

**REPUBLIC OF SUDAN**  
**Ministry of Higher Education and Scientific  
Research**

**TECHNICAL EDUCATION  
CORPORATION(TEC)**

**The Promotion and Development  
of Technical Education  
in SUDAN**

**KHARTUOM - SUDAN**

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- 7- Challenges .**

# 1- Introduction

**Technical education is distinguished from other types of education , because of :**

- **its direct link to the needs of the labour market ;**
- **it promotes the economic and social life ;**
- **it follows-up the new technical modifications.**

## **The qualifying of the Technician needs several capabilities such as :**

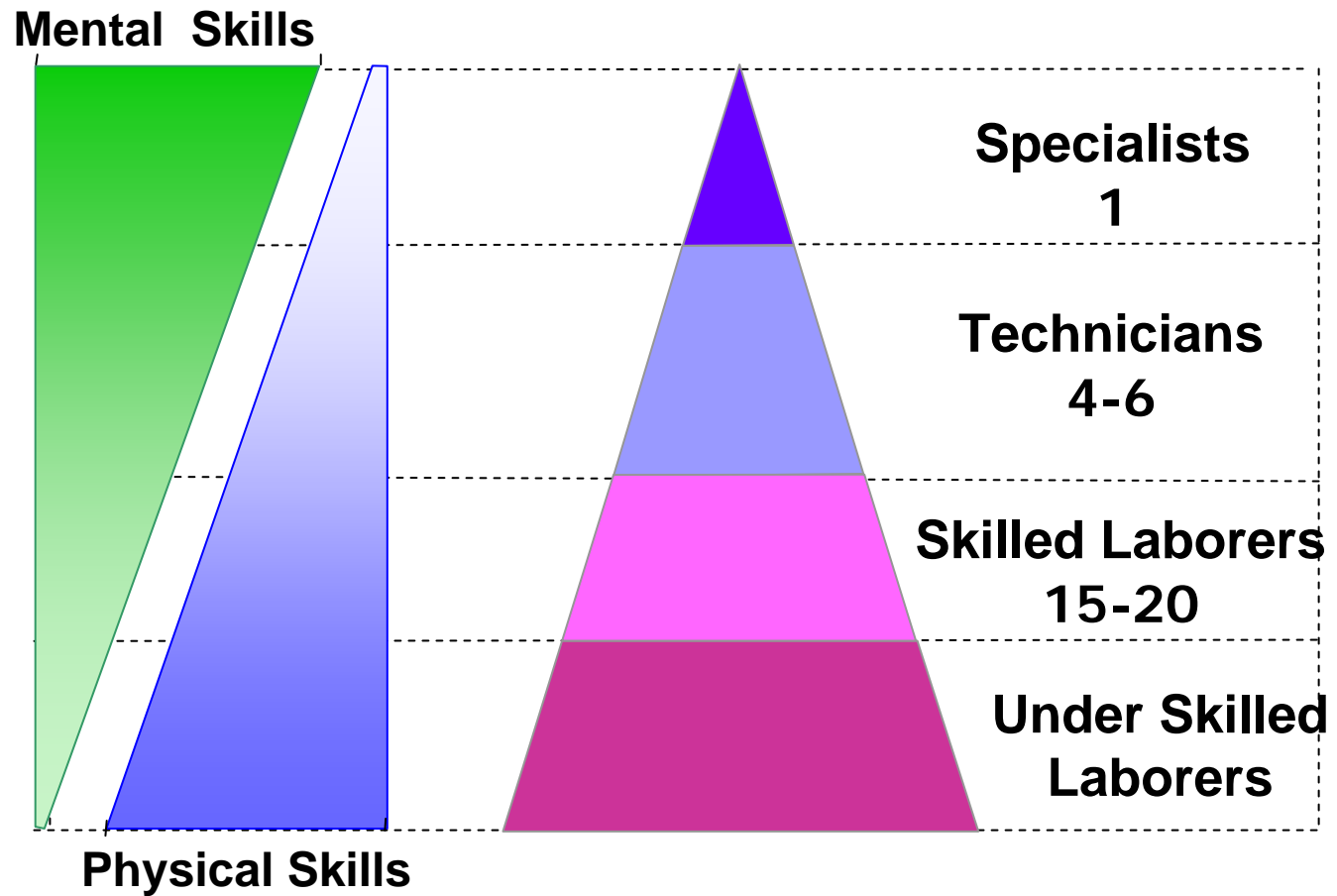
- Establishing laboratories and specialized workshops ;**
- Preparation and qualifying of instructors and trainers ;**
- Review of the curricula in accordance with the needs of the labour market and development.**

## 2- Historical background of Technical education in Sudan :

- 1902** - Gordon Memorial college (GMC) established a vocational and technical education secondary school ( four years of study : two academic and two vocational ) .
- 1939** - Post secondary technical education introduced .
- 1951**- Khartoum Technical Institute (KTI) established by annexing to it all the training units in the different governmental departments . The period of study is three years after the secondary school .

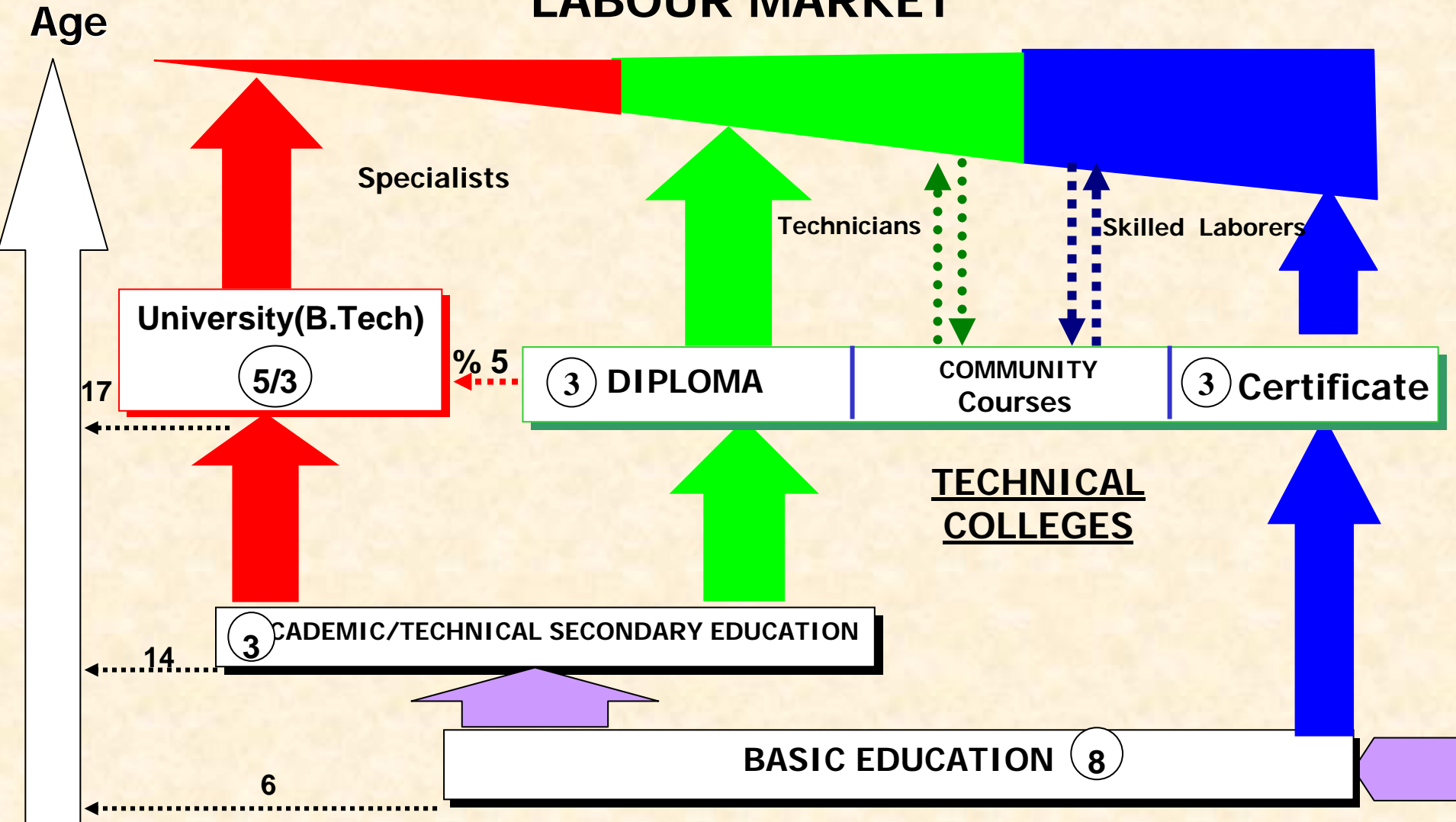
- 1962-** In the (KTI) , the period of study for the diploma was increased from three years to four years .
- 1971-** The (KTI) was divided and distributed to a number technical colleges in the different regions in the Sudan .
- 1975-** The (KTI) was transformed into the Institute of Technical Colleges (ITC) .
- 1983-** The (ITC) started studies of Bachelor degree of Technology (B. Tech ) + the diploma degree .
- 1990-** The (ITC) was transformed to the Sudan University of Science and Technology (SUST) .

# International Pyramid for the Labor Force



# TECHNICAL EDUCATION TRACKS

## LABOUR MARKET

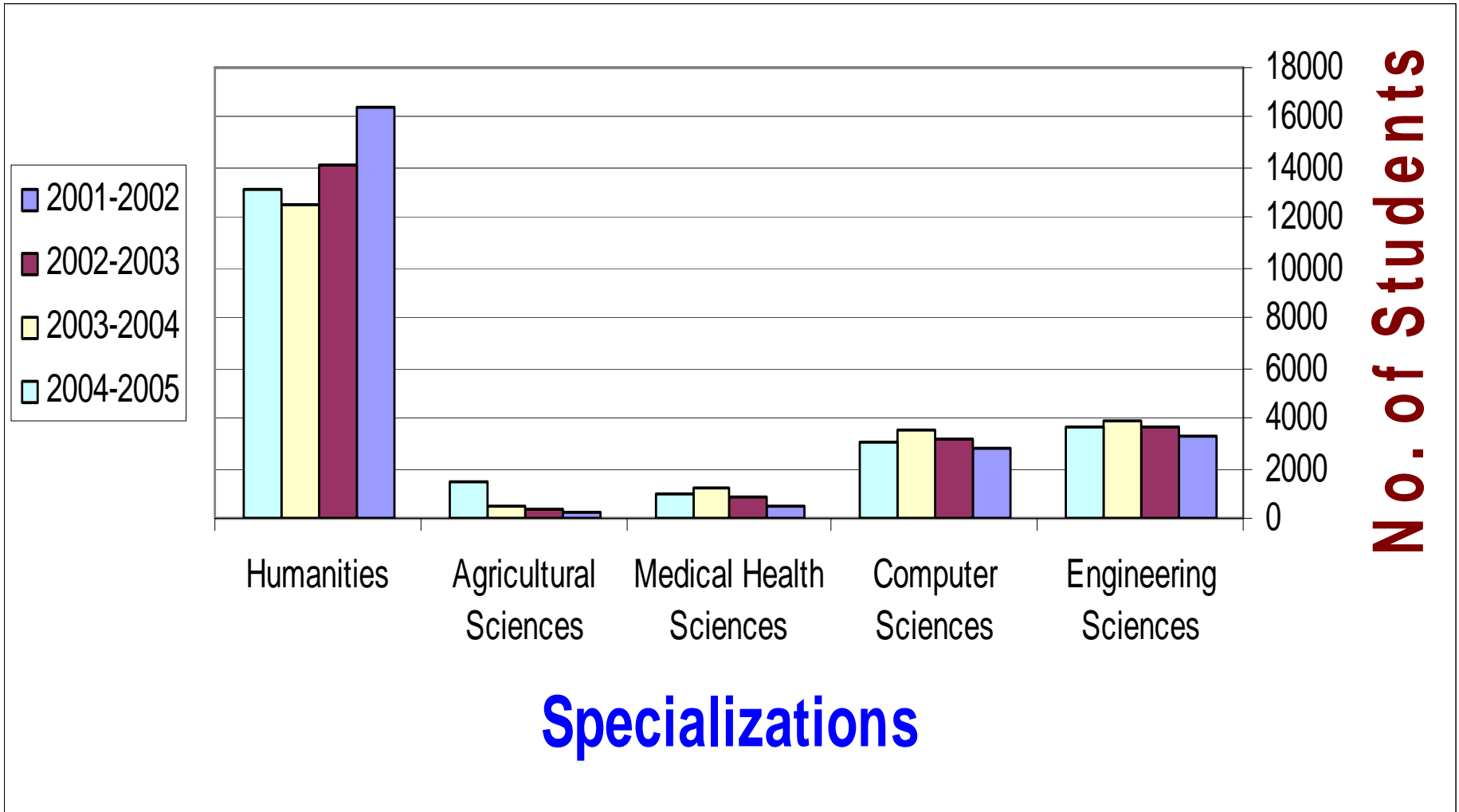




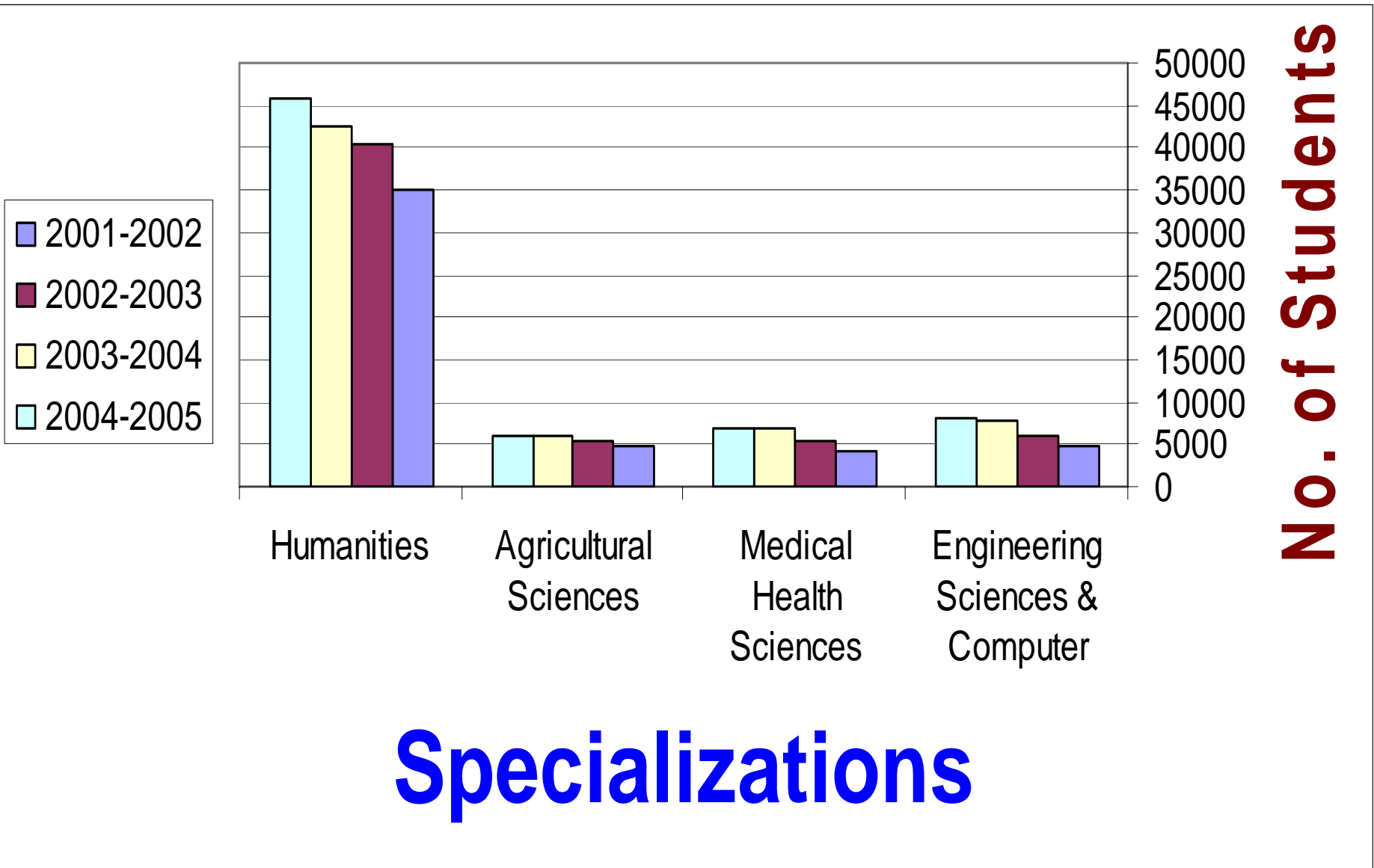
### 3- Current Situation of Technical Education :

The following bar charts show the distribution of diploma students for Higher Education institutions for the academic years **2001/2002 up to 2004/2005**

# Distribution of Diploma Students for Higher Education Institutions for the Academic Years **2001/2002** up to **2004/2005**



# Distribution of B.Sc. Students for Higher Education Institutions for the Academic Years **2001/2002 up to 2004/2005**



# 4- The National Project

## **Establishing Ideal technical colleges**

### **(a) College Objectives :-**

- 1- Providing scientifically and practically qualified technicians able to work in the changing modern technology.**
- 2- Giving due consideration to scarce technical specializations .**

**3 - Giving due consideration to applied scientific research required to the country's development plans .**

**4- The selected specialization of these colleges must satisfy the local needs of the community around the college premises .**

## **(b) College Tributaries**

- 1- Technical secondary schools (industrial, agricultural commercial and woman studies)**
- 2- Academic secondary schools.**
- 3- Successful students in the qualifying course for students of vocational training centers and apprenticeship institutes.**

## (c) Characteristic features of the college:

1. Study system: credit hours system
2. Type of study :Diploma level
3. Number of Departments: 3-5 departments
4. Number of semesters : 4-6 semesters
5. Study hours in class :15-20 credit hours
6. Total credit hours for each programme : 70 –110 hours.
7. Total contact hours (Practical training included) :1500 - 2500 hours

## (d) Preparations :

- \* Laboratories
- \* Workshops
- \* Halls and theatres
- \* Offices
- \* Computer labs
- \* Equipment and devices
- \* Library
- \* Public utilities, gardens and passages



## **(e) Fields of Technical Colleges:**

### **1- Technical Engineering Colleges :**

#### **( Civil Engineering )**

**(Construction - Irrigation and drilling - Sewage system - Roads and bridges - Buildings and quantitative methods - Surveying - Environmental Engineering - Hydraulic Engineering)**

#### **(Electrical Engineering)**

**(Internal Electrical Connections - Electrical Networks - Electronic devices- Computer maintenance - Computer Network - Medical equipment and instruments - Communication - Electrical Equipment and Devices)**

## **( Mechanical Engineering)**

**(Automobile - Thermal power - Jet engineering - Agricultural Machine - Heavy Machines - Air conditioning and Refrigeration - Welding and Smithery - Metallurgy – Foundary ).**

## **(Petroleum and Mining Engineering )**

**(Drilling - Petroleum refining - Mining - Petroleum transport (Pipeline only)**

## **( Textile Engineering)**

**(Trico - Dyeing and Printing - Textile - Spinning and Weaving) .**

## **( Chemical Engineering)**

**(Food processing - Pharmaceutical manufacturing - Leather - Plastics - Oil manufacturing – Sugar technology ) .**

## 2- Health Technology Colleges:

(Medical laboratories - Cardiography - Optics - Radiology - Anaesthesia - Stomatology – Dental technology - Public health - Nursing - Artificial limbs - Physiotherapy)

### **3- Agricultural Technology Colleges:**

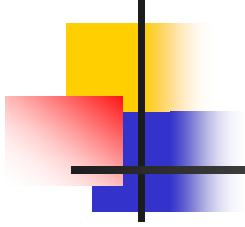
**(Agricultural Mechanization - Crop production - Horticulture - Crop protection - Forestry - Food technology - Animal health - Animal production - Soil - Ecology and desertification – Pasture)**

## **4- Social and Commercial Technology Colleges:**

(Accounting - Business administration -  
Computer applications - Guidance and education  
- Social service - Clinical psychology -  
Kindergarten - Applied statistics – Woman  
development)

**When designing the programmes of these colleges , the following points should be noted :**

- 1- The programmes are unique and not a print copy of other ones.**
- 2- Special considerations to be given for rare but important specializations.**
- 3- The programmes must obey the local community needs .**
- 4- The programmes must fulfill the country development needs .**



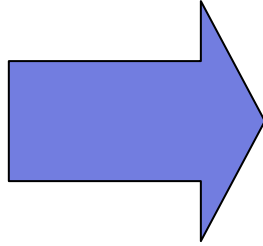
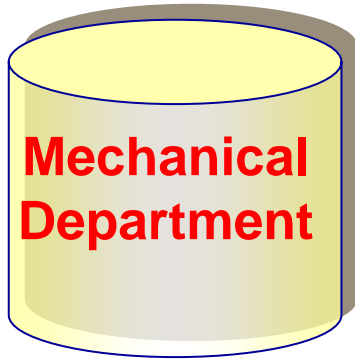
# 5- The Technical Colleges



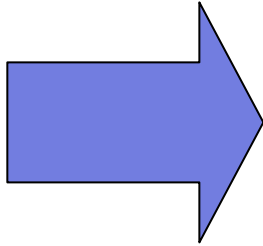
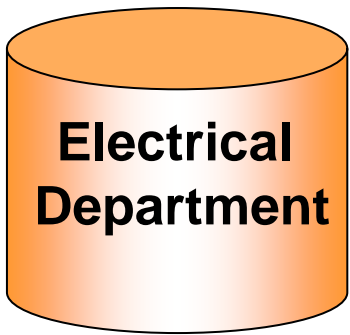
# **THE NUMBER OF TECHNICAL COLLEGES NOW IS 19 :**

|   |                                 |
|---|---------------------------------|
| <b>Nyala Technical College</b>          | <b>- Southern Darfour State</b> |
| <b>Elbadri Technical College</b>        | <b>- Nile Valley State</b>      |
| <b>Elmehairiba Technical College</b>    | <b>- Gaziera State</b>          |
| <b>Kenana Technical College</b>         | <b>- White Nile state</b>       |
| <b>Kassala Technical College</b>        | <b>- Kassala State</b>          |
| <b>Bentio Technical College</b>         | <b>- Unity State</b>            |
| <b>Elgetaina Technical College</b>      | <b>- White Nile state</b>       |
| <b>Wad Madani Technical College</b>     | <b>- Gaziera State</b>          |
| <b>Elgeraif Sharg Technical College</b> | <b>- Khartoum State</b>         |
| <b>Portsudan Technical College</b>      | <b>- Red Sea State</b>          |
| <b>Marawi Technical College</b>         | <b>- Northern state</b>         |
| <b>Gadarif Technical College</b>        | <b>- Gadarif State</b>          |
| <b>Elfieg Technical College</b>         | <b>- Gaziera State</b>          |
| <b>Rabak Technical College</b>          | <b>- White Nile state</b>       |
| <b>Om Rowaba Technical College</b>      | <b>- North Kordofan state</b>   |
| <b>Damazin Technical College</b>        | <b>- Blue Nile state</b>        |
| <b>Fadasi Technical College</b>         | <b>- Gaziera state</b>          |
| <b>Elbadri Health Technical College</b> | <b>- Nile Valley State</b>      |
| <b>Faris Technical College</b>          | <b>- Gaziera State</b>          |

# COLLEGE DEPARTMENTS & SPECIALIZATIONS :



- Agricultural Machines
- **Automobile**
- Conditioning & Refrigeration
- **Mechanics & Production**
- Maintenance Machines
- **Mechanical Electronic**
- Maintenance Ships

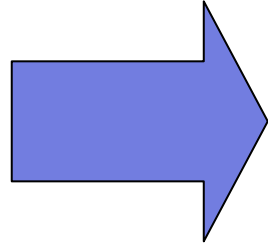


- Networks & Electrical Communications.**
- Electrical Machines .**
- Electronics**
- Medical devices**
- Control Systems**
- Power Generation**

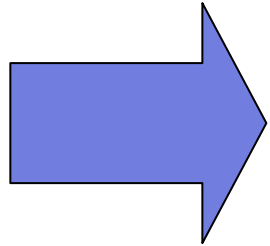
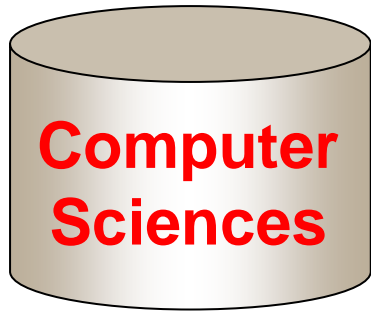


**Civil  
Department**

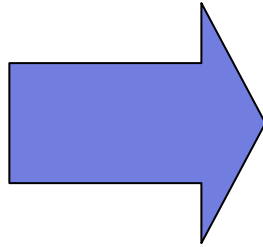
- **Water Technology**
- **Road & Bridges**
- **Buildings**
- **Technical Drawing**
- **Architectural Decoration**
- **Technical Drawing by Computer**



- **Social Development**
- **Administrative Sciences**
- **Accounting**



- **Computer Sciences**
- **Commercial & Accounting Systems**



- **Agricultural Production techniques**
- **Animal Production techniques**

**Illustration Photos**

**For Technical Colleges**

1

Nyala Technical College





قوله  
التقنية الاجتماعية

12 14:15









3 10:15



2

Elbadri Technical College

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ  
وَعَلَّمَ اللَّهُ نَبِيَّكُمْ لِيُخَوِّدَكُمْ بِأَسْمَاءِ الْبَدْرِيِّينَ  
كلية الشيخ عبدالله الشيخ البدرى التقنية











8 4 2008





8 7 2008



8 7 2008









8 7 2008



28 12:26 AM







10 2:16 AM





27 11:28 PM



12 10:19 PM

3

El Mehairiba Technical College

وزارة التعليم العالي والبحث العلمي  
هيئة التعليم التقني  
كلية المكيريا التقنية





الإفتتاح

رعاية / بروفيس

وتشريف

29 0:16







4

Kenana Technical College













8 11:53

5

Kassala Technical College







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6

Bentio Technical College





7

El Qutina Technical College









8

Wad Madani Technical College







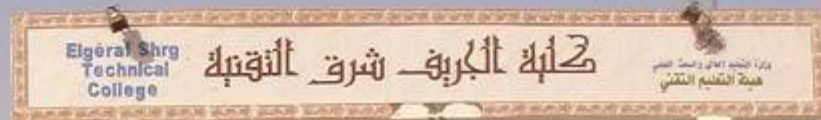






9

El Geraif Sharj Technical College



12 10:42













10 A.C. INTEGRATED MACHINE  
WATTS 200 7700 50/60 Hz  
VOLTS 220 V RPM 1400  
AMPS 0.9 A G.R. 5.7 A  
S.S. 0.0001 0.0001 0.0001 0.0001  
0.0001 0.0001 0.0001 0.0001  
0.0001 0.0001 0.0001 0.0001

ANSHUMAN Tech. Pvt. Ltd.  
Sr. No. D607015









**M300**

**HARRISON**  
600 Group

10

Port Sudan Technical College





16 8 2007





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16 8 2007

11

Marawi Technical College









P200H









12

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El Fiej Technical College







16 10:25





13

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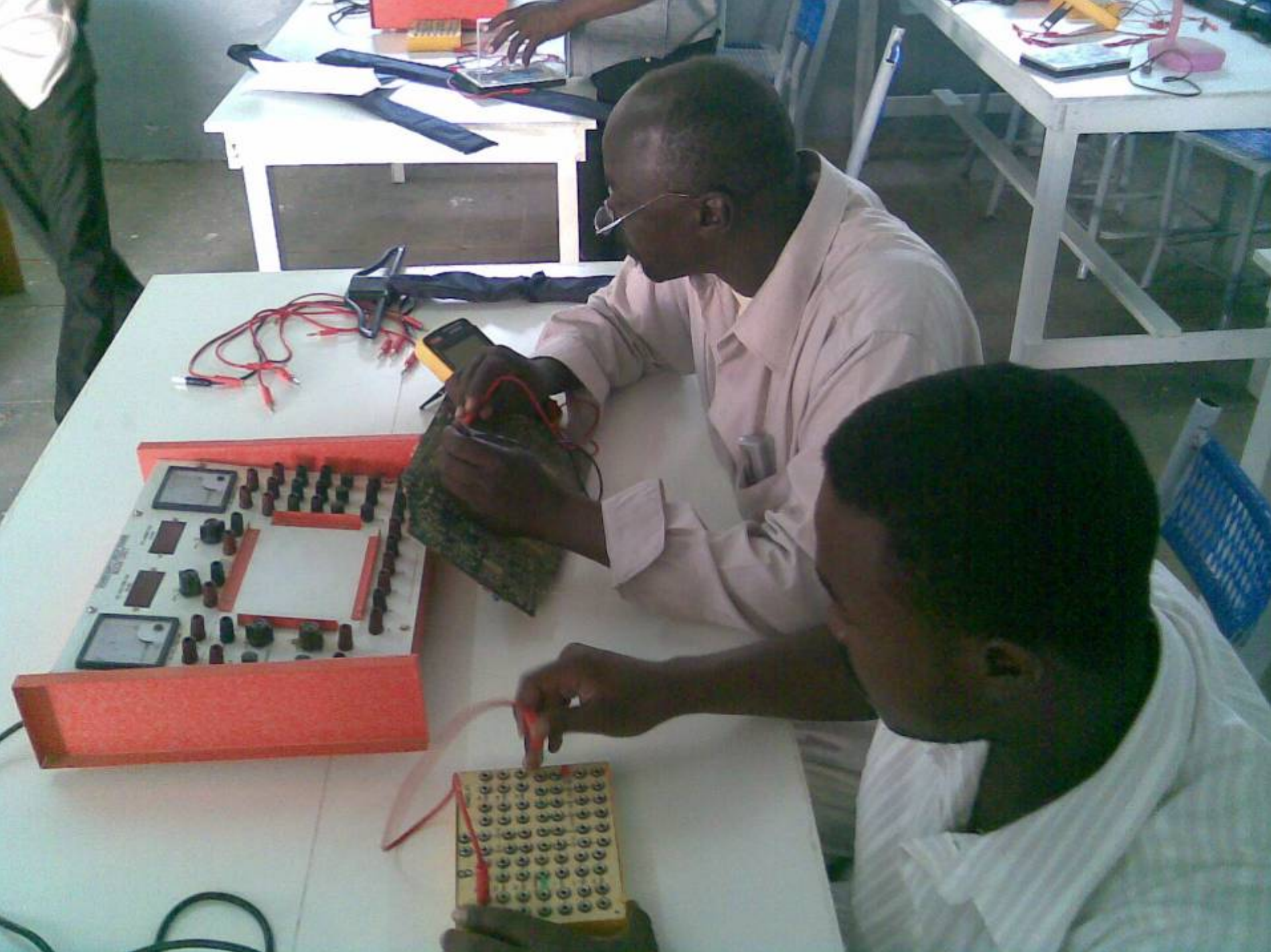
Gadarif Technical College



GADARIF TEC COLLEGE

كلية القضايف التقنية









2007/01/01



14

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Um Rawaba Technical College













15

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El Damazin Technical College



22 3 2009



16

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Elbadri Health Technical College





**New Equipment & Labs Provided**

**For Technical Colleges**



FLUID MECHANICS & MONITORING PRESSURE UNIT

WATER MANOMETER

INCLINED TUBE MANOMETER

ARCHIMIDES PRINCIPLE APPARATUS

PRESSURE



12 10:51



# ELECTRICAL MACHINE TRAINER









12 10:54









12 11:08






12 11:09

## **6- Promotion of Technical Education**

**Through :**

- Different Mass Media : Written, Spoken & Seen .**
- Highlighting the role of the technicians in development as a whole and giving examples of some developed countries such as UK , Korea , Germany , Japan, ..., ETC.**

- 
- **Improvement of employment services .**
  - **Close links between the Technical education and the work sectors .**
  - **Exemption from tuition fees .**
  - **Offering free accommodation for technical students .**
  - **Upgrading of technicians through more qualifications .**



# 7- Challenges Facing Technical Education:

- 1- Improving the ratio of Diploma to B.Sc.
- 2- Finance : government , foreign donations, private sector , trainee fees .
- 3- Capacity building of teachers and trainers.
- 4- Job description specification for each specialization.
- 5- Development of curricula to suit the labour market.
- 6- Quality of Technical Education
- 7- Flexibility in admission
- 8- Diversification of programs

Thank you for your  
attention