

**OFFICE OF THE PRINCIPAL, SALIPUR AUTONOMOUS COLLEGE,
SALIPUR.ODISHA. 754202.**

**A. LIST OF EQUIPMENTS TO BE PURCHASED UNDER
DBT-STAR COLLEGE SCHEME.**

PHYSICS

1. Maxwell needle with accessories. (i. Hollow cylindrical brass tube of length 60 cm with two solid and two hollow each having 15 cm length. ii. Stop clock , Least count 1 sec.)
2. LCR meter with frequency oscillator. (Series and Parallel resonance)
3. R. C. circuit app. (With varying EMF, Variable Power supply)
4. Raleigh Bridge.
5. Norton's theorem app. (DC Circuit)
6. Thevenin's theorem apparatus.
7. D. C. Regulator Dual power supply (0-15 V, 1amp).
8. D. C. Regulator Dual power supply (0-30 V, 2amp).
9. Digital Storage Oscilloscope (Dual channel & Dual trace).
10. Function Generator (1 Mega Hz.) (i. Impedance – 50E ii. Wave form sine, triangle and square wave)
11. Digital multimeter (with Capacitance & frequency measurements).
12. Thermal Conductivity apparatus. (Searl's method).
13. PN Junction diode characteristic apparatus. (With DPM for current, DPM for voltage)
14. Zener diode characteristic apparatus.
15. R. C. Coupled amplifier with frequency variation.(With Function generator with frequency range up to 50 KHz.)
16. Colpitt oscillator. (RF (L-C) Oscillators, Digital frequency counter)
17. Planck's Constant by Black Body radiation.
18. Lissajous figures apparatus with accessories. (i. Cathode Ray Oscilloscope-dual channel, dual trace)
19. e/m by bar magnet (Braun's tube).
20. Calendar & Barne's apparatus. (i. Battery Eliminator – upto 12 volt (variable) ii. D.C. Ammeter (0-2A) iii. D.C. Voltmeter (0-15V))
21. Cathode Ray oscilloscope (Dual channel & Dual trace).
22. He-Ne LASER source with single & double slit. (i. 1 Mw with power supply ii. Wavelength 670 nm & 750 nm)
23. Trainer Kit for digital electronics (All gates, adder subtracter, Flip flop, op-amp). (i. All gates-OR,AND, NOR, NOT, NAND. ii. Adder (Full adder, half adder) iii. Subtracter iv. Flip-flop (JK, RS, etc) v. op-Amp (inverting, Non inverting, differentiator, Integrator) vi. Dual power supply (-5-0-+5) (-15-0-15)
24. Hall Effect apparatus (i. Electromagnet 5KG ii. Hall probe Germanium crystal N-type (Extra Ge Crystal N-type – 10/12 mm-length, 4/5 mm breadth, 1/2 mm thickness)

25. Four Probe apparatus (i. Four Probe set-up for resistivity and band gap measurement of semiconductor samples)
26. Micro wave Test Bench (i. Klystron based oscillator/ Gunn based for reflection and refraction.)

CHEMISTRY

1. Digital pH meter
2. Digital Colorimeter
3. Digital Potentiometer
4. Digital Conductivity meter
5. Paper Chromatography kit
6. Water & soil analysis KIT (8 parameters)
7. Fume Hood
8. Digital Analytical Balance
9. Magnetic Hotplate stirrer
10. TLC Kit
11. Heating Mantle with spare coil
12. Digital Centrifuge
13. BOD Incubator
14. Vacuum pump

1. Technical Specification of Digital pH meter

| | |
|-------------------------|--|
| pH | |
| Range | -2.000 to 20.000 pH |
| Resolution | Selectable 0.1, 0.01, 0.001 pH |
| Accuracy | ± 0.002 pH ± 1 digit |
| Read Out | 128 x 64 dots Graphical LCD Display |
| Calibration | Auto & Manual with 5-Point Calibration |
| Auto Buffer Recognition | 1.680, 4.000, 7.000, 9.200 & 12.450 pH or User Defined |
| Relative Stability | ± 0.002 pH/Hour |
| Temp. Compensation | -5 to 110°C Auto/Manual |
| | |
| mV | |
| Range | 0 to ± 1999.9 mV |
| Resolution | 0.1 mV & 0.01 mV |
| Accuracy | ± 0.1 mV ± 1 digit |
| | |

| | |
|--------------------------|---|
| Temperature | |
| Range | -5 to 110°C |
| Resolution | 0.1°C |
| Accuracy | ±0.1°C |
| | |
| Sensor | Semi Conductor Type |
| Power Supply | 230V ± 10% AC |
| Printer Interface | External Serial RS 232 Dot Matrix Printer Interface |
| Accessories | Combination pH Electrode, Temperature Probe, Buffer Tablets 4 pH & 7pH, Electrode Stand |
| | |

2. Technical Specification of Digital Colorimeter

| | |
|-------------------|--|
| Range | 400 ~ 700 nm |
| Detector | Silicon Photodiode |
| Accuracy | + 0.01 O.D. |
| Stability | + 0.02 O.D. Per Hour |
| Light Source | Highly Accurate Laser Source |
| Volume | 1 ml. minimum |
| Dimension | L 210 X B 160 X H 80 mm (approx.) |
| Battery Backup | 6 V Ni CD Re-chargable Battery |
| Display | Dual Digital Display |
| Display Model | Absorbance & Wavelength |
| Filter Wavelength | 400 nm, 430 nm, 500 nm, 520 nm, 540 nm, 580 nm, 600 nm, 620 nm, 680 nm |
| Filters | Built in 9 Digital filters 30,000 hours Life |

3. Technical Specifications of Digital Potentiometer

| | |
|-------------------|---|
| Auto Range:- | 0 to ± 1999 mV |
| Resolution:- | 0.1 mV |
| Repeatability:- | ± 1 mV |
| Accuracy:- | ± 1 mV ± 1 Digit |
| Operating Temp.:- | 10 to 45 °C |
| Display | LED Display |
| Accessories | ORP Electrode Temperature Probe Electrode Stand Operation Manual Dust Cover 12V DC Adapter |
| Power Supply | 230V, ± 10% AC, 50 Hz |

4. Technical Specifications of Digital Conductivity meter

| | |
|-----------------------|---|
| Display | Alphanumeric LCD |
| Measurement | Conductivity & Temperature |
| Range | Five Ranges: - 0-200 $\mu\text{S/cm}$, 0-2 $\mu\text{S/cm}$, 0-20 $\mu\text{S/cm}$, 0-1000 $\mu\text{S/cm}$ |
| Range Selection | Automatic in 5 Auto Ranges |
| Accuracy Cond. Temp. | $\pm 0.5\%$ FS, ± 1 Digit Temp. $\pm 0.1^\circ\text{C} \pm 1$ Digit |
| Temperature | Automatic 0-50 $^\circ\text{C}$ |
| Cell Constant | Adjustable |
| Conductivity Cell | Platinum DIP Type |
| Resolution Cond. Temp | 0.1 S/cm, 0.1 $^\circ\text{C}$ |
| Power Supply | 12V DC Adapter (230V $\pm 10\%$ AC, 50 Hz) |
| Accessories | <ul style="list-style-type: none"> • Conductivity Cell • Temperature Probe • Operation Manual • Dust Cover • Conductivity Cell Stand • 12V DC Adapter |

5. Technical Specifications for Water & soil analysis KIT (8 parameters)

| | |
|---------------------------------|--|
| pH Measurement | Range : 0-14 pH Resolution : 0.01pH Accuracy : + 0.01 pH (Relative) Temp. Compensation: Automatic with Pt-100 Probe & Manual By Keys Buffer Recognition: 4.00, 7.00 & 9.20 (Automatic) Calibration : Automatic & Manual - 2 Point |
| Conductivity Measurement | Range : 0-1000 mS/cm Range Selection : Automatic Resolution : 0.01/ 0.1/ 1 uS/cm or mS/cm as per Range No. of Ranges : Six Accuracy : + 0.5% Temp Compensation : Automatic with Pt-100 Probe |

| | |
|-------------------------------------|---|
| | <p>Ref.Temperature : 25°C/20 degree C (Prog.) Temp. Co-efficient : 0-4% Adj. Cell Constant : 0.05 to 2.0 Adj.</p> |
| SALINITY MEASUREMENT | <p>Range : 0-200ppt in 5-Ranges - Automatic Resolution : 0.01/0.1/1 ppm or ppt as per Range Temp. Comp. : Automatic Accuracy : + 0.5% Salinity Factor : 0.75 By Default(Adjustable) Cell Constant : 0.05 to 2.0 Adjustable Ref. Temperature : 25°C/20 degree C (Prog.)</p> |
| TDS Measurement | <p>Range : 0-200ppt in 5 Ranges - Automatic Resolution : 0.01/0.1/1 ppm or ppt as per Range Temp. Comp. : Automatic Accuracy : + 0.5% TDS Factor : 0.50 By Default (Adj.) Cell Constant : 0.05 to 2.0 Adj. Ref. Temp. : 25°C/20 degree C (Prog.)</p> |
| Dissolved Oxygen Measurement | <p>Range : 0 to 20 ppm Resolution : 0. 1 ppm Calibration : Automatic Accuracy : + 0.2 ppm + 1digit Temp. Compensation : Automatic with Pt-100 Probe & Manual by Keys Pressure Comp. : 0-999 mm of Hg (Manual) Salinity Correction: 0-20 mg/l</p> |
| Turbidity Measurement | <p>Range : 0-1000 NTU in Two Ranges Resolution : 0.1 NTU in Lowest Range Range Selection : Automatic Accuracy : 3% FS 1 digit Detector : Photodiode/Photocell Sample System : 30 mm Clear Glass Test Tubes Light Source : 6V Tungsten Lamp Calibration : Manual</p> |
| Temperature Measurement | <p>Range : -20 to +200°C Resolution : 0.1°C Accuracy : + 0.2% + 1Digit Input : Pt-100 Probe Calibration : Manual</p> |
| General | <p>Display : 16 Characters X 2 Lines Alpha Numeric LCD Display Format : Temp. and Parameter Simultaneously Real Time Display : 24 Hour Mode With Date & Time Controls : By Soft Keys Menu Driven</p> |
| Storage Memory | Up to 1000 Samples |
| Power Supply | 230 V +10 %, 50 Hz AC/12 V Rechargeable Battery |
| Digital Output | Serial RS-232 & Parallel Centronics |

6 Technical Specification for Fume Hood

| | |
|---|---|
| Material | SS 304 & MS/GI Powder Coated |
| Working Size: | L 3 x D 2 x H 2 Feet |
| motors | 1440 Rpm Single or three phase |
| Single vertical sliding concealed type door | |
| Centrifugal blower of delving type in | built baffle system |
| Suction | -1000 - 1800 cfm/min |
| Flooring working covered by Granite | |
| With storage cabinet | |
| Gas connection inlet | |
| Standard IS | 325 |
| Centrifugal blower of delving type in – | built baffle system |
| Dynamically balanced impeller | |
| Balanced by counter weights | |
| ELECTRICAL ARRANGEMENTS: | 2 Nos 15 amps 3 pin socket cum control switch > One push type DOL stator, > Indicator lamps and > Chamber lighting by integral fluorescent |
| WARRANTY | 1 Year |

7 Technical Specification for Digital Analytical Balance

| | |
|-------------------------|--------------------------------|
| Capacity | 220g |
| Readability | 1 mg |
| Repeatability (stddev) | 1 mg |
| Linearity (+/-) | 0.2 mg |
| Pan size (mm/inch) | 80mm |
| Response time: | 2-4sec. |
| Display: | Alpha Numeric LCD Display |
| Calibration: | Automatic External Calibration |
| Unit of measure: | gram |
| Tare Range: | Full |
| Operating Temperature | 5° to 40°C |
| Compliance: | ISO, GLP / GMP Compliance |
| Power Supply AC Adapter | AC Adapter 230V/115V, 50/60 Hz |

8 Technical Specification for Hotplate Magnetic Stirrer

| | |
|------------------------------|-------------|
| Dimension of work plate (mm) | 135 (5inch) |
|------------------------------|-------------|

| | |
|--------------------------------------|-------------------------------------|
| Work plate material | Stainless steel with ceramic coated |
| Motor type | DC brushless motor |
| Voltage (VAC) | 200-240 |
| Frequency (Hz) | 50/60 |
| Speed range (rpm) | 100-1200 |
| Speed display | LCD |
| Heating temperature range (°C) | Rt-250, increment 1 |
| Safety temperature (°C) | 250 |
| Temperature display | LCD |
| External temperature sensor | |
| Heating warning (°C) | 300 |
| Protection class | IP 42 |
| Dimension (W x D x H)mm | 160 X 280 X 85 |
| Weight (kg) | 2-3kg |
| Permissible ambient temperature (°C) | 5-40 |
| Permissible relative humidity | 80% |
| Max. Volume (ml) | 2000 |

9 Technical Specification for TLC KIT

| | |
|---------------------------------------|---------------------------------|
| Spreader (applicator) | electroplated brass |
| Perspex base | to support glass plates |
| Plate rack | aluminium |
| Developing tank with lid. | Glass (Rectangular) |
| Spotting template | perspex |
| Glass-Backed TLC plates | Rectangular, Silica gel |
| Glass sprayer with rubber bellow, cap | 100ml |
| Micro-pipette | |
| Subscriber for marking lines | stainless steel |
| Desiccator cabinet | for storing plates of TLC |
| T.L.C Master Sheet | for direct reading of Rf values |
| Capillary tubes | Borosilicate Glass |

10 Technical Specification for PC KIT

| | |
|------------------------------|-------------------|
| Paper Chromatography Cabinet | |
| Stainless Steel Solvent Pot: | capacity of 150ml |

| | |
|-----------------------------------|--|
| Stainless Steel Hanger: | |
| Chromatography paper | world standard Chromatography paper A smooth surface with linear flow rate. Good resolution for general analytical Separation |
| Drying Stand: | |
| Glass Sprayer with Rubber Balloon | Borosilicate Glass, specially designed for spraying the indicators on Chromatography Paper |
| Glass syringe | capacity 20 ml |
| Capillary: | 25 igh quality fine capillaries |

11 Technical Specification for Heating Mantle

| | |
|----------------------|-----------------------|
| Controller | MANUAL |
| Air-Flow Direction | Vertical Down Airflow |
| Voltage | 230 |
| Display | Analog |
| Phase | SINGLE |
| maximum surface temp | 300°C |
| Flask size | 250ml |

12 Technical Specification for Laboratory Centrifuge

| | |
|-----------|----------|
| Test Tube | 4-8 |
| Capacity | 15ml |
| Range | 5000 RPM |
| Timer RPM | Digital |

13 Technical Specification for Bod Incubator

| | |
|-------------------|------------------------------------|
| Chamber Volume | 250 Litre |
| Number of Shelves | 2 Shelves |
| Material | Mild steel |
| Indicator lamps | main, heating and incoming voltage |
| Temperature from | 5°C to 70°C |
| Capacity | 4 Cu ft |

14 Technical Specification for Vacuum Pump for filtration

| | |
|----------------|------------------|
| Max. Flow | 15 LPM, |
| Vacuum | Hg(554 mm)22" |
| Max. Pressure- | 25 PSig, 1/20 HP |
| Motor Power | 0.18 HP |

MATHEMATICS

- 1.Digital MATLAB software
- 2.PCs (latest) with original loaded windows 10
- 3.Laser printer (Big)
- 4.Original kit for C++

Specifications

| Sl.No. | Equipment | Specifications |
|--------|------------------------|--|
| 1 | Desktop Computer | Intel Core i3 (9 th Generation) 19.5" LED Monitor, RAM-4GB, HDD-1TB, Preloaded Window 10 Home |
| 2 | Microtek/ Luminous UPS | 1 KVA |
| 3 | HP Laser Printer | (M405D) |
| 4 | C++ Software | Original |
| 5 | Matlab Software | Symbolic Math Toolbox, Partial Differential Tool box |

BOTANY

- 1.Model Binocular microscope
- 2.Model trinocular microscope
- 3.Electronic Digital Balance KEA 100 (100mg-1mg)
- 4.BM Imported electronic digital top balance
- 5.Digital Ph meter with electrodes
- 6.Genomic DNA Extract kit
- 7.Total RNA extract teaching
- 8.Agrose gel electrophoresis teaching kit
- 9.Gel Electrophoresis apparatus

10.BM Thin layer paper chromatography kit

11.PCR Teaching kit

12.Refrigerated micro centrifuge

| SL NO | NAME OF THE ITEMS |
|--------------|--|
| 01 | BINOCULAR MICROSCOPE standard set complete with standard Binocular head, in-built 6V 20W halogen/LED light illuminator, with Anti Fungus Achromatic Objectives iNEA4x,10x,40x (spring) & 100x (oil, spring), paired eyepieces wide field iCWHK10x (F.N. 18) in thermocole packing, Features : Anti-fungus optics (with sealed optical parts), Interchange ability of Objectives, the Abbe condenser & the light relay system fitted with high performance aspheric lenses for bright & crisp image, Window in arm & the Ergonomic design, Illumination system through SMPS circuit etc |
| 02 | TRINOCULAR MICROSCOPE standard set complete with standard Trinocular head, in-built 6V 20W halogen /LED light illuminator, with Anti Fungus Achromatic Objectives iNEA4x,10x,40x (spring) & 100x (oil, spring), paired eyepieces wide field iCWHK10x (F.N. 18) in thermocole packing, Features : Anti-fungus optics (with sealed optical parts), Interchange ability of Objectives, the Abbe condenser & the light relay system fitted with high performance aspheric lenses for bright & crisp image, Window in arm & the Ergonomic design, Illumination system through SMPS circuit etc |
| 03 | ELECTRONIC BALANCE-220gm,SENSITIVITY-0.001gm CAPACITY_ 100GM Sensitivity: 0.001gm(1mg) |
| 04 | BM IMPORTED ELECTONIC BALANCE, CAP-120gm, SENSITIVITY-0.01mg Weighing Capacity : 120 g Readability : 0.1 mg Pan Size : ϕ 90mm Repeatability : < + 0.1 mg Linearity : < + 0.2 mg Adaptation to Ambient conditions : By selection of 1 of 4 Optimized filter levels |
| 05 | DIGITAL PH METER WITH ELECTRODE PH Range: 0-14PH, Accuracy: 0.01PH, Complete with combined electrode |
| 06 | GENOMIC DNA EXTRACTION KIT This kit is designed for fast isolation of genomic DNA from plant tissues. The kit contains a spin column for binding up to 10 μ g of genomic DNA. Nucleotides, proteins, salts and other impurities do not bind to the MX-10 Column. Purified genomic DNA can be applied in most molecular biology experiments including restriction digestion, PCR, Southern-blotting etc. |
| 07 | TOTAL RNA EXTRACTION TEACHING KIT RNA extraction involves cell lysis, separation of RNA from Proteins, DNA and other |

| | |
|----|--|
| | cell debris and precipitation of RNA. Plant cells are lysed using Solution-I (RNA extraction solution) and solubilize their components and denature endogenous RNase simultaneously. The RNA is separated using solution- II (RNA Present in the aqueous phase) and Precipitated using the Solution-III (Isopropyl alcohol) |
| 08 | AGAROSE GEL ELECTROPHORESIS TEACHING KIT HiPer® Agarose Gel Electrophoresis Teaching Kit is stable for 12 months from the date of manufacture without showing any reduction in performance. On receipt, store 1 kb DNA Ladder and samples at -20oC and the 6X Gel Loading Buffer at 2-8oC. Other kit contents can be stored at room temperature (15-25oC). |

| SL NO | NAME OF THE ITEMS |
|-------|--|
| 09 | GEL ELECTROPHORESIS APPARATUS WITH POWER SUPPLY Mini Submarine Electrophoresis Unit The unit includes buffer chamber, safety lid with cable, UV transparent gel tray and one each of 1.5mm thick 8 and 15 well combs. Single piece tank is leak-proof. 7x7cm Gel can be conveniently cast in the tank itself using the casting gates provided. Spirit level is provided. POWER SUPPLY FOR ELECTROPHOROSIS APPARATUS Specifications Input: 220V AC, 50-60Hz Output: 0-300V@0-100mA Fuse: 1Amp Timer: Digital presets Displays: Digital Volt & Current Meters |
| 10 | BM THIN LAYER PAPER CHROMATOGRAPHY KIT Paper Chromatography Cabinet , Ascending or Descending, made of teak wood and glass construction. It can accommodate two (troughs) and six glass rods Cabinet size : 60x30x60 cm. approx for 4 filter papers of 46x57 cm. Size |
| 11 | PCR TEACHING KIT Polymerase Chain Reaction (PCR) is an in vitro method of enzymatic synthesis of specific DNA fragment developed by Kary Mullis in 1983. It is a very simple technique for characterizing, analyzing and synthesizing DNA from virtually any living organism (plant, animal, virus, bacteria). PCR is used to amplify a precise fragment of DNA from a complex mixture of starting material called as template DNA. |
| 12 | REFRIGERATED MICROCENTRIFUGE SALIENT FEATURES Stable speed output Wide variety of rotors & reduction adaptors Precise temperature control up to – 8°C Pre-cooling feature Fast spin feature Calibration window on lid for speed (rpm) Brushless Induction motor with variable frequency drive ensures gentle start Microprocessor based unit with alpha numeric LCD display |

| | |
|--|--|
| | Self-diagnosis of errors Parameters setting through easy to use bi-directional encoder Inverter fault detection with auto shutdown CFC free refrigeration system 24 programme memory 3 Accelerations, 4 Deceleration profiles Choice of rpm / rcf setting & display Operating panel with feather touch keys Digital countdown timer 0-99 minutes & continuous run Last set parameters recall (Useful for repetitive analysis) Automatic door opening Log of cumulative centrifuge run time Automatic Rotor identification Safety lid interlock to prevent lid opening during centrifugation Imbalance detection & centrifugation stop with display of error Motor overload protection Gas hinge to prevent falling of door Emergency lid lock release |
|--|--|

ZOOLOGY

- 1.Refrigerated centrifuge
- 2.Sandwich enz.immunoassay ELISA kit(Human)
- 3.Olympus Research microscope CX-LED
- 4.Water analysis kit
- 5.Olympus Halogen illumination
- 6.Olympus microscope CX-21;RBM
- 7.Gel documentation system
- 8.Soil Analysis kit
- 9..HIV ELISA kit
10. Micropipette 1-10 μ l, 10-100 μ l, 100-1000 μ l
- 11.Cyclomixer vortex mixer 2500rpm
- 12.Dry Bath incubator
- 13.Single door-20⁰ C deep freezer
14. Digital weighing balance
15. Digital P^H meter.

1. Bench- top Refrigerated centrifuge with variable rotor

Specification

Minimum RPM: 14000

Temperature: 4°C

Rotor specification:

1. 6-50(6×50ml) with reducer to fit 15ml falcon tube.
2. 24-2 (24×2ml) with reducer RE 2-02 for 0.2ml.

2. Micropipette set

Specification

Range: 1-10ul, 10-100ul, 100-1000ul

3. -20°C deep freezer

Specification

Capacity: 200L

Temp: -20°C

Single door type

4. Cyclomixers Vortex mixer

Specification

RPM: 2500 RPM

Orbital shaking, With or without finger touch

5. Laboratory digital weighing balance

Specification

Capacity: 0.001 to 600gm

Display: LCD

6. Digital PH meter with electrode

Specification

PH Range: 0 – 14

0.01 pH Resolution

Display: LED/LCD

7. Dry bath heating block

Specification

No. of block: 01

Heating range: 30° to 100°C

Block type: Suitable for 1.5ml/2ml centrifuge tube

8. GEL DOCUMENTATION SYSTEM

Specification:

Type: Mini gel documentation system

Illumination: Trans-UV

Camera resolution: Minimum 15MP

9. Water analyzer

Specification

| | |
|-------------|---|
| Application | Laboratory Use |
| PH Range | 0 to 14.00 pH |
| Resolution | 0.01 pH |
| Accuracy | +/-0.01 pH +/-1 Digit |
| Measures | PH, Conductivity, TDS, Salinity, DO, Temp, Colorimeter, turbidity |

10. Soil analyzer

Specification

Application: Laboratory Use

Measures: Slinity, EC, PH, Conductivity, Nutrients

Product Type: Microprocessor Based, Analysis Kit

Display: LCD

Interface: RS 232 Port

11. HIV ELISA Kit

Specification:

Detects p-24 antigen and antibody of HIV

Incubation time: 105 minutes

No. of Test: 96 tests

12. Sandwich ELISA teaching Kit

Specification

96 tests

13. Olympus (MAGNUS) Microscope

Specification

| | |
|-------------------|-----------------------|
| Usage/Application | Research & Pathology |
| Light Source | Halogen & LED |
| Observation tube | Binocular |
| Eye piece | Paired Eye piece type |
| Magnification | 10x - 100x |

14. Olympus halogen illumination Microscope

Specification

| | |
|-------------------|---|
| Usage/Application | Research & Pathology |
| Light Source | Halogen |
| Observation tube | Binocular |
| Eye piece | 1cwhk 10X (LB eyepiece 10 X), F.N. 18 mm, (anti- fungus) (x2) |
| Magnification | 10x - 100x |

15. Olympus Research Microscope

Specification:

Model: CX21i-TR

Type: Trinocular

B. LIST OF BOOKS TO BE PURCHASED UNDER DBT-STAR COLLEGE SCHEME.

PHYSICS

1. Mathematical Methods for Physicists – G. B. Arfken, H. J. Weber, F. E. Harris.
2. Mathematical Physics – H. K. Dass, Rama Verma.
3. –do- –SatyaPrakash.
4. –do- By B. S. Rajput
5. An Introduction to Ordinary Differential Equations – E. A. Coddington.
6. Mathematical Physics and Relativity – M. Das, P. K. Jena, B. K. Das.
7. Mathematical Physics – Goswami.
8. Mechanics – D. S. Mathur.
9. Feynman Lectures – Vol I,II,III – R. P. Feynman & Others.

- 10.Theoretical Mechanics – M. R. Spiegel.
- 11.Introduction to special Relativity – R. Resnik.
- 12.Analytical Mechanics – G. R. Fowles& G.L. Cassiday.
- 13.Advanced Practical Physics for students – B. L. Flint.
- 14.Advanced level Physics Practicals – Michel Nelson & Jon M. Ogborn.
- 15.Electricity, Magnetism & Electromagnetic Theory – S. Mahajan and Choudhury.
- 16.Introduction to Electrodynamics – D. J. Griffiths.
- 17.Optics – Ajay Ghatak.
18. –do- By Brijlal&Subramaniam.
19. –do- By A. B. Gupta.
20. –do- By SatyaPrakash.
21. –do- By P. K. Chakraborty.
- 22.The Physics of vibrations & waves – H. J. Pain.
- 23.Vibrations and Waves – A. P. French.
- 24.Differential Equations – George F. Simmons.
- 25.Thermal Physics – A. B. Gupta.
- 26.Heat and Thermal Physics – Brijlal and Subramanian.
- 27.Thermal Physics – C. Kittal.
28. –do- By Garg, Bansal, Ghosh.
- 29.Heat and Thermodynamics – SatyaPrakash.
- 30.Concept of Electronics – D. C. Tayal.
- 31.Electronics – V. K. Meheta.
- 32.Digital Principles & Applications – A. P. Malvino, Leach and others.
- 33.Digital Circuits & systems – Venugopal.
- 34.Complex variables – A. S. Fokes& M. J. Ablowitz.
- 35.Concepts of Modern Physics – Beiser.
- 36.Modern Physics – S. Gasiorowicz.
- 37.Introduction to quantum mechanics – Griffith.
- 38.Modern Physics – Murugesan.
- 39.Quantum Mechanics – Gupta Kumar.
40. –do- By SatyaPrakash.
41. –do- By M. Das & P.K. Jena.
42. –do- By Jyotirmaye Gupta.
- 43.Atomic Physics – A. B. Gupta.
44. –do- By S. N. Ghoshal.
- 45.Nuclear Physics – S N. Ghosal.
- 46.Concept of Electronics – D. C. Tayal.
- 47.Electronic devices and circuits – R. L. Boylstan.
- 48.Electronics – Raskhit&Chattopadhyay.
- 49.Quantum Mechanics – Eisberg&Resnick.
50. –do- By Powe&Craseman.
- 51.Classical Mechanics – Goldstein.
52. –do- By J. C. Upadhyay.
- 53.Introductory Nuclear Physics – Kenneth S. Kran.
- 54.Nuclear Physics – Kaplan, Cohen.
- 55.Spectroscopy – Rajkumar.

CHEMISTRY

- 1.Principles of Inorganic Chemistry – Puri, Sharma,Kalia.
- 2.Inorganic Chemistry – Mullick, Tuli, Madan.
- 3.Physical Chemistry – Castellan G W.
- 4.Inorganic Chemistry – Shriver D E, Atkins P W.
- 5.Inorganic Chemistry – Huheey J E, Keiter E A &Keiter R L.
- 6.Stereochemistry Conformation and Mechanism – P. S. Kalsi.
- 7.Practical Organic Chemistry – Mann F G & Saunders B C.
- 8.Text book of Physical Chemistry – K. L. Kapoor.
- 9.Advance course in practical Chemistry Ghosal A, Mahapatra B, Nad A K.
- 10.Elements of Physical Chemistry – Atkins P W & Paula J .
- 11.Physical Chemistry – Levine I N.
- 12.Fundamentals of Inorganic Chemistry – Das Asim Kumar.
- 13.Carbohydrades- Davis B G, Fairbanks A J.
- 14.Organic Spectroscopy - Kemp W.
- 15.Organic Chemistry – T. W. Graham.
- 16.Fundamentals of Moecular Spectroscopy – Banwell C. N. &McCash E. M.
- 17.Introductory Quantum Chemistry – Chandra A. K.
- 18.Fundamentals of Photochemistry – Rohtagi Mukherjee K. K.
- 19.J. Polymer Science – Gowariker V. R. Vishvanathan N. V. &Sreedhar.
- 20.Polymer Science & Technology – P. Ghosh.
- 21.Principles of Polymers – P. Bahadur& N. V. Sastry.
- 22.Experiments in Polymer – Hundiwale G. D. and others.
- 23.Polymer Chemistry: An Introduction – Malcom P. Stevens.
- 24.Introduction to Macromolecular Science – PetrMunk and Tejraj M. Aminabhavi.
- 25.Oxford Green Chemistry – P. T. Anastas& J. K. Warner
- 26.Introduction to Green Chemistry – Kumar V.
- 27.Biochemistry – Berg J M. Tymoczko J L &Stryer.
28. –do- By Talwar G P. &Srivastava.
- 29.Industrial Chemistry – Sharma B K. & Gaur H.
- 30.Engineering Chemistry – P. C. Jain, M. Jari.
- 31.Industrial Chemistry – E. Stocchi.
- 32.Pradeep’s Physical Chemistry Vol I, II - S. C. Khetrpal.
- 33.PhysicalChemitry – R. G. Mortimer.
34. –do- By Bali D. W.
35. –do- By Engel T &Reio P.
- 36.Organi Chemistry – Clayden J, Greeves N, Warren S, Wothers P.
- 37.Pradeep’s Organic Chemistry Vol I & II – S. N. Dhawan
- 38.Organic Chemistry – Morrison R. T., & Boyd R. N.
- 39.Advanced Organic Chemistry – Bhal&Bhal.
- 40.Organic Chemistry – Graham Solomons, T. W.
- 41Pradeep’s Inorganic Chemistry Vol I & II- Universal Book seller.
- 42.Concise Inorganic Chemistry – J. D. Jee.
- 43.Practical Inorganic Chemistery – GulatiShikha, Sharma G &Monocha S.
- 44.Practical Physical Chemistry – Khosla B. D, Garg V. C &Gulati A.

45. Practical Physical Chemistry – Viswanandhan B & Raghavan P. S.
46. Practical Organic Chemistry – F. G. Mann & B. C. Saunders.
47. –do– By Furniss B. S, Hannaford A. J, Smith P. W. G, Tatchell A. R.
48. Vogel's Quantitative Chemical Analysis – Mendham J.
49. A Textbook of Quantitative Inorganic Analysis – A. I. Vogel
50. Principles of Physical Chemistry – Puri, Sharma, Pathania
51. Organic Chemistry Vol I & II – I. L. Finar.
52. Text Book of Practical Organic Chemistry – A. I. Vogel.
53. Stereochemistry of Carbon compounds – E. L. Eliel.
54. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis – Ahluwalia V K, & Aggarwal R.
55. Physical Chemistry – G. W. Barrow
56. Text Book of Organic Chemistry – P. S. Kalsi
57. Natural Product Chemistry – Singh J, Ali S M, & Singh J.
58. Principles of Biochemistry – Nelson D L, Cox M M, and Lehninger A L.
59. Text Book of Polymer Science – F. W. Billmeyer.
60. Green Chemistry Experiment: A monograph – Sharma R K, Sidhwani I T & Chaudhari M K I K.
61. March's Advanced Organic Chemistry – Michael B. Smith.
62. Spectroscopy of Organic Compounds – P. S. Kalsi.
63. Organic Reactions and Their Mechanisms – P. S. Kalsi.
64. Organic Chemistry – Paula Yurkai Bruice.
65. Fundamentals of Organic Chemistry – John McMurry.
66. Pathway to Organic Chemistry Structure and Mechanism – P. Bhattacharjee.
67. Natural Products Vol I & II – O. P. Agarwal.

MATHEMATICS

1. CALCULUS, 10TH Ed. BY H. ANTONI, I. Bivens and S. Davis John Wiley and sons(Asia) P.Ltd. Singapore. 2002
2. Differential Calculus By Shantinayakan, P.K..Mittal S.Chand & Co Pvt. Ltd.
3. Integral Calculus By Shantinayakan, P.K..Mittal S.Chand & Co Pvt. Ltd.
4. Calculus By G.B. Thomas & R.L. Finney Pearson Education, Delhi, 2005
5. Introduction to Calculus & Analysis (Vol 1 & Vol 2) By R. Courant & F. John. Springer Verlage. New York. Inc. 1989
6. Calculus By M.J. Strauss, G.L. Bradley & K.J. Smith, 3rd Ed Dorling Kindersley (India) Pvt. Ltd.
7. Basic Multivariate Calculus by E. Marsden, A.J. Tromba & A. Weinstein Springer (SIE), Indian reprint 2005
8. Multivariate calculus By S. Ghorpade, B.V. Limaye
9. Multivariate Calculus By James Stewart
10. Advanced Calculus By Santosh K. Sengar & S.P. Singh Sengage learning India
11. Analytical Solid Geometry By Shantinayakan, P.K..Mittal S.Chand & Co Pvt. Ltd.
12. Analytical Solid Geometry of Quadratic Surfaces By B.P. Acharya & D.C. Sahu Kalyani Publishers, New Delhi
13. Analysis I-Second Ed By Terence Tao Hindustan Book Agency
14. Introduction to Real Analysis, 3rd Ed By Robert G. Bartle & Donald R. Sherbert John Wiley and sons(Asia) P.Ltd. Singapore. 2002

15. Real Analysis , 3rdEd.ByH.L.Royden PHI
16. Real Mathematical Analysis By Charles Champman Pugh Springer International Edition
17. Fundamentals of Mathematical Analysis ByG.Das&S.Pattnayak THM Publishing Co.
18. Mathematical Analysis ByS.C.Mallik&S.Arora New Age International Publication
19. An Introduction to Analysis, 2nd Ed By Gerald G.Bilodeau, Paul R.Thie, G.E.Keough Jones & Bartlett, 2010
20. Elementary Real Analysis By Brian S.Thomson, Andrew.M.Bruckner and Judith B.bruckner Prentice Hall, 2001
21. A First Course in Real Analysis By S.K.Berberian SpringerVerlage. Newyork.Inc.1994
22. Elementary Analysis: Theory of Calculus By K.A.RossSpringer , 2004.(Indian Reprint) 2004
23. Introduction to Analysis By A.Mattuck Prentice Hall,1999
24. A Course in Calculus & Real Analysis ByS.R.Ghorpade&B.V.Limaye Springer , 2006.
25. Elements of Real Analysis By Charles G.Denlinger Jones & Bartlett(Student Ed) 2011
26. Elements of Real AnalysisByShantinakaran&M.D.Raisinghanian S.Chand& Co Pvt. Ltd.
27. A Basic Course in Real Analysis ByA.Kumar&S.Kumarsan (R.C.Press 2014)
28. Real Analysis ByS.L.Gupta&Nisha Rani VikashPublising House Pvt. Ltd. New Delhi
29. Algebra & Geometry By Alan F. Beardon Cambridge
30. Algebra By Michael Artin Prentice Hall India
31. Contemporary Abstract Algebra, 4th Ed By Joseph A.GallianNarosaPublising House
32. A First Course in Abstract Algebra , 7th Ed By John B.Fraleigh Pearson , 2002
33. Topic in Algebra ByI.N.Herstein Wiley Eastern Ltd. India
34. Abstract Algebra , 2nd Ed By M.Artin Pearson (2011)
35. An Introduction to the Theory of Groups, 4th Ed. By Joseph J.Rotman Springer Verlag, 1995
36. Fundamentals of Abstract Algebra By D.S.Malik, J.M.Mordesson&M.K.Sen Mc.Graw Hill, 1997
37. Complex Numbers from A to Z By TituAdresscu&DorinAndrica Birkhauser 2006
38. An Introduction to Abstract Algebra By Robinson, Derek John Scott Hindustan Book Agency, 2010
39. Applied Abstract Algebra , 2nd Ed. By Rudolf Lidl&GnterPilz Undergraduate Texts in Mathemtics Springer (SIE)Indian Reprint 2004
40. Linear Algebra & Its Application, 3rd Ed By DavicC.Lay Pearson Education Asia, Indian Reprint 2007
41. Linear Algebra & Its Application By Gilbert StrangCengage Learning India ,Pvt Ltd.
42. Linear Algebra –A.Geometric Approach ByS.KumarsanPentice Hall of India Pvt. Ltd. 1971
43. Introduction to Linear Algebra, 2nd Ed. By S.LangSpringer , 2005
44. Linear Algebra , 4th Edition By Stephen H.Friedberg, Arnold J.Insel&LawrenceE.SpencePentice Hall of India Pvt. Ltd. , New Delhi , 2004
45. Linear Algebra ByRao A.R. &BhonSankaram
46. Linear Algebra , 2nd Ed By Kenneth Hoffman & Ray Alden Kunze Pentice Hall of India Pvt. Ltd. 1971

47. An Introduction to Linear Algebra By V. Krishna Murthy, V.P. Mainra & J.L. Arora
48. Metric Space By P.K. Jain & K. Ahmad Narosa Publishing House, New Delhi
49. Complex Variables & Applications, 8th Ed By James Ward Brown
& Ruel V. Churchill McGraw Hill International Edition, 2009
50. Functions of one Complex Variable By J.B. Conway Springer International Student Edition
51. Metric Spaces By Satish Shirali & Harikishan L. Vasudeva Springer Verlag. London 2006
52. Topology of Metric Spaces, 2nd Edition By S. Kumaresan Narosa Publishing House, 2011
53. Foundations of Complex Analysis By S. Ponnusamy Alpha Science International Ltd.
54. Complex Analysis By Elias M. Stein & Rami Shakarchi
55. Complex Analysis By Joseph Balcar and Donald Newman
56. Complex function Theory By N. Das Allied Publishers Pvt. Ltd. Mumbai
57. Complex Analysis By S. Arum Gum, A.T. Issac & A. Somasundaram
Seitech Publication Pvt. Ltd.
58. Problems & Solutions for Complex Analysis By Rami Shakarchi
Springer
59. Discrete Mathematics with Graph Theory, 3rd Edition By Edgar G. Goodaire and
Michael M. Parmenter Pearson Education (Singapore) P. Ltd. Indian Reprint, 2005
60. Discrete Mathematics and its Application By Kenneth H. Rosen
Tata McGraw Hill Publication
61. Discrete Mathematics for Computer Scientists and Mathematicians
By J.L. Moth, A. Kendel & J.P. Baner
62. Discrete Mathematics : Theory and its applications
By D.S. Malik Cengage Learning India Pvt. Ltd.
63. Discrete Mathematical Structures By Kevin Ferland Cengage Learning India Pvt. Ltd.
64. Introduction to Lattices & Order By B.A. Davey and H.A. Priestley Cambridge University
Press, Cambridge, 1990 up Willey Series in Probability and Mathematical Statistics.
66. Mathematical Statistics with Applications, 7th Edition By Irwin Miller and Marylees
Miller. John E. Freund Pearson Education, Asia, 2006.
67. Introduction to Probability Models, 9th Edition By Sheldon Ross Academic Press, Indian
reprint 2007.
68. Introduction to Theory of Statistics, 3rd Edition By Alexander M. Mood, Franklin,
A. Graybill and Deane C. Boes Tata McGraw Hill, Reprint 2007
69. A First Course in Probability By Sheldon Ross Pearson Education
70. Introduction to Mathematical Statistics By Robert V. Hogg, Joseph W. Mc Kean and
Allen T. Craig Pearson Education, Asia 2002
71. Fundamentals of Mathematical Statistics By S.C. Gupta & V.K. Kapoor
S. Chand & Co. Pvt. Ltd., New Delhi
72. Elementary Probability Theory with Stochastic Process, 3rd Edition
By Kai Lai Chung Springer International Student Edition
73. A course of Ordinary & Partial Differential Equations By J. Sinha Roy & S. Padhy
Kalyani Publishers, New Delhi
74. Differential Equations & their Applications By Martin Braun Springer International
75. Differential Equations, 3rd Edition By S.L. Ross John Wiley & Sons, India, 2004
76. Advanced Differential Equations By M.D. Raisinghania S. Chand & Co. Ltd. New Delhi

77. A First Course in Differential Equations with Modelling Applications By G.DennisZillCengage Learning India Pvt. Ltd.
78. Theory and Examples of Ordinary Differential Equations ByC.Y.Lin
79. Mathematical Modelling with Case Studies and Differential Equations Approach using Maple & Matlab By Belinda Barnes and Glenn R. Fulford
80. Differential Equations By Simmons G.F.
81. Linear Partial Differential Equations For Scientists and Engineers , 4th Edition By TynMyint-U &LokenathDebnath Springer , Indian reprint , 2006
82. An Elementary Course in Partial Differential Equations ByT.Amarnath Narosa Publications
83. Differential Equations with Mathematica By Martha L.Abell& James P.Braselton
84. Partial Differential Equations By Robert C.Mcower
85. Numerical Methods For Scientific & Engineering computations , 6th Edition By M.K.Jain, S.R.K.Iyengar&R.K.Jain New Age International Publisher, India, 2007
86. A Course On Numerical Analysis ByB.P.Acharya&R.N.DasKalyani Publishers, New Delhi
87. A Friendly Introduction to Numerical Analysis By Brian BradiPersonEducation , India, 2007
88. Applied Numerical AnalysisByC.F.Gerald&P.O.Wheatley Person Education , India, 2008
89. A First Course in Numerical Methods, 7th Edition By Uri M.Ascher&Chen Greif PHI Learning Pvt. Ltd. 2013
90. Numerical Methods ByE.Balaguruswamy Tata McGraw Hill Pub. Co. Ltd. , 1999
91. Numerical Methods ByP.Khandasamy, K.Theilagavathy&K.Gunavathi S.Chand& Co. Ltd. New Delhi
92. Numerical Methods Using Matlab , 4th Edition By John H.Mathews&KurtisD.Fink PHI Learning Pvt. Ltd. 2013
93. Elementary Numerical Analysis By S.D.Conte&Carl De Boor
94. Introducing Methods for Numerical Analysis ByS.S.Sastry
95. Introduction to Numerical Analysis ByKerdall E Atkinson S.Chand& Co. Ltd. New Delhi
96. Scientific Computing By Mienael Heath
97. Operation Research ByKantiSwarup, P.K.Gupta& Man Mohan
98. Linear Programming ByBhupendra Singh
99. Operation Research An Introduction , 8th Edition By Hamdy A. Taha Pentice Hall India , 2006
100. Linear Programming ByG.HadleyNarosaPublising House, New Delhi
101. Introduction to Operation Research, 9th Edition By F.S.Hillier& G J. Lieberman Tata Mc. GrawHill , Singapore , 2009
102. Operation Research By N.V.R. Naidu, G.Rajendra&T.KrishnaRao I.K. International Publishing House Pvt. Ltd. New Delhi, Bangalore
103. Operation Research ByR.Veerachamy&V.Ravi Kumar I.K. International Publishing House Pvt. Ltd. New Delhi, Bangalore
104. Operation Research ByP.K.Gupta&D.S.HiraS.Chand& Co. Ltd. New Delhi
105. Linear Programming & Network Flows , 2nd Edition By Mokhtar S. Bazaraa, John J.Jarvis&HanifB.Sherali John Wiley & Sons , India , 2004

106. Differential Geometry of Three Dimensions By C.E.Weatherburn Cambridge University Press , 2003
107. Introduction to Differential Geometry By T.J.Willmore Dover Publications, 2012
108. Elementary Differential Geometry , 2nd Edition By B.O'Neill, Academic Press, 2006
109. Fundamental of Differential Geometry ByS.Lang Springer, 1999
110. Elementary Differential Geometry ByA.N.Pressly Springer
111. Differential Geometry ByS.C.Mittal&D.C.Agarwal Krishna Prakashan Media Pvt. Ltd.
112. Fundamentals Of Differential Geometry By B.P.Acharya& R.N. Das Kalyani Publishers , New Delhi
113. Elementary Number Theory ByD.M.BurtonMcGraw Hill
114. Elementary Number Theory & its Applications ByK.H.Rosen Pearson Addition Wesley
115. An Introduction to Theory of Numbers ByI.Niven&H.S.Zuckerman Wiley Eastern Pvt. Ltd.
116. Beginning Number Theory, 2nd Edition By Neville RobinnsNarosa Publishing House Pvt. Ltd., Delhi 2007
117. Introduction to Analytic Number Theory By Tom M.Apostol Springer International Student Edition
118. Elementary Number Theory with Applications By Thomas Koshy
119. C++ Programming Language , Edition-2009, Course Technology By D.S.Malik CengageLearning , India Edition
120. Object Oriented Programming with C++, 5thEd.ByE.Balaguruswami Tata McGraw Hill Education Pvt. Ltd.
121. Applications Programming in ANSI C ByR.Johnsonbaugh and M.Kalin Pearson Education
122. C++ Primer , 3rd Edition By S.B.Lippman&J.Lajoie Addison Wesley , 2000
123. The C++ Programming Language , 3rd Edition By BjarneStroustrup Addison Wesley,2000
124. One Hundred Reasons to be a Scientist By Trieste TheAbdus Salam International Centre for Theoretical Physics
125. Fractal Geometry By Keeneth Falcone Wiley
126. Fractal Image Compression, Theory & Applications By Yuval Fisher Editor Springer –Verlag
127. Solving Mathematical Problems ,A Personal Perspective By Terence Tao Fields Medal winner 2006
128. Differential Equations: A problem solving approach based on MatLab By P. Morgana Shankar CRC Press ,Inc 2018
129. Numerical analysis of partial differential equations using Maple &MatLab By Martin J. Gander, Felix L SIAM 2018
130. Finite Element Methods: A practical guide By Jonathan Whiteley Springer 2017
131. An introduction to differential equations using MatLabByRizwan Butt Alpha Science International Ltd. 2016
132. Reduced basis methods for partial differential equations -----An Introduction By AlfioQuarteroni, Andrea Manzoni, Federico Negri Springer 2016
133. Ordinary differential equations for Engineers: Problems with MatLab solutions By Ali UmitKeskin Springer 2019

134. Differential Equations : Computing &Modelling By C. Henry Edwards, David E. Penny, & David T. Calvis Pearson Education, Inc. 2015
135. An introduction to Numerical methods: A MatLab approach By AbdelwahabKharab, Ronald B. Guenther CRCPress,Inc. 2019
136. Numerical Analysis: Theory & Experiments By Brian Sutto SIAM 2019
137. Numerical Methods using MatLab By George Lindfield, John Penny Academic Press 2019
138. Applied Numerical Methods with MatLab for Engineers & Scientists By Steven C. Chapra McGraw Hill 2018
139. Numerical methods for Engineers & Scientists using MatLab By RaminS.Esfandiari CRC Press, Inc. 2017
140. An introduction to MatLab programming & Numerical methods for Engineers By Timmy Siau ,AlexandreBayen Academic Press 2015
141. Numrical methods using MatLab ByAbhishek Gupta Apress 2014
142. Numerical methods with worked examples: MatLab edition By Chris Woodford, Chris Phillips Springer 2012
143. Exploring Linear Algebra: Labs & Projects with MatLab By Crista Arangala Chapman & Hall/ CRC 2018
144. Applied Linear Algebra & optimization using MatLab By Rizwan Butt Mercury Learning &Information 2014
145. Advanced Linear Algebra for Engineers using MatLab By Sohail A. Dianat, Eli Saber CRC Press, Inc. 2018
146. Computational. Approach of Linear Algebra By Granville Sewell John Wiley & Sons Inc. 2005
147. Linear Algebra Labs with MatLabBy David R. Hill, David E. Zitarelli Prentice Hall 2004
148. Practical MatLab Deep learning: A project-based approach By Michael Paluszek, Stephanie Thomas Apress 2020
149. MatLab programming for Engineers By Stephen J. Chapman Cengage Learning 2020
150. MatLab& Python programming: A practical guide for Engineers & Data Scientist By Unknown Upskill Learning 2020

BOTANY

- 1.Biotechnology – Stewart C N.
- 2.Genetics: Principles, Techniques and Applications – John Wiley & Sons USA.
- 3.Introduction to Biotechnology – H. S. Chawla. Oxford & IBH)
- 4.Biotechnology – B. D. Singh.5.Bioremediation and Biotechnology – Springer.
- 6.Plant Cell Biotechnology – Rudolf Endref.
- 7.Environmental Biotechnology – S. V. S. Rana.(Rastogi)
- 8.Plant Biotechnology – P. K. Gupta (Rastogi).
- 9.Laboratory Manual for Biotechnology and Laboratory Science – Lisa A Scidman, Mary Ellen.
- 10.Practical on Biotechnology – H. N. Thatoi
- 11.Fundamentals of PlantPhysiology – V. K. Jain.
- 12.Outlines of Biochemistry – E. Conn.
- 13.Taxonomy of Angiosperms – V. Singh.
- 14.Plant Physiology – H. N. Srivastav.

15. Plant Tissue Culture Theory & Practice – Bhojwani & Razdan.
16. Plant Systematics: Theory and Practice – G. Singh (Oxford & IBH).
17. An Introduction to Plant Taxonomy – C. Jeffrey (Cambridge University).
18. Plant Systematics – Campbell, Stevens.
19. Fundamentals of Plant Systematics – A. E. Radford (New York).
20. Hein's Flora – Bihar, Odisha.
21. Flora of Odisha – Saxena & Brahman.
22. Plant Taxonomy – O. P. Sharma.
23. Taxonomy of Angiosperms – B. P. Pandey (S. Chand).
24. Systematic Botany – S. C. Dutta (New Age).
25. Laboratory Manuals of Taxonomy
26. Experiments in Plant Physiology : A Laboratory Manual – D. Bhattacharya.
27. Anatomy of Angiosperm – Singh, Pandey & Jain (Rastogi).
28. –do- By Kalyani Publishers.
29. Biostatistics : Theory & Practical – Chainy, Mishra & Mohanty (Kalyani).
30. Basics of Horticulture – J. Singh (Kalyani).
31. A Text Book of Biotechnology – R. C. Dubey.
32. Biotechnology for Beginners – Reinhard Renneberg.
33. Introduction to Biotechnology – Michael A. Palladino & William J. Thiemann.
34. Biotechnology – David P. Clark & Nanette J. Pazdernik.
35. Molecular Biotechnology – Bernard R. Glick & Jack J. Pasternak.
36. Biotechnology – U. Satyanarayan.
37. Practical Biotechnology: Principles & Protocols – H. N. Thatoi, Supriya Dash & Swagat K. Das.
38. Biotechnology Procedures and Experiments Hand Book – S. Harisha (Infinity Science Press LLC publication).
39. A practical Manual on Basic Tech. – S. R. Madhanshankar & Dr. E. M.
40. Practical Biotechnology & Plant Tissue Culture – Prof. Santosh Nagar & Dr. Madhavi Adhav.
41. Practical Biotechnology Methods and Protocols.
42. Practical Manual Series 4 – K. M. Thara.
43. Experimental Biotechnology – Sunita Dutta, Abhijit Dutta & A. K. Choudhury.
44. Laboratory Manual for Biotechnology & Laboratory Science – Lisa A. Seidman, Cynthia J. Moore.
45. Essentials of Molecular Biology – Dr. A. C. Sahu.
46. Molecular Biology of the Cell – Bruce Alberts.
47. Essentials of Cell Biology – Alberts Hopkins, Johnson Morgan-Raff & Robert Walter.
48. Cell Biology – C. B. Power.
49. Coronaviruses :
- Molecular and Cellular Biology – NCBI – J. L. Leibowitz.
50. Cell and Molecular Biology – Rastogi Publication.
51. Genetics – Rastogi
52. Fundamentals of Genetics – B. D. Singh.
53. Plant Breeding – B. D. Singh.
54. Molecular Biology – R. N. Singh.
55. Genetics A Conceptual Approach – Benjamin A. Pierce.
56. Principles of Genetics – Snustad & Simmons.
57. Basic Genetics – Ahmed Abouelmagd & Hussein M. A. G.
58. Introduction to Genetics: A Molecular Approach – Terry Brown.
59. Elements of Genetics – Dr. Veer Bala Rastogi.

60. Objective Genetics – B. K. Prasad & B. D. Singh.
61. Essentials of Genetics – Dr. Renu Chauhan.
62. Essentials of Molecular Genetics – Gurbachan S. Mighani.
63. Cell Biology, Genetics and Biotechnology – Dr. N. Asumugaon.
64. Text book of Biotechnology – H. K. Dash.
65. Molecular Biology and Biotechnology – K. G. Ramawat & Dr. S Goyal.
66. Biotechnology for Beginners – Richards Renneberg.
- Ahmed Aboudmagd.
67. Basic Genetics –
- Engineering – Mausumi Debnath.
68. Principles of Genetic
69. Genetics – P. K. Gupta.
70. Concepts of Genetics – William S. Klog, Cummings & Spencer.
71. Developmental Genetics – Gurbachan S. Miglani.
72. Molecular Biology – Michael Morange.
73. Molecular Genetics (Objective) – Phundan Singh.
74. Microbiology – R. P. Singh.
75. Mycology – P. D. Sharma.
76. Plant Metabolism – Arun Kumar Sahu.
77. Plant Breeding – B. D. Singh & B. K. Prasad.
78. Economic Botany – Dr. B. P. Pandey.
79. –do- By Singh, Pandey & Jain.
80. –do- By Bhabananda Baruah.
81. Cell Biology – Arun C Sahu.
82. –do- By C. B. Power.
83. Pteridophyta – Vashistha.
84. Archegoniate – Singh, Pandey & Jain.
85. Principles of Plant Pathology – R. S. Singh.
86. Mycology 2 Phytopathology – P. D. Sharma.
87. –do- By B. K. Mishra & Nirupama Dash.
88. A Text Book of Algae – Ashok Kumar Awasthi.
89. Botany for degree students, Algae – B. R. Vasistha, Dr. A. K. Sinha, Dr. V. P. Singh
90. A Text book of Algae – H. K. Verma.
91. –do- By Ashok Kumar Awasti.
92. A Text book of Botany Vol II – S. N. Pandey, S. P. Mishra, P. S. Trivedi.
93. A Text book of Algae – Sandeep Saxena.
94. A Text book of Botany – Singh, Pandey & Jain.
95. BRYOPHYTES – B. R. Vasistha, Dr. A. K. Sinha & Dr. Adarsha Kumar.
96. Handbook of Bryophyta – Peter George.
97. Sars Bryophytes – N. Arumugam, Annie Ragland & V. Kummarean.
98. Biology of Bryophytes – R. N. Chopra & P. K. Kumara.
99. Plant Ecology – Dr. R. S. Shukla & Dr. P. S. Chandel.
100. –do- By E. D. Schuler, E. Beck (Springer Publication).
101. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology – Dr. P. S. Verma & Dr. V. K. Agarwal.
102. Gymnosperms – Dr. P. C. Basisyha, Dr. A. K. Sinha & Dr. Anil Kumar.
103. College Botany (Vol-II) – B. P. Pandey.
104. Ecology and Environment – Dr. P. D. Sharma.
105. Reproductive Biology of Angiosperms – B. K. Mishra & Nirupama Dash.

ZOOLOGY

1. Invertebrate Zoology – Ruppert, Fox & Barnes.
2. Text Book of Zoology Vol I Invertebrate – A. J. Marshall and W. D. Williams.
3. –do- By Thomas Jeffery Parker, William Aitcheson Haswell.
4. Text Book of Zoology Vol II Vertebrate – A. J. Marshall and W. D. Williams.
5. –do- By Thomas Jeffery Parker, William Aitcheson Haswell.
6. Chordate Zoology – E. . Jordan & P. S. Verma.
7. Invertebrate Zoology – P. S. Verma.
8. Vertebrates – R. L. Kotpal.
9. Invertebrates – R. . Kotpal.
10. Ecology – Mc. Dougal Littell.
11. Fundamentals of Ecology – Eugene Odum.
12. Ecology – M. C. Dash.
13. Text Book of Environmental studies – Asthana D. K.
14. Environmental Studies – Madhu Basu & Xavier.
15. Essentials of Ecology – John L. Harper.
16. Ecology: Concepts and Application – Manuel Molles
17. Fundamentals of Biostatistics – Bernard Rosner
18. An Introduction to Biostatistics – Kevin Mitchell, N Guramani & Thomas Glover.
19. Text Book of Medical Physiology Part I & II – Guyton and Hall.
20. Text Book of Medical Parasitology – C. K. Jayaram Paniker.
21. Parasitology A conceptual Approach – Bruce Hofkin and Eric Locker.
22. Prescott's Microbiology – Christopher J. Woolvertor, Joanns Willey and Linda Sherwa.
23. Karp's Cell Biology – Janet Iwasa and Wallace F. Marshall.
24. Cell and Molecular Biology Concepts and Experiments – Gerald Carp, Nancy L. Pruitt.
25. Cell Biology-The Cell a Molecular Approach – Geoffrey M. Cooper.
26. Molecular Biology of the cell – Bruce Alberts.
27. Essentials of Cell Biology – Alexander Johnson, Karin Hopkin, Julion Lewis, Dennis Bray.
28. Principles of Genetics - John Gardner, Michael J Simmons, D. Peter Snustad.
29. Genetics- Analysis & Principles – Robert J. Brocker.
30. Genetics, A Molecular Approach – Peter J. Rusell.
31. Cell and Molecular Biology – E. M. F. De Robertis and Eduardo De Robertis.
32. Molecular Biology of the gene – Watson & Crick.
33. Principles of Genetics – Sinnot Edmund W, L. C. Dun & Th. Dobzhansky.
34. Genetics A Conceptual Approach – Benjamin A. Pierce.
35. Principle of Genetics – Robert H. Tamarin.
36. Genetics – Strickberger.
37. Principles of Biochemistry – Albert L Lehninger, David L. Nelson and Michael M. Cox.

38. Biochemistry – U. Satyanarayana.
39. Biochemistry – Jeremy M. Berg, John L. Tymoczko and Lubert Stryer.
40. Harper's Biochemistry – Peter A Mayes and Victor W Rodwell.
41. Williams Textbook of Endocrinology – Shlomo Melmed, Richard J Auchus, Alison B. Goldfine and others.
42. Text book of Endocrinology- Turner & Bangnara.
43. ICT Embryology – Bary Mitchell & Ram Sharma.
44. A text book of Embryology – B.L. Ballinsky & B. C. Fabian.
45. BRS Embryology – James D Fix and Ronald W Dudek.
46. Chordate Embryology – Veer Bala Rastogi. 47.
- do- By P. S. Verma & V. K. Agarwala.
48. Immunology – Janis Kuby.
49. Immunology A short course – Richard Coico & Geoffrey Sunshine.
50. Basic Immunology – Abul Abbas, Andrew H. Lichtmann, Shiv Pillai.
51. Birds – Salim Ali.
52. Evolution – Charles Darwin.
53. –do- By Strickberger.
54. –do- By Veer Bala Rastogi.
55. Animal Behaviour – John Alcoc.
56. –do- By David McFarland.
57. –do- By Janice Moore and Michael D. Breed.
58. –do- By F. B. Mandal.
59. An Introduction to Animal behaviour – Aubrey Manning.
60. Economic Zoology – Vinita Jaiswal & Kamal Kumar Jaiswal.
61. –do- By Dr. Jawaid Ahsan & Dr. Subhas Prasad Sinha.
62. –do- By Sukla & Upadhyay.
63. Microbiology, Laboratory Theory & Application – Burton E. Pierce and Michael J Leboffe.
64. Text book of practical Physiology – C. L. Ghai.
65. Practical Immunology – Frank C Hay & Olwynm R Westward.
66. Standard method of Examination of water and wastewater – APHA Manual.
67. Laboratory Manual of Biochemistry, Methods and Techniques – RE. S. Singer.
68. Practical book of Molecular Biology Techniques – Susan Carsan, Heather B Miller, D. Scott Witheron.
69. Practical Manual of Soil Science – Vijay Kumar & Rakesh Kumar. 70. The AGT Cytogenetic Laboratory Manual – Marilyn S. Arshan, Margaret J Barch & Helen J Lawce.
71. Histology and Histochemical Methods: Theory and Practical, 4th Edn. – John Kiernan. 72. Hand book of Practical immunohistochemistry – Fan Lin, Jeffrey Parchand. 73. Histochemical Techniques 2nd Edn. – J. D. Bancroft. 74. Practical Handbooks of Genetics – Vikas Pali. 75. Practical Genetics – R. N. Jones, G. K. Richards. 76. Practical Hand book of Cytology –

- ChetanJawale, LaxmikantDama
77. Practical Cytology – C. Grubb.
78. Practical Microbiology – D. K. Maheswari.
79. Practical Biochemistry – B. Jain.
80. –do- By DamodarnGeetha K.
81. Cytology – Veer BalaRastogi.
82. Cell Biology – P. K. Gupta.
83. Genetics - Veer BalaRastogi.
84. –do- By P. K. Gupta.
85. Molecular Biology – P. K. Gupta.
86. JUNQueira's Basic Histology – Anthony Mescher.
87. Histological Practical Manual – BalakrishnaShetty.
88. Comparative Anatomy of Vertebrates – R. K. Saxena&SumitraSaxena.
89. –do- By George C Kant & Robert K Carr.
90. –do- By S. K. Kulshrestha.
91. Elements of Chordate Anatomy – Weichert C K & W Presch.
92. Cell Signalling Principles & Mechanism – Wendell Lim, Bruce Mayer & Tony Powson.
93. Cell Signalling – C. B. Power.
94. Life, The Science of Biology – David E Sadara, David M Hillis, H. Craig Heller & Sally D Hacker.
95. Fundamentals of Immunology - William E. Paul
96. Textbook of Immunology - SeemiFarhatBasir.
97. Computational Immunology Basics - ShyamasreeGhosh
98. Microbiology - Michael J. Pelczar Jr. , E.C.S Chan, Noel R Krieg.
99. Microbiology - R.P Singh
100. Animal Behavior- ReenaMathur.
101. Textbook of Physiology - A.K Jain.
102. Textbook of Physiology - S.C Rastogi.
103. Cell Biology- C.B Powar.
104. Cell and Molecular Biology - Ajay Paul.
105. Advanced Practical Zoology- Sinha, Chatterji, Chatopadhyay.
106. CBCS Practical Zoology- S.S Lal.
107. CBCS Practical Zoology- Verma and Agarwala.
108. Developmental Biology - Gilbert
109. Molecular Biology- Watson