

DACUM Research Chart for Biomedical Technician

General Knowledge and Skills

- Communication skills
- Computational skills
- Computer skills - spreadsheet, word processing
- GMP
- GLP
- GDP
- MSDS
- Basic analytical chemistry
- Microbiology
- Biology
- Biochemistry

Tools, Equipment, Supplies & Materials

- HPLC
- Weighing Machine
- Pipette
- Buret
- PH Meters
- GC
- Auto Titrator
- Karl Fischer Titrator
- Oven
- Fridge
- Incubator
- Centrifuge
- AA
- FTIR
- Ultra Violet Spectrometry
- Auto clave
- Viscometer
- Polarimeter

Future Trends / Concerns

- Greater Automation
- Threat: Automation replacing technician
- Possibility of out-sourcing testing activities to third party
- More stringent bio-safety regulation

Worker Behaviors

- Organised
- Disciplined
- Honest
- Punctual
- Meticulous
- Responsible
- Personal hygiene
- Self-motivated
- Team player

- Reflector Meter
- Hygrometer
- Particle sizing
- TOC Analyzer
- Conductivity Meter
- Thermo Cyder
- Thermometers
- Stop watch
- TGA
- DSC
- Glassware
- Fume Hood
- Lamina Flow Hood
- Isolator
- Biosafety Hood
- PPE
- Water Purifier
- Chemicals

- PAT
- Able to catch the phase and market requirement
- More awareness of bio-ethics is expected
- From paper to paperless recording and testing

DACUM Research Chart for Biomedical Technician

DACUM Panel

Dr Alice Tay
Institute of Molecular & Cell Biology

Mr Wong Tze Yin
Raffles Hospital Pte Ltd

Miss Rosa Ria Riyadi
Schering-Plough Ltd

Dr Ngim Chun Han
Icon Clinical Research (Pte) Ltd

Mr Jason Soong
Merck Sharp & Dohme (S) Pte Ltd

Mr Ang Ting Siong
Aventis Pharma Manufacturing Pte Ltd

DACUM Facilitators

Chief Facilitator

Janie E Thomas
Thomas & Associates
Dallas, Texas

Facilitators

Mohd Farid Shah
Reid Group

Tracy Lee
Singapore Workforce Development
Agency

Victor Ong
Commercial & Industrial Security
Coporation

Christine Siat
Institute of Technical Education

Philip Tan
Institute of Technical Education

Produced by



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Singapore

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Duties		Tasks											
A	Pre-Analyse Test Samples	A-1 Collect test samples for analysis	A-2 Document receipt of test samples	A-3 Check validity of test samples	A-4 Register test samples for analysis	A-5 Separate test samples according to test required		A-6 Aliquot test samples	A-7 Retain remaining test samples				
	B	Analyse Test Samples	B-1 Don PPE	B-2 Schedule requested lab test	B-3 Prepare test sample and reagent	B-4 Calibrate test instrument	B-5 Identify test sample's bio-chemical compounds		B-6 Determine test sample's chemical purity / impurities		B-7 Determine test sample's analyte concentration		B-8 Perform microbial tests
			B-10 Dispose test sample & waste										
C	Report Test Data	C-1 Compile test data	C-2 Verify test data	C-3 Report abnormal test result	C-4 Obtain test data sheet	C-5 Record test data	C-6 Generate test report						
	D	Maintain Lab Equipment / Instruments	D-1 Test equipment/instrument calibration	D-2 Clean lab equipment/instruments	D-3 Purchase consumable items for lab equipment/instruments		D-4 Replenish consumable items for lab equipment/instruments		D-5 Replace consumable items for lab equipment/instruments		D-6 Troubleshoot minor lab equipment/instrument breakdown		D-7 Report major lab equipment/instrument problems
E		Perform Housekeeping Activities	E-1 Replace PPE periodically	E-2 Purchase testing consumable items	E-3 Clean lab apparatus	E-4 Store chemicals in containment pallet	E-5 Check expiry date of reagent	E-6 Check lab environment	E-7 Clean work station	E-8 Arrange for waste disposal			
	F	Perform Ad-Hoc Activities	F-1 Dispatch test sample / documents	F-2 Train new staff	F-3 Conduct tours for visitors/new staff	F-4 Make promotional posters	F-5 Respond to enquires (e.g., public/general)		F-6 Generate progress report	F-7 Conduct presentation (e.g., new developments/instrument)			
G		Maintain Lab Documentation	G-1 Record usage of equipment / instruments	G-2 Archive test data (eg. quality control data)		G-3 Archive log-in records	G-4 Record lab equipment/instrument servicing problems		G-5 Record training activities	G-6 Record waste disposal	G-7 Update inventory records (e.g., consumables, chemicals)		

Acronyms

AA = Atomic Absorption
DSC = Differential Scanning Calometry
FTIR = Fourier Transform Infra Red
GC = Gas Chromatography
GDP = Good Documentation Practice
GLP = Good Laboratory Practice
GMP = Good Manufacturing Practice
HPLC = High Performance Liquid Chromatography
MSDS = Material Safety Data Sheet
OOS = Out of Specification
PAT = Process Analytical Technology

PAT = Process Analytical Technology
PPE = Personal Protective Equipment
TGA = Thermo Gravimetric Analysis
TOC = Total Organic Carbon