Our Best Practices

Khatra Adibasi Mahavidyalaya

P.O. : Khatra, Dist. Bankura, West Bengal, Pin : 722140
Phone : 03243-255261 / 8900057220 E.mail :kacollege@rediffmail.com / khatraacollege@gmail.com
Website : www.khatraadibasimahavidyalaya.in
NAAC Accredited B+

Our Best Practice

Session: 2017-2018

1. Title of the Practice: Promoting Value Based Education

2. Objectives of the Practice:

Value based education is important for overall development of personality of any individual. Value based education imparts in the students the sense of empathy, kindness, tolerance, brotherhood and helps them to take correct decisions at difficult phases of their life. Thus, value-based education should be an integral part of the curriculum at all educational institutions. In order to promote value-based education various activities are undertaken in our college such as a) Celebration of Swami Vivekananda' Birthday whose main idea was character-building of individuals and b) organizing Blood Donation Camps. Moreover, our college leaves no stone unturned to orient the students about the principles of value-based education.

3. The Context:

Value-based education creates a favourable environment that enhances academic learning outcomes and also develops social skills and relationship-building capabilities. Value-based education instills in the students the values such as compassion, integrity, kindness and loyalty among the students. These values need to be instilled in the individuals from very young age. Thus, educational institutions play a key role in developing value based principles among the students. These students are the future of our country. Developing the value-based skills and principles make them better citizens who are able to make positive contributions in the society. Therefore, our college organized various awareness programmes on value-based education throughout the year.

4. The Practice:

With the aim of promoting value-based education, a one-day seminar on Swami Vivekananda and Value Based Education was organized on 11th January, 2018 to commemorate the birth anniversary of Swami Vivekananda on 12th January. Events like Quiz and Essay Competition on Vivekananda's spiritual and moral life were part of this one-day seminar on Swami Vivekananda and Value Based Education on 11th January, 2018. To promote universal humanitarian values, blood donation camp was organised in our college campus on 29/11/2017.

Co-ordinator
I.Q.A.C
Khatra Adibasi Mahavidyalaya

Teacher-in-Charge
Khatra Adibasi Mahavidyalaya
Khatra :: Bankura

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5. Evidence of Success:

Students got lessons on the life and preaching of Swami Vivekananda, the icon of Value Education from the seminar held on the occasion of birth anniversary of Swami Vivekananda which will make them good human beings who develop the skill of working in harmony with others and excel in whichever profession they pursue in future.

The Blood Donation Camp helped to sensitize students on the need of donating blood thereby instilling the feeling of helping others to breathe life with their precious donation.

6. Problems Encountered and Resources Required

The initial challenge was to motivate students to participate in the blood donation camp. State Blood Transfusion Council helped us in this camp.

7. Notes (Optional)

The statue of Swami Vivekananda was erected in the previous year as a mark of respect to the icon of value-based education and we maintain a garden enclosing the statue.

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Khatra Adibasi Mahavidyalaya

Teacher-in-Charge
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Khatra :: Bankura

1. Promoting Value Based Education:

Value-based education aims at training the student to face the outer world with the right attitude and values. It is a process of overall personality development of a student. It includes character development, personality development, citizenship development, and spiritual development. With this aim in view to promote value-based education, we have organised one day seminar on *Swami Vivekananda and Value Based Education* on 11th January, 2018 to commemorate the birth anniversary of Swami Vivekananda on 12th January. Events like Quiz and Essay Competition on Vivekananda's spiritual and moral life were part of this seminar. A statue of Swami Vivekananda was erected as a mark of respect to the icon of value-based education. To promote universal humanitarian values, blood donation camp was organised in our college campus.

One Day Seminar on Swami Vivekananda & Value Based Education (Quiz, Essay, Competition & Yoga Demonstration)

Date: 11 January 2018

Khatra Adibasi Mahavidyalaya

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Phone: 8900057220 E-mail:*khatraacollege@gmail.com/ kacollege@rediffmail.com*
Website: www.kamv.ac.in
NAAC Accredited B+ (2nd Cycle)

Ref. No.: **Date:……..**

Title of the programme: One Day Seminar on Swami Vivekananda & Value Based Education (Quiz, Essay Competition & Yoga Demonstration)

Organized by: Teachers Council under the aegis of IQAC

Date of the programme: 11th January 2018

Number of student participants: 150

Number of teacher participants: 20

Place of activity: Hall-2 (Vivekananda Hall)

Aims and Objectives: To orient the students on—

- the principles of value-based education.
- Quiz on Swami Vivekananda life and journey
- Essay Competition
- Yoga Demonstration

Programme outcome: Students who participated in the seminar on Value Based Education had a deeper understanding on value-based living and purpose of life with a view to emerging as a responsible citizen thereby contributing in building a healthy nation

Teacher-in-Charge
Khatra Adibasi Mahavidyalaya
Khatra :: Bankura

Khatra Adibasi Mahavidyalaya Estd-1979 Khatra, Bankura

Celebrating 155th Birth Anniversary of Swami Vivekananda

Organized by

Khatra Adibasi Mahavidyalaya

Khatra, Bankura

*You are cordially invited to attend the one-day seminar on **'Swami Vivekananda and Value Based Education'** organized by Khatra Adibasi Mahavidyalaya on 11th January, 2018 to celebrate the 155th Birth Anniversary of Swami Vivekananda in our college campus (Swami Vivekananda Hall) from 11 am onwards. Renowned speakers **Dr. Sk. Sirajuddin** (Principal, Saldiha College & Chairman, WBSSC, Western Region) and **Swami Krittibasanandaji Maharaj** (Secretary, Bankura Ramakrishna Math and Ramakrishna Mission Sevashrama) will deliver their valuable speech to enrich the seminar.*

Dr. Parthasarothi Hati
Teacher-in-Charge
Khatra Adibasi Mahavidyalaya


Swami Vivekananda
Date: 24-03-2016

Promoting Universal Humanitarian Values through Blood Donation Camp

Khatra Adibasi Mahavidyalaya

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Phone: 8900057220 E-mail:*khatraacollege@gmail.com/ kacollege@rediffmail.com*
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NAAC Accredited B+ (2nd Cycle)

Ref. No.: Date:.....

Title of the Programme: Blood Donation Camp

Organized by: NCC and NSS under guidance of State Blood Transfusion Council

Date of the Programme: 29th November 2017

Number of student participants: 139

Number of teacher participants: 20

Place of activity: Hall-4, Khatra Adibasi Mahavidyalaya

Aims and Objectives:

- To sensitize the need of donating blood to the needy in time
- To instil the feeling of helping others to breathe life with their precious donation
- To motivate all students to take a pledge to donate blood at least once in a year
- To impart to them the value of blood donation
- To aware of the scientific information about the blood group

Programme outcome: The College provided all facilities like space, furniture, blood donating room with good hygiene and sanitation as per the medical standard. The underweight students were not allowed to provide donations as the medical advice. However, we witnessed an encouraging number of volunteers.

Teacher-in-Charge
Khatra Adibasi Mahavidyalaya
Khatra :: Bankura

State Blood Transfusion Council, West Bengal

Swasthya Bhawan, 1st Floor, Wing - B
GN - 29, Sector - V, Salt Lake City, Kolkata - 700 091

CERTIFICATE OF APPRECIATION

We are pleased to appreciate the noble gesture of N.S.S. & N.S.S. Units of Khatra Adibasi Mahavidyalaya for organizing a Voluntary Blood Donation Camp on 29th November 2017

This social service shown by your organization towards the needy patients may please be continued.

Date 29th Nov. 2017

Medical Officer
Medical Officer (In-Charge)
Blood Bank
B.S. Medical College & Hospital

Member - Secretary
SBTC, WB

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Our Best Practice

Session: 2017-2018

1. Title of the Practice: Energy Conservation

2. Objectives of the Practice:

Energy needs to be conserved to curtail costs and to preserve the resources for future. Conventional energy sources pollute the environment by emitting dangerous gases into the atmosphere that are harmful to our health as well. Moreover, conventional energy sources are limited and might get exhausted one day. We, therefore, have a responsibility to conserve and save energy as much as possible to make them available for our future generations and protect our environment from further destruction. Our college has taken different measures to bring down the electricity consumption.

3. The Context:

Since students are the future of our country, they need to be made aware about the importance of energy conservation and environmental protection. Some simple steps taken by all the stakeholders of the college can help to curtail the electricity bill of our college. Therefore, our college takes initiative awareness programmes on Energy Conservation. Teachers need to play a pivotal role in instilling the practice of energy consumption of the students. Our college has done the needful in this regard.

4. The Practice:

Energy consuming tube lights & bulbs have been replaced with energy saving LED lights both at the campus and hostel buildings. CRT monitors have been replaced by less energy consuming LED monitors. Electric consumption in the hostel has been monitored by hostel committee which has successfully brought down power consumption by enlightening the inmates about the indispensability of energy saving. Similarly, class representatives have also been entrusted with the responsibility to ensure that they switch off fans and lights when the class is over. Posters have been used to generate awareness among the students about Energy Consumption.

5. Evidence of Success:

The practice of energy consumption both in the college campus as well in the hostel has remarkably brought down the monthly electricity bill of the college including the hostel to Rs 20000/-(average) per month.

Co-ordinator
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6. Problems Encountered and Resources Required:
We have tried to install solar panels and have written for grants to various NGOs. However, we have not received any grants as of now.

7. Notes (Optional): Class rooms have very wide and long windows with a high roof which ensures that the use of lights and fans would be minimum as ventilation is naturally enhanced.

Co-ordinator
IQAC
Khatra Adibasi Mahavidyalaya

Teacher-in-Charge
Khatra Adibasi Mahavidyalaya
Khatra :: Bankura

2. Energy Conservation:

We have replaced energy consuming tube lights & bulbs with energy saving LED lights both at the campus and hostel buildings. CRT monitors have been replaced by less energy consuming LED monitors. Electric consumption in the hostel has been monitored by hostel committee which has successfully brought down power consumption by enlightening the inmates about the indispensability of energy saving. Similarly, class representatives have also been entrusted with the responsibility to ensure that they switch off fans and lights when the class is over. Class rooms have very wide and long windows with a high roof which ensures that the use of lights and fans would be minimum as ventilation is naturally enhanced.

LED Monitor

LED Bulb

Well-lit and ventilated classroom

Energy Saving Reminder Posters

Energy Audit done by Chemistry & Physics Department on Total Consumption of Electricity in their Lab

Khatra Adibasi Mahavidyalaya

Khatra, Bankura

Department of Chemistry

Green Energy Audit Contribution for B.Sc. Chemistry Hons., General Elective & Chemistry Programme Laboratory Equipment Power Consumption

Sl. No.	Equipment/Device	Quantity	Maximum Electrical Power Consumption
1	Mechanical shaker	1	40 Watt
2	Analytical Electrical Balances	2	12 Watt
3	Portable, Oil-Free Vacuum Pump	2	950 Watt
4	Conductivity meter	2	4.5 Watt
5	Digital potentiometer	1	0.5 Watt
6	Magnetic stirrer	1	0.2 Watt
7	Digital Colorimeter	2	23 Watt
8	Melting Point Apparatus	1	120 Watt
9	TDS Analyser	1	1.7 Watt
10	pH Meter	1	1.25 Watt
11	Digital Hot Air Oven	1	1100 Watt
12	Heating Mantles with Energy Regulator	2	150 Watt
13	Digital Ultrasonic Cleaners	1	120 Watt
14	Constant Temperature Water Bath	1	1.5 Kilo Watt
15	Digital Centrifuge Machine	1	230 Watt
16	Distillation Apparatus Power Supply (DAPS)	1	1.5 Kilo Watt
17	Refrigerator	1	350 watts

KHATRA ADIBASI MAHAVIDYALAYA

KHATRA, BANKURA, W.B.-722140

DEPARTMENT OF PHYSICS

GREEN ENERGY AUDIT CONTRIBUTION FOR: B.Sc. PHYSICS HONOURS, GENERIC ELECTIVE & PHYSICS PROGRAMME Laboratory Courses

2020-21

Serial No.	Experiments (software /hardware based)	Equipment/Device	Maximum Electrical Power Consumed (Watt)
1	➢ Error Analysis: Idea of significant figures, proportional error in computations	Desktop Computer	**@360**
2	➢ Plotting in GNU plot: Plotting plane &space curves and surfaces, contour plots, polar plots.	Desktop Computer	
3	➢ Curve Fitting: Method of least squares for linear fit of experimental data.	Desktop Computer	
4	➢ To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width.	Test-kit	**10**
5	➢ To study the response curve of a parallel LCR circuit and determine its (a) Anti- resonant frequency and (b) Quality factor Q	Test-kit	**10**
6	➢ Determination of the boiling point of a suitable liquid using a platinum resistance thermometer.	Electric Heater	**1500**
7	➢ Construction of one Ohm coil.	2V DC source	**2**
8	➢ To study Lissajous Figures	CRO	**35**
9	➢ Schuster's focusing; determination of angle of prism.	Sodium Source	**@1000**
10	➢ Refractive index of the Material of a prism using sodium source	Sodium Source	
11	➢ Dispersive power and Cauchy constants of the material of a prism using mercury source	Mercury Source	
12	➢ To determine wavelength of sodium light using Fresnel Biprism	Mercury Source	
13	➢ Wavelength of Na source and spectral lines of Hg source using plane diffraction grating	Mercury Source	
14	➢ Mechanical Equivalent of Heat, J, by Callender and Barne's constant flow method.	CVCC power supply	**90**
15	➢ Coefficient of Thermal Conductivity of Cu by Searle's Apparatus.	Electric Heater	**@1500**
16	➢ Coefficient of Thermal Conductivity of a bad conductor by Lee and Charlton's disc method.	Electric Heater	
17	➢ Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).	Electric Heater	**@1500**
18	➢ Variation of Thermo-emf of a Thermocouple with Difference of Temperatureof its Two Junctions.	Electric Heater	
19	➢ Calibration of a thermocouple to measure temperature in a specified Range using (1) Null Method, (2) Direct measurement using Op-Amp difference amplifier and to determine Neutral Temperature.	Electric Heater	
20	➢ Design of a switch (NOT gate) using a transistor	10V DC source	**@5**
21	➢ Verification and design of AND, OR, NOT and XOR gates using NAND gates	Test-kit	
22	➢ Design of a combinational logic system for a specified Truth Table	Test-kit	
23	➢ Conversion of a Boolean expression into logic circuit and to design it using logic gate ICs	Test-kit	
24	➢ Designing Half Adder, Full Adder and 4-bit binary Adder	Test-kit	
25	➢ Design of Half Subtractor, Full Subtractor, Adder-Subtractor using Full Adder I.C	Test-kit	
26	➢ Building Flip-Flop (RS, Clocked RS, D-type and JK) circuits using NAND gates	Test-kit	
27	➢ Solution of 1^{st}&2^{nd}order ODEs with appropriate boundary conditions	Desktop Computer	**360*2=720**
28	➢ Evaluation of the Fourier coefficients of a given periodic function	Desktop Computer	
29	➢ Frobenius method and recursion relation for Special functions	Desktop Computer	
30	➢ Calculation of error for each data point of observations recorded in experiments done in previous semesters.	Desktop Computer	

31	➢ Calculation of least square fitting manually. Confirmation through computer program.	Desktop Computer	
32	➢ Evaluation of trigonometric functions, Bessel's function, Numerical Integration	Desktop Computer	
33	➢ Compute the nth roots of unity for n = 2, 3, and 4.	Desktop Computer	
34	➢ Square roots of a complex number	Desktop Computer	
35	➢ To determine work function of material of filament of directly heated vacuum diode.	Test-kit	**30+8=38**
36	➢ To determine the value of e/m by (a) Magnetic focusing or (b) Bar magnet	CVCC power supply	**35**
37	➢ To determine the wavelength of laser source using diffraction of single slit.	Laser Source	**3**
38	➢ To determine the wavelength of laser source using diffraction of double slits	Laser Source	**3**
39	➢ To determine the Boltzmann constant using I-V characteristics of PN junction diode	Test-kit	**2**
40	➢ To study the characteristics of a Bipolar Junction Transistor in CE configuration and designing a CE transistor amplifier of a given gain (mid-gain) using voltage divider bias.	Test-kit + CRO	**2+35=37**
41	➢ To study the frequency response of voltage gain of a RC-coupled transistor amplifier	Function generator + CRO	**2+35=37**
42	➢ To design a Wien bridge oscillator for given frequency using an op-amp	12V op-amp source	**12+35=47**
43	➢ To design a digital to analog converter (DAC) of given specifications	Test-kit	**5**
44	➢ To design inverting amplifier and non-inverting using Op-amp (741,351) for dc voltage of given gain	12V op-amp source	**12**
45	➢ To design inverting amplifier and non-inverting amplifier using Op-amp (741,351) and study its frequency response	12V op-amp source	**12**
46	➢ To investigate the use of an op-amp as adder in inverting and non-inverting mode, Differentiator and Integrator.	12V op-amp source	**12**
47	➢ To determine the ionization potential of mercury	Test-kit	**90+8=98**
48	➢ To show the tunneling effect in tunnel diode using I-V characteristics	Test-kit	**0.5**
49	➢ Measurement of Planck's constant using black body radiation and photo-detector.	Test-kit	**100**
50	➢ To determine the Planck's constant using LEDs of at least 4 different colours	Test-kit	**0.5**
51	➢ To measure the Dielectric Constant of a dielectric Materials with frequency	Test-kit	**0.5**
52	➢ To draw the BH curve of Fe using Solenoid & determine energy loss from Hysteresis	CVCC power supply	**150**
53	➢ To measure the resistivity of a semiconductor (Ge) with temperature by four-probe method (room temperature to 150 ° C) and to determine its band gap.	CVCC power supply	**100**
54	➢ To determine the specific rotation of sugar solution using Polarimeter	Light Bulb	**25**
55	➢ To study the polarization of light by reflection and determine the polarizing angle for air-glassInterface.	Sodium Source	
56	➢ To verify the Stefan`s law of radiation and to determine Stefan's constant.	Electric Heater	**1500**
57	➢ Plot of Planck's law for Black Body radiation: comparison with Raleigh-Jeans Law at high, low temperature.	Desktop Computer	**360*2=720**
58	➢ Plot of Specific Heat of Solids (a) Dulong-Petit law, (b) Einstein distribution (c) Debye distribution for high &low temperature, comparison.	Desktop Computer	
59	➢ Plot the following with energy at diff. temperatures: a) M-Bdistribution b) F-D distribution c) B-E distribution	Desktop Computer	
60	➢ Computational of a collection of particles in a box satisfying Newtonian mechanics using Lennard-Jones potential, varying the total number of particles N and the initial conditions.	Desktop Computer	
61	➢ To design an Amplitude Modulator using Transistor.	Test-kit	**5**
62	➢ To study envelope detector for demodulation of AM signal.	Test-kit	
63	➢ To study Time Division Multiplexing (TDM).	Test-kit	
64	➢ To study Pulse Amplitude Modulation (PAM).	Test-kit	
65	➢ To study Pulse Width Modulation (PWM).	Test-kit	
66	➢ To study Pulse Position Modulation (PPM).	Test-kit	
67	➢ To determine a Low Resistance by Carey Foster's Bridge	2V DC- source	**2**
68	➢ To verify the Thevenin and Norton theorems.	2V DC- source	**2**
69	➢ To verify the Maximum Power Transfer Theorem.	2V DC- source	**2**
	➢ To determine Resistance of suspended coil galvanometer by half deflection method and galvanometer current sensitivity	2V DC- source	**2**
70	➢ Potential difference across a low resistance and hence the current through it with the help of a meter bridge	2V DC- source	**2**
71	➢ To determine the coefficient of linear expansion of the material of a rod using Optical Lever Method.	Electric Heater	**150**
72	➢ Focal length of a convex lens by combination method and calculation of its power.	Light Bulb	**35**
73	➢ To determine the Resolving Power of a Prism	Sodium Source	**1000**
74	➢ To determine wavelength of sodium light using Newton's Rings	Sodium Source	
75	➢ To draw the I-V characteristics of a suitable resistance and that of a junction diode within specified limit on a graph, and hence to find d.c. and a.c. resistance of both the elements at the point of intersection.	Test-kit	**2**
76			