recognized university. With Minimum 5 years of relevant experience	1	1
		10	Mechanical Expert B.S Hons (16 years of Education) / Masters in the field of Mechanical Engineering from HEC recognized university. With Minimum 5 years of relevant experience	1	1
		11	Educational Expert B.S Hons (16 years of Education) / Masters in the field of Education from HEC recognized university. With Minimum 5 years of relevant experience	1	1
		12	Surveyors 16 years of education in Engineering, Stat, Mathematics, Sciences from HEC recognized university. With 2 years of relevant experience	4	3
		13	Field Data Collectors Intermediate education	4	3

		14	Computer Operators	16 years of education in Engineering, Stat, Mathematics, Sciences from HEC recognized university. With 2 years of relevant experience with 25 words per minute	1	5																												
		15	Office Helpers	Intermediate education	1	5																												
				<b>Total</b>	21																													
<b>8</b>	<b>Financial Plan</b>	Rs. 50 million have been allocated the ADP 2021-22 at G.S. No.6712 (Million Rs.)																																
		<table border="1"> <thead> <tr> <th>S.No</th> <th>Source</th> <th>Local</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td><b>i</b></td> <td><b>Federal PSDP</b></td> <td>-</td> <td>-</td> </tr> <tr> <td><b>ii</b></td> <td><b>Provincial ADP</b></td> <td><b>50</b></td> <td><b>50</b></td> </tr> <tr> <td><b>iii</b></td> <td><b>Foreign Loan*</b></td> <td>-</td> <td>-</td> </tr> <tr> <td><b>iv</b></td> <td><b>Foreign Grant*</b></td> <td>-</td> <td>-</td> </tr> <tr> <td><b>v</b></td> <td><b>Others</b></td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td><b>Total:</b></td> <td><b>50</b></td> <td><b>50</b></td> </tr> </tbody> </table>					S.No	Source	Local	Total	<b>i</b>	<b>Federal PSDP</b>	-	-	<b>ii</b>	<b>Provincial ADP</b>	<b>50</b>	<b>50</b>	<b>iii</b>	<b>Foreign Loan*</b>	-	-	<b>iv</b>	<b>Foreign Grant*</b>	-	-	<b>v</b>	<b>Others</b>	-	-		<b>Total:</b>	<b>50</b>	<b>50</b>
S.No	Source	Local	Total																															
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<b>v</b>	<b>Others</b>	-	-																															
	<b>Total:</b>	<b>50</b>	<b>50</b>																															
		The detail of item wise estimated cost of this study is given at <b>Annex-B</b>																																
<b>9</b>	<b>Expected outcome of the survey feasibility study and details of projects likely to be submitted after the survey</b>	<p>The following outcomes of this feasibility study are expected:</p> <ul style="list-style-type: none"> <li><i>i.</i> Feasibility study of Establishment of University of Technology, Rawalpindi</li> <li><i>ii.</i> Need analysis of the proposed university with reference to the infrastructure and other requisite items.</li> <li><i>iii.</i> Skills gap analysis with respect to Rawalpindi</li> <li><i>iv.</i> Provide concrete recommendations for construction of infrastructure of the university.</li> <li><i>v.</i> Provide a detailed budget estimates required for the university i.e. Civil Work, Lab Equipment, Hostels and other requirements.</li> <li><i>vi.</i> PC-I for the development of the university based on feasibility study.</li> </ul>																																

It is certified that the PC-II for the Feasibility Study has been prepared on the basis of instructions provided by the P&D Board.

**Prepared by:**

Deputy Economic Advisor-I, ICI&SD Department	
Deputy Secretary (Commerce), ICI&SD Department	
Research Officer, SPU, ICI&SD Department	

**Checked by:**

Senior Economic Advisor, ICI&SD Department	
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**Approved by:**

Secretary, ICI&SD Department	
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**TOTAL COST ESTIMATE***Rs. In Million*

<b>Details</b>	<b>Cost</b>	<b>Reference</b>
Consultancy Charges for Feasibility study of Establishment of University of Technology, Rawalpindi	21.000	Annex-B
<b>Total</b>	<b>21.000</b>	

**COST BREAKUP**

## a) HR Cost:

*(in Rs.)*

Sr #	Name of specialist	Cost per month	No of persons	Months	Cost
1	Team Leader	900,000	1	5	4500000
2	Geological Expert	800,000	1	1	800000
3	Civil Expert	800,000	1	3	2400000
4	Environmental Specialist	800,000	1	1	800000
5	Social Expert	800,000	1	2	1600000
6	Financial Specialist	800,000	1	4	3200000
7	Architect	800,000	1	2	1600000
8	IT and Stat Expert	800,000	1	2	1600000
9	Electrical Expert	800,000	1	1	800000
10	Mechanical Expert	800,000	1	1	800000
11	Educational Expert	800,000	1	1	800000
12	Surveyors	70,000	4	3	840000
13	Field Data Collectors	65,000	4	3	780000
14	Computer Operators	65,000	1	5	325000
15	Office Helpers	31,000	1	5	155000
	<b>Total</b>				<b>21000000</b>

**NOTE:** Salary Cost / Remuneration of cost key and technical experts will include PST and Income Tax

**TERMS OF REFERENCE (TOR)**  
**FOR CONDUCTING FEASIBILITY OF UNIVERSITY OF TECHNOLOGY, RAWALPINDI**

**1. INTRODUCTION:**

Technical education plays a key role in the development of human workforce that subsequently brings about the establishment of sound economies and financial sustainability. There are 1,836 TVET institutes registered in the province, including 666 technical institutes and 1,170 vocational institutes; out of which, 205 institutes are offering vocational training, whereas, 160 institutes are engaged in imparting technical education. At present, there are 545 vocational and 249 technical women institutes in the province whereas, number of functional male vocational and technical institutes are 420 and 257, respectively, to fulfill the demand of skilled workforce. The males' share in the annual skilled workforce supply is 74% while females share is around 26% in Punjab (Skills Gap Analysis Punjab, NAVTTC). In order to provide platform to TVET graduates for higher studies and research and to cater the demands of industrial and commercial sector, there is an eminent need to establish technical universities across Punjab.

Punjab has a predominantly young population with 63% of its population under the age of 24 years. This is certainly a favorable situation, provided enough productive jobs or economic engagements can be found for the youth entering the labor force. The province currently has an estimated 11.5 million unengaged youth who are neither in employment nor in education or training. The unavailability of trained workers, shortage of the requisite skills and trainings result in rise of unfilled jobs in the industry leading to skills gap as barrier to higher industrial growth. In order to cater the growing need of technological skill in the region of Rawalpindi, the need for the establishment of technical university has been voiced at many forums. At present, there are 29 technical/commercial/, vocational institutions (15 for men and 14 for women) in Rawalpindi. These feeder institutions are offering diploma courses in various technology fields (Pre-investment study-2012). From these institutions, more than 7,000 technicians, artisans and skilled workers are trained every year, who provide technical services in different industries and commercial units as per requirement. However, these institutes, whose scope is limited to diplomas, are not enough to get along with growing population rate and demand of skilled workers by industries, and there exists a dire need to assess the situation in terms providing pivot of technical education in the form of technological university in Rawalpindi. The establishment of Technical University in Rawalpindi is

intrinsically related to the core objective of the technical education. The Government is attaching high priority to manpower training as per need of the industry, commerce & business sector so that the national economy gets boosted up as a whole. The establishment of Technical University in Rawalpindi would cater the need of skilled workers for the existing major industries 124 in number (Large, Medium and Small) in Rawalpindi division, that are Arms and Ammunition, Bakery Products, Beverage, Cement, Chemical, Chip/Straw Board, Diaper Plant, Drugs & Pharmaceutical, Explosives, Flour Mills, Food Products, Fruit Juices, Heavy Engg., Ice Cream, Industrial /Burn Gases, LPG Cylinders, Poultry Feed, Refinery, Textile Composite, Textile Spinning, Textile Weaving, Tobacco, Tyre & Tubes and Woollen Textile Spinning /Weaving.

As per analysis of NAVTTC on Punjab, supply and demand skills gap in manufacturing sector leads with demand of 81% (202,640) against 17% (41,918) supply indicating gap in supply to the sector. Services sector with supply of 64% (160,227) against demand of 24% (62,261) of total skilled persons presents a gap on demand side. Less difference between demand and supply of skilled workforce is found only in construction sector with demand of 14% (35,356) against supply of 10% (26,801). The least demand and supply of skilled workforce has been recorded in energy and power sector that comprises of 4% (7,665) of skilled persons against less demand of 2% (5,439) skilled persons (Skills Gap Analysis Punjab, NAVTTC). As per analysis of NAVTTC, people who desired for employment as skilled workforce are numbered as 4,909,349 in Punjab, with Rawalpindi standing at 370,156 (7.5%). There exists a need to assess the situation of this gap with respect to Rawalpindi division so that needful steps may be taken to bridge the gap between supply and demand of skilled workforce in these sectors for relevant supply against ever changing demand to ensure improved industrial production.

For this purpose, the proposal of the establishment the University of Technology at Rawalpindi can be materialized by formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVTA. This project is deemed to be the need of the hour as this university would serve as a platform not only to youth of Punjab to acquire higher education in emerging technological fields but also to local as well as international industries to meet the demand of technical workforce and research & development. The university will also provide further

opportunities to basic-trained individuals and diploma holders to acquire higher technical education in the progressive technological fields.

## **2. LOCATION**

Rakh-Dhamial, Rawalpindi

## **3. OBJECTIVES OF CONSULTANCY:**

The overall goal of the feasibility study is to assess all relevant parameters for the establishment the University of Technology at Rawalpindi by formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVTA, and to assess the viability of this project with respect to socio-economic needs, financial sustainability, industrial demands of technical workforce, higher education trends, international market requirements and other relevant dimensions given in the scope of work, while linking the same with growth and development of Rawalpindi Division.

The main objectives of the study are as under:

- To conduct a holistic survey of industry, local & international market and population to prepare a comprehensive feasibility study for the assessment of present and future needs of University of Technology at Rawalpindi.
- Identification of study programmes / technological courses to be offered in the university by analyzing the current courses being offered technical institutes as well as the need of local and foreign market for the employment of skilled graduate of the university.
- Identification of all critical prerequisites required to ensure project viability.
- To determine the requirement and relevance of the Higher Educational in technological fields of study with determination of No. of student to be enrolled in each discipline by analyzing the local need, market potential, population orientations, feeding institutes, job requirement.
- To evaluate the relevance of the academic discipline/courses (approved by HEC) of the Higher Technical Institutes with market requirements and future needs of the Punjab.
- Conducting an extensive economic and financial evaluation of the project and resultant development of different financing/investment options for the project.

## **4. SCOPE OF WORK / RESPONSIBILITIES & DUTIES OF CONSULTANT:**

The duties and responsibilities of the Consultant will include but not limited to following:

- To carry out feasibility study as per proforma given in guidelines for the establishment of a new university or an institution of higher education



- To analyze of literacy rate and technical education profile of Punjab, with special focus on Rawalpindi Division, in order to determine the existing potential among youth and future need of technical education in the region
- To carry out survey of industries, labour market and population of Rawalpindi division, with reference to analysis of the parameters of Punjab, and to analyses existing statistical data/reports to assess the need of establishment of Technology University in Rawalpindi
- To determine the present need and future impact of the technological university in Rawalpindi by analyzing the growth trends of economy, industrialization, job trends and financial capacity of locals
- To analyze the potential of local & international market, foreign job requirement and avenues of e-commerce businesses for the determination of the role of Technology University in Rawalpindi in the development of well-trained technical workforce and innovative entrepreneurs.
- To carry out need assessment of the technological university in Rawalpindi by conducting survey of all existing technology universities and institution of Rawalpindi region
- To analyze the scope and potential of existing technical education/ feeder institutions and to assess the willingness of diploma holders (or equivalent) to attain higher technical education in their respective technical fields in order to determine the chances of the technological university in Rawalpindi to attract the most able students of the region
- Assessment and identification of study programmes / technological courses to be offered in the university by analyzing the current courses being offered technical & feeder institutes, as well as by the relevance of these academic programs and its internal quality assurance system for sustaining the continuous improvement to maintain relevance to modern labour market (local and foreign) demands in order to bridge up the existing skills gap
- To analyze the availability of relevant faculty, well-qualified for technical courses/disciplines which are to be offered in the university to ensure the success of its graduates in professional employment or in further study at leading overseas universities, especially where there is a good chance of winning competitive overseas scholarships
- To carry out survey of local market and e-commerce to analyse the potential and opportunities of entrepreneurship with respect to role of university in equipping relevant skills to the individuals and ensuring job employment of graduates
- To determine the requirement and relevance of the Higher Education academic disciplines (approved by Higher Education Commission) in technological fields of study with determination of No. of student to be enrolled in each discipline (including Student Teacher Ratio, etc) and at each level (Bachelors, Maters, PhD) by analyzing the present & future needs of local & international market, job-market potential and parameters, population orientation, feeding institutes and entrepreneurship trends
- To analyze all aspects of organizational structure for running the affairs of the university smoothly

- To analyze and determine the academic strategy, the research priorities, discipline mix, methods of teaching, academic standards and admission practices in order to establish state-of-the-art technological university in Punjab
- To analyze all aspects of employment management - strategies for building a concentration of talent, methods for selecting academic and administrative personnel on merit criteria, policies for remuneration and conditions of employment
- To assess the need of technological university instead of Engineering university with reference to skills gap analysis as well as present and future trends of employment in local & international market
- To conduct need and impact analysis (direct & indirect) of the establishment of technological university in Rawalpindi with respect to social, economic, financial, environmental and risk parameters, etc.
- To evaluate the options of funding resources and carry out cash-flow analysis for the development and operationalization of technological university in Rawalpindi in the form of loans, development funds, government support and carry out sustainability analysis with respect to development cost, recurring cost, operating expenditure, maintenance cost, different financing/investment options, revenue from tuition fees and service charges for other links with academic partners and industry investors, and linking the analysis with priorities for the academic programs/disciplines of the university
- To analyze all critical prerequisites required to ensure project viability
- To carry out Geotechnical Investigation for the establishment the University of Technology at Rawalpindi by formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVT and prepare Geotechnical Investigation Plan accordingly
- To gather data and provide input/feedback to Communication and Works Department, Government of Punjab with respect to rough cost analysis of building works
- To carry out market survey to analyze competitive price of equipment and determine the cost of revenue component of the project
- To determine the requirement of lab equipment, furniture, books & Journals, vehicles, stationary, IT equipment and other items and linking the same with the academic programs/disciplines of the university
- To determine the roadmap of the development of the project with respect to the implementation schedule and timelines of the project
- To determine the most suitable architecture design and structural map of the university

## **5. DELIVERABLES / REQUIRED OUTPUT**

Minimum requirement is one original plus nine copies of each output as given below:

- i. The report containing need & impact assessment on the establishment of University of Technology, Rawalpindi with respect to:
  - literacy rate and technical education profile of Punjab with special focus on Rawalpindi Division
  - existing potential among youth and future need of technical education in the region

- demands/needs of industries, labour market and population of Rawalpindi division
  - growth trends of economy, industrialization, job trends and financial capacity of locals
  - potential of local & international market, foreign job requirement and avenues of e-commerce businesses
  - development of well-trained technical workforce and innovative entrepreneurs
  - identification of study programmes / technological courses to be offered in the university
  - potential of existing technical education/ feeder institutions and willingness of diploma holders (or equivalent) to attain higher technical education in their respective technical fields
  - the success of its graduates in professional employment or in further study at leading overseas universities
  - opportunities of entrepreneurship in market and job employment of graduates
  - the requirement of the Higher Education academic disciplines (approved by Higher Education Commission) in technological fields of study
  - No. of student to be enrolled in each discipline (including Student Teacher Ratio, etc) and at each level (Bachelors, Maters, PhD)
  - organizational structure for running the affairs of the university smoothly
  - academic strategy, the research priorities, discipline mix, methods of teaching, academic standards and admission practices
  - employment management - strategies for building a concentration of talent, methods for selecting academic and administrative personnel on merit criteria, policies for remuneration and conditions of employment
  - the need of technological university instead of Engineering university
  - existing skills gap in region
  - present and future trends of employment in local & international market
  - direct & indirect impact of the establishment of technological university in Rawalpindi
  - social, economic, financial, environmental and risk parameters
  - the options of funding resources for the development and operationalization of technological university in Rawalpindi in the form of loans, development funds, government support and carry out sustainability analysis with respect to development cost, recurring cost, operating expenditure, maintenance cost, different financing/investment options, revenue from tuition fees and service charges for other links with academic partners and industry investors
  - all critical prerequisites required to ensure project viability
  - Geotechnical Investigation for the establishment the University of Technology at Rawalpindi by formation of a purpose-built campus at Rakh-Dhamial, Rawalpindi on the state land measuring 100 kanals available with TEVT
  - Roadmap of the development of the project
- ii. PC-1 for the development / establishment the University of Technology at Rawalpindi, duly prepared on the prescribed format of Planning Commission as well as SMDP, containing the following inter alia:
- Justification and Objectives of the project
  - Relation of the project with policies of the government and SDGs
  - Study programmes / technological courses to be offered in the university
  - Funding Plan

- Financial model of the project (covering development and non-development dimensions of the project, Unit Cost analysis, Teacher Student Ratio)
- Sustainability model of the project
- Rough Cost Analysis/Plan of building works duly approved by Communication and Works Department, Government of Punjab
- Revenue component of the project duly supported by quotations citing competitive price of equipment, furniture, books & Journals, vehicles, IT equipment and other requisite items
- Environmental Plan
- Procurement Plan
- Geotechnical Investigation Plan with respect to identified land
- Risks and Risks mitigation plan
- Implementation schedule/plan, quantifiable milestones and timelines of the project
- Economic and financial analysis of the project

#### 6. **CONSULTANT FIRM FEE:**

The Consultant fee will be on lump sum basis (Fixed price). Payments will be linked with output/deliverables. All payments made to the Consultant firm shall be inclusive of all applicable taxes.

#### 7. **DELIVERABLES WITH TIMELINES:**

<b>Sr. No</b>	<b>Description</b>	<b>Timeline</b>	<b>Payment</b>
1	i. Survey /Inception Report (10 hard copies & 5 sets of CDs) ii. A comprehensive and logical work plan as inception report for approval (including questionnaire for targeted stakeholders)	15 days	10% of the contract amount
2	Interim Report covering  Development of modules in the light of the developed standards and international practices	2 <sup>nd</sup> month	10% of the contract amount
3	Analytical report (10 hard copies and 5 sets of soft copies) <ul style="list-style-type: none"> <li>• Analysis of literacy rate and technical education profile of Punjab</li> <li>• Analysis of skills gap</li> <li>• Assessment of the need of establishment of Technology University in Rawalpindi</li> <li>• Assessment of the present need and future impact of the technological university in Rawalpindi</li> <li>• Analysis of employment opportunities in local &amp; international market, foreign job</li> </ul>	3 <sup>rd</sup> month	15% of the contract amount

	<p>requirement and avenues of e-commerce businesses</p> <ul style="list-style-type: none"> <li>• Analysis of the scope and potential of existing technical education/ feeder institutions</li> <li>• Identification of study programmes / technological courses</li> <li>• To analyze all aspects of organizational structure for running the affairs of the university smoothly</li> <li>• Determination of the academic strategy, the research priorities, discipline mix, methods of teaching, academic standards and admission practices</li> <li>• Analysis of all critical prerequisites required to ensure project viability</li> <li>• To analyse Geotechnical Investigation report</li> </ul>		
4	<p>Feasibility report (10 hard copies and 5 sets of soft copies)</p> <ol style="list-style-type: none"> <li>Assessment of Identified sites by :- <ol style="list-style-type: none"> <li>Topography Survey</li> <li>Geotechnical report.</li> <li>Soil Investigation report</li> </ol> </li> <li>EIA report</li> <li>Basic Conceptual Plan of the Project Area/ Preliminary Drawings/ Layout drawings</li> <li>Provide revenue requirements with cost estimates for operation maintenance and suggest the most suitable possible model/ option for operating the project.</li> <li>Prepare PC-I if project is feasible</li> <li>Propose Human resource requirement</li> <li>Revenue Generation Plan of university</li> </ol>	4 <sup>th</sup> month	35% of the contract amount
5	Consolidated report covering all aspects of the scope of the work	5 <sup>th</sup> month	30% of the contract amount

Sr. No	Description	Timeline
1	Inception Report: Inception report (10 hard copies & 5 sets of CDs)	1 <sup>st</sup> Fifteen Days
2	First Draft report	2 <sup>nd</sup> month
3	Second Draft report	3 <sup>rd</sup> month

4	Third (Final report) (10 hard copies and 5 sets of soft copies)	4 <sup>th</sup> month
5	PC-1 (10 hard and 5 soft copies)	5 <sup>th</sup> month

Note: Payments will be triggered after the completion of deliverables as per detailed scope of work.

## 8. MAN POWER REQUIREMENT:

The total man months for consultants are estimated as under:

Sr. No	Name of specialist	Qualification and experience	No of Persons	No of Months	Cost per month
<b>A. Key Staff</b>					
1	Team Leader	B.S Hons (16 years of Education) / Masters in the field of Civil Engineering from HEC recognized university. Candidates with Masters in Engineering Management/MBA would be preferred Minimum 15 years of relevant experience	1	5	900,000
2	Geological Expert	B.S Hons (16 years of Education) / Masters in the field of Geotechnical or Geological Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	1	800,000
3	Civil Expert	B.S Hons (16 years of Education) / Masters in the field of Civil Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	3	800,000
4	Environmental Specialist	B.S Hons (16 years of Education) / Masters in the field of Environmental Engineering or Environmental Sciences from HEC recognized university. Minimum 8 years of relevant experience	1	1	800,000
5	Social Expert	B.S Hons (16 years of Education) / Masters in the field of sociology from HEC recognized university. Minimum 8 years of experience in surveying and analysis of data on population	1	2	800,000
6	Financial Specialist	B.S Hons (16 years of Education) / Masters in Finance or MBA (Finance)	1	4	800,000

		from HEC recognized university. Minimum 10 years of relevant experience			
7	Architect	B.S Hons (16 years of Education) / Masters in Architecture / Architectural Engineering from HEC recognized university. Minimum 10 years of relevant experience	1	2	800,000
8	IT and Stat Expert	B.S Hons (16 years of Education) / Masters in IT/ software engineering / computer engineering / computer sciences with Minimum 10 years' experience in Economic Development	1	2	800,000
9	Electrical Expert	B.S Hons (16 years of Education) / Masters in the field of Electrical Engineering from HEC recognized university. With Minimum 5 years of relevant experience	1	1	800,000
10	Mechanical Expert	B.S Hons (16 years of Education) / Masters in the field of Mechanical Engineering from HEC recognized university. With Minimum 5 years of relevant experience	1	1	800,000
11	Educational Expert	B.S Hons (16 years of Education) / Masters in the field of Education from HEC recognized university. With Minimum 5 years of relevant experience	1	1	800,000
12	Surveyors	16 years of education in Engineering, Stat, Mathematics, Sciences from HEC recognized university. With 2 years of relevant experience	4	3	70,000
13	Field Data Collectors	Intermediate education	4	3	65,000
14	Computer Operators	16 years of education in Engineering, Stat, Mathematics, Sciences from HEC recognized university. With 2 years of relevant experience with 25 words per minute	1	5	65,000
15	Office Helpers	Intermediate education	1	5	31,000
<b>Total =</b>			<b>21</b>		

NOTE: Salary Cost / Remuneration of cost key and technical experts are inclusive of PST and Income Tax

**9. SUBMISSION BY CONSULTANTS:**

- a. **PROGRESS REPORT:** Signed copy of monthly progress report by Team Lead would be submitted by consultant, covering statement of work under taken in the month completion to Deputy Economic Advisor-I, Industries, Commerce, investment & Skills Development Department
- b. **ROLE OF CLIENT:** The consultant is required to submit reports in draft form as per timeline. The client will give his comments / observations on the submitted report within the period of 20 working days. In case no comments / observations are given within this period the report / plan will be assumed as approved. Moreover, the client will try to assist to access the record in related departments for the completion of the assignment. No lodging, boarding and logistics will be provided by the client.

**10. TIME DURATION OF CONSULTANCY:**

The study will be conducted and all deliverable will be submitted in a period of 5 months after the award of work

**11. PROFESSIONAL LIABILITY OF CONSULTANT:**

Large consultancy firm is to be hired for feasibility study of the subject assignment for the collection of data, as per PPRA rules 2014 (Amended).

- i. The consultant selected and awarded a contract shall be liable for consequence of errors or omissions on the part of the consultant.
- ii. The extent of liability of the consultant shall form part of the contract and such liability shall not be less than remunerations nor shall it be more than twice the remunerations.
- iii. The procuring agency may demand insurance on part of the consultant to cover the liability of the consultant and necessary costs shall be borne by the consultant.
- iv. The consultant shall be held liable for all losses or damages suffered by the procuring agency on account of any misconduct by the consultant in performing the consulting services.