

**Laboratory Facilities:**

The Science Departments: Physics, Chemistry, Botany, Zoology, Biotechnology and Information Technology along with English Language Laboratory of the college are well equipped laboratories with computer and internet facilities. All the laboratories are well ventilated with facing towards sunlight.

**Laboratory Infrastructure for Department of Biotechnology:**

It has one Laboratory (840 sq. ft.) in the extension building for under graduate students. The laboratory is very well equipped with instruments.

Sr. No	Name of the Instruments	Quantity
1.	Autoclave Machine	01
2.	Autoclave Machine	01
3.	Binocular Microscope –LM-52-1710N10	01
4.	Contech Electronic Balance CAH-223 CAH-CTL-3001	01
5.	Contech Digital Balance – CAH -123	01
6.	Centrifuge Machine- R-4C Rotor Head –R-43	01
7.	Colony Counter – Cluster Scientific	01
8.	Computer	02
9.	Computer	01
10.	Micro Centrifuge (Remi R- 303)	01
11.	Digital Colorimeter- EQ - 652	01
12.	Digital Colorimeter (EQ – 650A)	01
13.	Digital Colorimeter (EQ – 650)	01
14.	Distilled Water Plant	01
15.	Distilled Water Plant	01
16.	Digital Lab Oven	01
17.	Digital Water Bath	01
18.	Digital Water Bath	01
19.	Digital Lab Incubator	01
20.	Bacteriological Lab Incubator	01
21.	Digital Rotary Shaker	01
22.	Rotary Shaker with Incubator	01
23.	Electrophoresis Power Supply – EQ - 752	01
24.	Electrophoresis Power Supply - Techno Source	01
25.	Horizontal Gel Electrophoresis – EQ - 760	01
26.	Horizontal Gel Electrophoresis -9027	01
27.	Horizontal Gel Electrophoresis – Techno Source	01

28.	Laminar Air Flow Vertical Model	01
29.	Microwave Oven GMX – 20CA3MKZ	01
30.	Magnetic Stirrer – 1MLH	01
31.	Medical Microscope –LM10	12
32.	PH Pen - 818093686	01
33.	PH Meter	01
34.	PH Meter- Toshniwal (Deluxe CE54)	01
35.	Projector (Mini)	01
36.	Refrigerator (Godrej) 01- RTEON330	01
37.	Refrigerator (Whirlpool) 02- RTEON330	01
38.	Vertical Gel Electrophoresis - EQ - 761	01
39.	Vertical Gel Electrophoresis - EQ - 761	01
40.	Vertical Gel Electrophoresis - Techno Source	01
41.	Vortex Mixer (Homoginizer) – CM - 101	01
42.	Vortex Mixer (Homoginizer) – CM – 101 Plus	01

Table 1: Equipments in Biotechnology Laboratories

#### **Laboratory Infrastructure for Department of Botany:**

It has one Laboratory (594 sq. ft.) and one preparation room in the main building for under graduates. One botany laboratory (400 sq. ft.) and one tissue culture laboratory (216 sq. ft.) in the extension building for post graduates and doctorate students. All laboratories are very well equipped. It accommodates 25 to 30 Students. Each set up is a collection of different apparatus and instruments as follows,

<b>Sr. No.</b>	<b>Name of Instrument</b>	<b>Quantity</b>
01	Autoclave	03 No.
02	BOD Incubator	01 No.
03	Compound Microscope	45 No.
04	Colorimeter	05 No.
05	Cyclomixer	02 No.
06	Conductivity meter	01 No.
07	Centrifuge Machine	02 No.
08	Dissecting Microscope	34 No.
09	Distilled Water Plant	01 No.
10	Double Distilled Water Plant	01 No.
11	Electronic Balance	03 No.
12	Electrophorsis Apparatus (Vertical)	01 No.
13	Electrophorsis Apparatus (Horizontal)	01 No.
14	Electrophoresis Power Supply	02 No.
15	Gel Rocker Electronic timer	01 No.
16	Heating Mantle with regulator 250ml	01 No.
17	Heating Mantle with 3 regulator 500ml	01 No.

18	Horizontal gel System	01 No.
19	Incubator (Digital)	02 No.
20	Incubator (Manual)	01 No.
21	Laminar Flow Horizontal	02 No.
22	Magnetic Stirrer	01 No.
23	Muffle Furnace	01 No.
24	Oven (Digital)	01 No.
25	Oven (Manual)	01 No.
26	PH Meter	05 No.
27	Power pack for electrophoresis	02 No.
28	Paraffin Water Bath	01 No.
29	Projector	01 No.
30	Rain Guage Apparatus	01 No.
31	Rotary Shaker digital with flask holder	01 No.
32	Rotary Vaccum Evaporator	01 No.
33	Refridgrator	03 No.
34	Rotary Shaker degital small	01 No.
35	Rotary Shaker (6 Flask) Manual	01 No.
36	Slide Projector	01 No.
37	UV Transilluminator	01 No.
38	Vertical gel System	02 No.
39	Trinocular Microscope	01 No.
40	Thermostatic Water bath	03 No.

Table 2: Equipments in Botany Laboratories

### Laboratory Infrastructure for Department of Chemistry:

Wet Chemistry laboratory (792 sq. ft.) is situated at ground floor and physical chemistry laboratory (396 sq. ft.) is situated at 1<sup>st</sup> floor of the main building. Two more laboratories (800 sq.ft.) are situated at the 2<sup>nd</sup> floor of the extension building. Each of the laboratories has gas and water connection. The laboratories are also equipped with distilled water plant with power back up. For safety inside and outside, the laboratory is equipped with fire extinguishers, first aid box with shower and eye washer. Each set up of the laboratory has a collection of different apparatus like - Borosilicate Glassware, Apparatus, AR and GR chemicals. Qualitative and quantitative analysis is done in wet lab which is equipped with few instruments and various reagents. Dry Laboratory on the other hand is equipped with analytical based equipments and reagents. Each Laboratory can accommodate 25- 30 students.

Sr. No	Name of Instrument	Quantity
01	Colorimeter	09
02	Conductivity	07
03	Centrifuge Machine	01
04	Deep Freezer-Blue Star	01
05	Digital Hot Plate Round	03
06	Electronic Balance	06
07	Flame Photometer	02
08	Heating Mantle	02

09	Magnetic Stirrer with Hot plate	02
10	Oven	02
11	PH Meter	08
12	Polarimeter	01
13	DC-Polarograph	01
14	Potentiometer	09
15	Spectrophotometer	05
16	Steel Distilled Water plant	02
17	Turbidity Meter	01
18	TDS Meter	01
19	TLC UV Cabinet-15x12x10	01
20	Vacuum Pump Oil free-portable	03
21	Water Bath 12-Hole	04
22	Refrigerator	01

Table 3: Equipments in Chemistry Laboratories

#### Laboratory Infrastructure for Department of Information Technology:

It has one Laboratory comprising of electrical and electronics section (594 sq. ft.) and two laboratories of (396 sq.ft.) and (198 sq.ft.) on the fourth floor of main building. The Laboratories are well equipped. Each laboratory can accommodate 20-30 students comfortably. Each set up is a collection of different components as follows:

Sr. No.	Name of Instrument	Quantity
1.	Raspberry Pi (32 components)	5
2.	Raspberry Pi (excluding components)	2
3.	Computers	89
4.	Printer (3-in-1 Laser)	1
5.	DAC Kit	4
6.	Traffic Light Kit	4
7.	Elevator Lift Control Kit	3
8.	Stepper Motor Kit	3
9.	Temperature Control Kit	3
10.	LED Interfaces	3
11.	AND, OR, NOT, XOR, XNOR using NAND gates Kit	4
12.	AND, OR, NOT, XOR, XNOR using NOR gates kit	4
13.	De Morgan's Kit	4
14.	SOP and POS Kit	3
15.	K-maps Kit	3
16.	Binary – to – Gray code and Gray –to – Binary code converter Kit	2
17.	Binary – to – BCD & Binary – to –XS-3 code converter Kit	3
18.	Half adder and Full adder Kit	3
19.	BCD adder, XS – 3 adder, Binary Subtractor, BCD Subtractor,	5

	XS– 3 Subtractor Kit	
20.	2-bit by 2-bit multiplier	3
21.	2-bit comparator Circuit	3
22.	4:1 multiplexer and 1:4 demultiplexer Kit	3
23.	3-bit synchronous counter using IC 7473 & required gate	4
24.	mod-n counters Kit	4
25.	serial – in serial – out, serial – in parallel – out, parallel – in serial – out, parallel – in parallel – out and bidirectional shift registers	3
26.	Seven segments display Kit	4
27.	Battery Backup for Computer	15
28.	Digital Storage CRO DSOX1102G Oscilloscope	1
29.	Fluke Multimeter 600V CAT III	2
30.	Embedded System Trainer Model ED-51	2
31.	16-bit Keypad Kit	1
32.	ADC Kit	1
33.	LCD Display Kit	1
34.	Logic Gates Trainer	1
35.	BCD Binary to Excess-3 code converter	1
36.	Study of 3-Bit Binary Ripple Counter	1
37.	Study of Universal Shift Register	1

Table 4: Equipments in IT Laboratories

#### **Laboratory Infrastructure for Department of Interdisciplinary:**

It has Two Laboratory (each 840 sq. ft.) in the second floor of extension building for under graduates. The Laboratories are well equipped. Each laboratory can accommodate 30-40 students comfortably. Each set up is a collection of different components as follows:

<b>Sr .</b>	<b>Name of the Instruments</b>	<b>Quantity</b>
1	Digital -Weigh Balance	01
2	PH. Pen	03
3	Vortex Machine	01
4	Auto Clave	01
5	Dissecting Microscope	10
6	Compound. Microscope	05
7	Colorimeter	01
8	Oven	01
9	Water Bath	01
10	Water Bath	01
11	Centrifuge Machine	01

Table 5: Equipments in Interdisciplinary Laboratories

## Laboratory Infrastructure for Department of Physics:

It has one Laboratory (792 sq. ft) in the main building for under graduates and post graduates students. One dark room is in the UG Laboratory. It accommodates 25 to 30 Students. Laboratory is a collection of different apparatus and instruments like

**K.M.E. Society's  
G.M.Momin Women's College, Bhiwandi  
Department of Physics  
List of Equipments/Apparatus  
2024-2025**

Sr. No	Name of Instruments	Quantity
1.	Regulated Power Supply (0-30V)	26
2.	Dual Power Supply ( $\pm 15V$ )	22
3.	Separating Funnel	11
4.	Beaker 250 ml	27
5.	Tuning Fork	07
6.	Hysteresis Power Supply	01
7.	Cathode Ray Oscilloscope (Analog)	12
8.	Cathode Ray Oscilloscope (Digital)	04
9.	Function Generator	20
10.	Lee's Method Apparatus	02
11.	Capacitance Box	06
12.	Ballistic Galvanometer Lamp	03
13.	Goniometer Apparatus	01
14.	Rheostat	21
15.	Small Telescope	08
16.	Heating Coil Apparatus	01
17.	Inductor Coil	06
18.	Digital Multimeter	26
19.	Weight Box	04
20.	Torsional Disc	04
21.	Digital Frequency Counter (EQ-220)	01
22.	Spectrometer	06
23.	Sodium Vapour Lamp	02
24.	Mercury Vapour Lamp	02
25.	Halogen Lamp	02
26.	Sodium vapour lamp transformer	02
27.	Mercury vapour lamp transformer	02
28.	Hydrogen discharge tube with power supply	01
29.	Voltmeter (0-3 V)	02
30.	Voltmeter (0-10 V)	11
31.	Voltmeter (0-30 V)	06
32.	Voltmeter (0-100 V)	06
33.	Voltmeter (0-250 V)	05
34.	Milliammeter (0-100 mA)	08
35.	Milliammeter (0-250 mA)	06
36.	Milliammeter (0-500 mA)	13
37.	Digital Milliammeter (10mA)	03
38.	Microammeter (0-250 $\mu A$ )	05

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39.	Microammeter (0-500 $\mu$ A)	11
40.	Microammeter (0-100 $\mu$ A)	07
41.	Digital Microammeter (0-1000 $\mu$ A)	02
42.	Digital Microammeter (0-500 $\mu$ A)	04
43.	Digital Microammeter (0-100 $\mu$ A)	04
44.	Digital Microammeter (0-250 $\mu$ A)	04
45.	Tangent Galvanometer (0-30V)	01
46.	Flat Spiral Spring apparatus	02
47.	Len's Stand (wooden)	06
48.	Len's Stand (Iron)	02
49.	Vernier Calliper	24
50.	Screw Gauge	12
51.	Four Way Key	03
52.	One Way Key	12
53.	Coil (10 $\Omega$ )	05
54.	Coil (5 $\Omega$ )	04
55.	Travelling Microscope	04
56.	Battery 5V Fixed (EDKITS)	03
57.	Battery 5V Fixed (EQ-100)	06
58.	Resistance Box	26
59.	Y by bending Apparatus	02
60.	Hanger (Weight $\frac{1}{2}$ Kg )	04
61.	Hanger (Weight 50g)	10
62.	Transistor Voltage Regulator Kit	01
63.	Maxwell's Bridge Kit	02
64.	Wein Bridge Oscillator Kit	03
65.	Instrumentation Amplifier Kit	01
66.	D to A Counter Kit	01
67.	Astable Multivibrator Kit	01
68.	Optical Lever (3 leg)	03
69.	Optical Lever (4 leg)	02
70.	Microprocessor 8085 Kit	10
71.	Analyzer & Polarizer	01
72.	Zener diode Kit	05
73.	Thermister Characteristics Study Kit	04
74.	NOR as UBB Kit (Q-Tech)	01
75.	De Morgan Theorem Kit	04
76.	Hall Effect Set	02
77.	Input Output Transistor characteristics (CE mode)Kit	01
78.	NAND Gate Kit	01
79.	Fly Wheel	03
80.	Bar pendulum	05
81.	Kater's Pendulum	01
82.	Stefan constant Build up Kit	01
83.	Norton's Theorem Build up Kit	02

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84.	Thevenin's Theorem Build up Kit	02
85.	Colpitt's oscillator Build up Kit	02
86.	He -Ne Laser Apparatus (2MW)	03
87.	Bending of Beam Apparatus	02
88.	Electrical Vibrator	02
89.	Energy meter	03
90.	Newton's Ring Apparatus	03
91.	Hartley oscillator study kit	01
92.	Study of MS JK flip flop kit	01
93.	Transistorized astable multivibrator kit	02
94.	Transistorized bistable multivibrator kit	02
95.	Transistorized monostable multivibrator kit	02
96.	555 Astable Multivibrator kit	02
97.	555 Monostable Multivibrator kit	02
98.	555 timer Ramp generator kit	02
99.	Shift register study kit	01
100.	Square wave oscillator using gates kit	01
101.	Michelson interferometer apparatus	02
102.	J-By electrical Method apparatus	01
103.	Bifilar Pendulum Apparatus	05
104.	Modulus of Rigidity by Koenig Method apparatus	01
105.	e/m Thomson method apparatus	01
106.	Grating (15000 lines/inch)	04
107.	Adjustable Slit	03
108.	Study of IC 555 Timer Build up Kit	01
109.	114/900 EQ2 reflector telescope	01
110.	Optical Bench	01
111.	Study of OP-AMP Parameter Kit	01
112.	Application of OP-AMP as Window Comparator kit	01
113.	Study of JFET as a Common Source Amplifier kit	01
114.	XPO-KIT 8051 Kit with 16x2 LCD Display	04
115.	XPO ST/DC kit	01
116.	Stepper Motor	01
117.	AD/DAII (ADC0809CCN) kit	01
118.	ADM (ADC(TKADC084)	01
119.	TK-BASE (Xilinx SPARTAN 3) XC3S400	01
120.	DC Motor	01
121.	Four Probe Method Apparatus	01
122.	Young's Modulus by Metal Rod Apparatus	01
123.	Ultrasonic Interferometer Single Frequency	01
124.	h/e Photocell Planck's Constant	02
125.	Dielectric Constant Capacitance	01
126.	Linear Variable Differential Transformer	01
127.	I-V/C-V Measurement on Semiconductor Specimen	01
128.	TK Base (Logic Analyzer hosted/up gradable Universal Trainer/Development	04

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	System includes)	
129.	TK-Base (PIC 18F4520) Daughter Board	04
130.	TK ARM7 (ARM 7- (LPC 2148 daughter Board with Cable)	04
131.	TK6XSL9-D (Xilinx FPGA SPARTAN 6SL9 Series Daughter Board with Serial EPROM and JTAG Connector)	03
132.	PICKIT3 (PIC Programmer for PIC16F877 and PIC18F4520)	03
133.	Bridge Rectifier with meter kit (full wave)	02
134.	Study of LVDT characteristics (kit)	01
135.	Study of load cell/strain gauge (kit)	01
136.	Thermistor as sensor in temperature to voltage converter using OPAMP (kit)	01
137.	Study of 8:1 multiplexer (74151) and its application (kit)	01
138.	Study of ROM and its addressing using decoder (kit)	01
139.	Half and Full adder (kit)	01
140.	UJT characteristics (kit)	01
141.	UJT as relaxation oscillator (kit)	01
142.	SCR characteristics (kit)	01
143.	Velocity of sound in air using CRO (apparatus)	01
144.	Surface tension by Jaeger's method (apparatus)	01
145.	Constant pressure air thermometer (apparatus)	01
146.	Power supply of J-by electrical method Apparatus (15V) (2 Amp)	01
147.	Universal IC tester	01

Date: 12.12.2024

  
Laboratory Assistant

  
Principal




  
Head Department of Physics  
**Head**  
**PHYSICS DEPARTMENT**  
K.M.E. Society's G. M. Momin  
Women's College, Bhiwandi.

Table 6: Equipments in Physics Laboratories

### Laboratory Infrastructure for Department of Zoology:

It has one Laboratory (990 sq. ft.) in the main building for under graduates. One laboratory (400 sq. ft.) for post graduates students and one laboratory (400 sq. ft.) is for Doctorate Research students in the extension building. All laboratories are very well equipped. Following instruments are available for students.

Table 7: Equipments in Zoology Laboratories

Sr. No	Name of the Instrument	Total Quantity	Sr. No	Name of the Instrument	Total Quantity
01	Autoclave portable	02 No.	26	Microtome	01 No
02	B.O.D Incubator	01 No.	27	One Pan Balance	01 No.
03	B.P. Apparatus (Mercurial & Digital)	01 No. each	28	Oven	02 No.
04	Camera (Nikon DSLR)	01 No.	29	Paraffin Tissue Floating Bath	01 No.
05	Cooling Centifuge machine	01 No.	30	Paraffin Wax Bath	01 No.
06	Centifuge machine	04 No.	31	pH meter	06 No.
07	Colorimeter	08 No.	32	Printer HP	01 No.
08	Compound Microscope	34 No.	33	Power pack for electrophoresis	03 Nos
09	Computers	04 No.	34	Projector	02 No.
10	Conductometer	02 No.	35	Refractometer	02 No.
11	Digital colony counter	01 No.	36	Refrigerator	02 No.
12	Digital Visualizer	01 No.	37	Rotary Shaker	01 No.
13	Dissecting Microscopes	15 No.	38	Screen for Projector	02 No.
14	Distilled Water Plant	02 No.	39	Skeleton (Disarticulated)	01 No.
15	Electronic Balance	03 No.	40	Sound level meter	02 No.
16	Flame Photometer	01 No.	41	Spectro Photometer UV-Vis	01 No.
17	Heating Mantle	01 No.	42	Stereo Microscope	01 No.
18	Horizontal Tank for electrophoresis	03 No.	43	Stethoscope	01 No.
19	Incubator	02 No.	44	TDS meter (pen Type)	01 No.
20	Laminar Air Flow 2x2x2 Vertical	01 No.	45	Thermostat Water bath	02 No.
21	Lab Oxygen Meter	01 No.	46	Trinocular Microscope	01 No.
22	Lap Top	01 No.	47	Turbidity Meter	01 No.
23	Lovibond Comparator	01 No.	48	UV Transilluminator	02 No.
24	Lux Meter	01 No.	49	Vertical tank for Electrophoresis	05 No.
25	Magnetic Stirrer	02 No.	50	Vortex	01 No.

### **Laboratory Infrastructure for English Language Laboratory:**

The English language laboratory is situated on third floor of the main building. Online Practice is conducted with the help of Rosetta and Words Worth software installed in the computers for F.Y.B.A and F.Y.B.Com students. English Language laboratory is equipped with computers and accessories. It has a set up for 20 students with head phones and speakers to learn and study communication skills. Management Studies Laboratory is situated on third floor of main building with 20 computers, internet and router.

### **Other Facilities:**

- Recreational facility- Common room, Prayer room, Health care center.
- NSS : Provided with office, computer and printer.
- DLLE : Provided with office, computer and printer.
- Air conditioned conference hall with ICT facility.
- Solar Panel : College has installed solar panel system on terrace of main building under RUSA grant.
- One elevator is provided in main building facilitating the mobility of staff and students.
- RO filter is installed on the terrace and four water coolers are available.
- Each floor and the surrounding premises of the college are installed with adequate fire safety devices and First aid boxes.
- Two Cafeterias in the campus
- Cameras : Both buildings of College are under surveillance by 106 cameras which are installed inside classrooms and premises.
- Photocopying and Stationery item facility for students and teachers is available within the campus.
- Aqueel Mushtaque Fakhri Computer center.
- Additional 3<sup>rd</sup> urdu basera hall for conducting guest lectures.