

# **DETAILED PROJECT REPORT FOR GETTING INFRASTRUCTURAL GRANTS UNDER RUSA PROPOSAL SUBMITTED**

to  
GOVERNMENT OF WEST BENGAL  
DIRECTORATE OF RASTRIYA UCHCHATARA SHIKSHA ABHIYAN  
HIGHER EDUCATION DEPARTMENT  
6<sup>th</sup> FLOOR, BIKASH BHAWAN, SALT LAKE  
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Submitted by



## **BHAIRAB GANGULY COLLEGE**

(ESTABLISHED IN 1968)

FEEDER ROAD, BELGHORIA, KOLKATA-56

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E-MAIL: [bhairab1968@gmail.com](mailto:bhairab1968@gmail.com) Website: [www.bhairabgangulycollege.ac.in](http://www.bhairabgangulycollege.ac.in)

UGC Recognized & State Government Aided Institution

Affiliated to the **West Bengal State University**

(Accredited by NAAC in 2016 at 'A' Level with 3.01 in 2<sup>nd</sup> Cycle)

# Component 9: Infrastructure Grants to Colleges

## Colleges Information:

- No. Of Students:

UG- 3177

PG- 140

- Year of Establishment:

1968

- % of SC/ST/OBC and Women students

	SC	ST	OBC	Women
UG-	10.26	0.22	2.64	52.28
PG-	3.57	0.71	7.14	82.14

### 9.3 Physical and Financial Outlay

#### Creation of New Facilities

Item

Norms

**Hostels**

New construction

**(separate for boys and girls)**

**Toilets (separate for boys and girls)**

New construction

**Laboratories/Virtual labs**

√ New construction

**Computer Centre**

New construction-

**Classrooms (including Technologically enabled classrooms)**

√ New construction

**Canteen/Cafeteria**

New construction

**Common room for Students**

New construction

**CREATION OF NEW FACILITIES ITEMS**  
**(48.5% OF TOTAL FUND i.e. Rs 97 lakh)**

<b>Detail of Items</b>	<b>Physical Value already exists (Area in Sq. Mt.)</b>	<b>Physical Value proposed under RUSA (Area in Sq. Mt.)</b>	<b>Financial Value (Rs.)</b>	<b>Remarks Justification</b>
Two Additional Floor above Cycle Stand	185.00	370.00	<b>41,07,670.00</b>	We face the scarcity of classrooms particularly during the full session and some new courses are to be introduced very shortly. The Project Monitoring Unit (RUSA) and Building Committee propose to construct two additional floors above Cycle Stand so that the problem could be solved.
Additional Floor over P.G. Building	180.00	180.00	<b>30,01,560.00</b>	The Project Monitoring Unit (RUSA) and Building Committee propose to construct an additional floor over the PG Building. It would give an opportunity to introduce a Research Laboratory for the teachers extensively engaged in research activities. Some rooms in the floor would be used as classrooms of the PG Departments.
Extension of Activity block above Canteen building	160	160	<b>2591000.00</b>	The Project Monitoring Unit (RUSA) and Building Committee propose to construct an additional floor over the PG Building. They also proposes to introduce a computer laboratory with 100 computers (Lan connected) to facilitate ICT enabled classes of different departments.
<b>Total</b>			<b>Rs. 97,00,230.00</b>	

## Renovation/Upgradation of Existing Facilities

### Administrative buildings

### Campus development

### Hostels

### Toilets

### Library

### Classrooms Auditorium Canteen/Cafeteria Laboratory Computer Centre Renovation/Upgradation of Existing Facilities

Beautification, amenities, water supply, drainage, water

harvestin

g,

alternat

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energy

sources,

etc.

Renovat

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Renovation/Upgradation of Existing Facilities

Renovation/Upgradation of Existing Buildings/ Facilities;

Digitisation of Existing Resources/Automations

√ Renovation/Upgradation of Existing Buildings/

Facilities

√ Renovation/Upgradation of Existing Buildings/

Facilities Renovation/Upgradation of Existing Buildings/

Facilities Renovation/Upgradation of Existing Buildings/

Facilities Up scaling of existing network to enable wi-fi

**B. RENOVATION / UP-GRADATION OF EXISTING FACILITIES ITEMS**  
**(21% OF TOTAL FUND i.e. Rs 42.6 lakh)**

<b>Detail of Items</b>	<b>Physical Value already exists (Area in Sq.Mt.)</b>	<b>Physical Value proposed under RUSA (Area in Sq.Mt.)</b>	<b>Financial Value (Rs.)</b>	<b>Remarks Justification</b>
Aquatics control, interior decoration and sitting arrangement at College Auditorium	335.00	335.00	<b>38,45,095.00</b>	The present college auditorium (air conditioned) 'Alapan' with a sitting capacity of 300 is used as venue for organization of seminar, workshop, debate, special lectures and cultural programmes. The Project Monitoring Unit (RUSA) and Building Committee propose to improve the facilities through aquatics control, interior decoration and sitting arrangement at College Auditorium.
Repairing of Ladies Toilet & Common Room			<b>3,62,094.00</b>	Roof of the Ladies Toilet & Common Room is in vulnerable condition and need to be repaired at an urgent basis and the facilities of toilet need to be upgraded. The Project Monitoring Unit (RUSA) and Building Committee propose to repair and upgrade the facilities of the ladies toilet & common room.
			<b>Rs. 42,07,189.00</b>	

**C. PROCUREMENT OF NEW EQUIPMENTS / FACILITIES ITEMS**  
**(30.46% OF TOTAL FUND i.e. Rs 60.92 lakh)**

**Summary of the Proposed Expenditure**

Sl. No.	Item of Expenditure	Amount (Rs.)
1	Laboratory Equipment of Department of Chemistry	2,01,100.00
2	Laboratory Equipment of Department of Physiology	2,12,200.00
3	Laboratory Equipment of Department of Geography	1,13,000.00
4	Laboratory Equipment of Department of Physics	2,07,700.00
5	Laboratory Equipment of Department of Zoology	2,31,000.00
6	Laboratory Equipment of Department of Botany	2,29,700.00
7	Laboratory Equipment of Department of Computer Science	1,12,748.00
8	Laboratory Equipment of Department of Electronics	1,05,000.00
9	Laboratory Equipment of Research laboratory	22,06,373.00
10	Computer (Desktop and Laptop)	20,01,350.00
11	Books and e resources for library	96,158.00
12	RFID security gate, Server for Library	3,76,252.00
	<b>Total</b>	<b>60,92,581.00</b>

**1. Department of Chemistry**

Head	Specification	Qty	Price	Amount	Remarks
<b>Laboratory Equipment</b>	Portable oil free vacuum pump	1 Pc	22000.00	22000.00	Inorganic & organic synthesis
	Water Bath –Double walled. (S.S) Thermostat controlled. Six holes	1 Pc	16000.00	16000.00	Temperature controlled reactions
	Physical Polarimeter	3 Pc	8500.00	25500.00	P-III Chemistry Practical
	Conductivity meter	2 Pc	15000.00	30000.00	Do
	Digital colorimeter	2 pc	13000.00	26000.00	Do
	Digital pH meter	2 pc	13000.00	26000.00	Do
	Digital Potentiometer	2 pc	11000.00	22000.00	Do
	Viscometer	12 pc	200.00	2400.00	P-II Chemistry Practical
	Stalagmometer	12 pc	600.00	7200.00	Do
	Digital Balance	1pc	24000.00	24000.00	Weighing
	<b>Total</b>			<b>Rs. 2,01,100.00</b>	

## 2. Department of Physiology

Head	Specification	Qty	Price	Amount	Remarks
Laboratory Equipment	Precision Weighing Balances Make: Kern/Wensar	1	35,000.00	35,000.00	Measurement of chemicals
	Compound Microscope Make: Magnus/Olympus	1	18,000.00	18,000.00	To magnify the tiny substance more than 1000 times.
	Kymograph with all accessories INCO	1	25,000.00	25,000.00	Recording of Intestinal movement and cardiac response
	Dales apparatus, INCO	2	4,500.00	9,000.00	Experimental Physiology
	Hot air oven, REMI Digital 12x12x14 inch	1	12,000.00	12,000.00	Drying of Glass goods
	Centrifuge, REMI, R-8C Capacity 8x15 ml	1	22,000.00	22,000.00	Biochemistry and Haematological practicals
	Sphygmomanometer, Supreme Gold	2	2,000.00	4000.00	Human experiments
	Haemocytometer (Neibuer, Germany)	6	1,500.00	9000.00	Counting of blood cells [B.Sc. (H)]
	Ocular Micrometer, ERMA (Japan)	6	500.00	3000.00	Haematology
	Stage Micrometer, ERMA (Japan)	6	1,200.00	7,200.00	Haematology
	Digital pH Meter	1	12,000.00	12,000.00	Determination of pH of water samples/buffers
	Micro Pipette [200µl - 1000µl] Tarson	1	4,000.00	4,000.00	To prepare chemical reagents/solutions for biochemical analysis
	Noise Level meter, LURTON	1	9,000.00	9,000.00	Environmental Physiology
	Skin Fold Caliper	2	6,000.00	12,000.00	Body fat measurement
	Magnetic Stirrer	1	7,000.00	7,000.00	To mix a solute in a solvent properly.
	DNA Gel Electrophoresis Apparatus, Biorad	1	20,000.00	20,000.00	DNA and Plasmid isolation
	Hand grip Dynamometer, Inco	2	2,000.00	4,000.00	For Sports Physiology
<b>Total</b>				<b>2,12,200.00</b>	

## 3. Department of Geography

Laboratory Equipment	Specification	Qty	Price (Rs.)	Amount (Rs.)	Remarks
	Dumpy Level	2	7500.00	15,000.00	Survey
	Prismatic compass	4	2000.00	8,000.00	Survey
	Distometer	1	10,000.00	10,000.00	Distance measurement (accessible/inaccessible)
	Binocular	1	10,000.00	10,000.00	Long range vision
	Mirror Stereoscope	1	15,000.00	15,000.00	Air photo study
	GPS (Handheld)	1	25,000.00	25,000.00	Map/ Survey prep
	Satellite Image	5	5000.00	25,000.00	Remote Sensing

					study
	Toposheet	50	100.00	5,000.00	Practical Work
	<b>Total</b>			<b>Rs. 1,13,000.00</b>	

#### 4. Department of Physics

Head	Specification	Qty	QTY.	Amount	Remarks
Laboratory Equipment	Oscilloscope, Analog,30 MHz, Make: Scientific	19900	2	39800	Required mainly for Honours Student according to their WBSU syllabus
	Function Generator, 5MHz, Make:Scientific Model:5072	10500	3	31500	
	Band Gap Expt. Set-up, Make:DE-TECH-BG-S-D	8500	2	17000	
	Panel board, To design and fabricate temperature controller, Make:DE-TECH	4400	2	8800	
	Panel Board, Digital Trainer, Advanced model, Make:DE-TECH	3800	2	7600	
	Panel board, Anderson Bridge Expt. Set-up, Make:DE-TECH	4400	2	8800	
	Panel board for Hybrid Parameter set, Make: DE-TECH with 3 digital meters	4500	2	9000	
	Galvanometer, Ballistic	3200	1	3200	
	Lamp & Scale Arrangement, Make:DE-TECH DT-L&S-M	2800	2	5600	
	A.C. Millivoltmeter, Digital, True RMS, Make:SES ACM 102	8500	2	17000	
	Spectrometer 7” circle, 20 sec Vernier Constant., Deluxe Model	11500	2	23000	
	DC Regulated Power Suply, 0-30 V DC/0-5 A, Make: DE-TECH	6800	2	13600	
	FUNCTION GENERATOR 2Meg Hz. Digital.	6500	1	6500	
	Res. Box, 1000 ohms (13 coils), Make: DE-TECH Manganin coils	1900	4	7600	
	Res. Box .01-10 ohms (13 coils)Manganine coils, Make:DE-TECH	1900	4	7600	
	Res. Box .1 to 100 ohms (13 coils), Make DE-TECH	1900	4	7600	
	Total				



### 5. Department of Zoology

Head	Specification	Qty	Price Rs.	Amount	Remarks
Laboratory Equipment	Dissecting Microscope	02	Weswox; Model: DM-2 [Rs. 2000/- each]	4000	Dissection of very small animals [B.Sc. (H); 1 <sup>st</sup> Year]
	Electrophoretic Apparatus [Vertical]	01	Himedia Laboratories [Rs. 60000/-]	60000	Separation of biomolecules [B.Sc. (H) + M.Sc.]
	Single Beam UV-VIS Spectrophotometer	01	Systronics India Limited; Model: 118 [Rs. 80000/-]	80000	For quantitative estimation of DNA/RNA/Protein [B.Sc. (H) + M.Sc.]
	Digital pH Meter [Table Model]	01	Unitech Water Solution [Rs. 11500/-]	11500	Determination of pH of water samples/buffers [B.Sc. (H) + M.Sc.]
	Hot Air Oven	01	Labard Instruchem [Rs. 20000]	20000	Preparation of sample for bioanalysis [B.Sc. (H) + M.Sc.]
	Digital pH Meter [Portable]	01	H. L. Scientific Industries [Rs. 3000/-] or HM Digital; Model: PH-80 [Rs. 2500/-]	3000	Determination of pH of water samples/buffers during field excursions [B.Sc. (H) + M.Sc.]
	Digital Weighing Machine	01	Kerro Digital Weighing Balance [Model BL 3003] [Rs. 11000/-]	11000	Determination of mass of chemical compounds to prepare chemical reagents/solutions [B.Sc. (H) + M.Sc.]
	Micro Pipette [10µl - 100µl]	02	Tarsons [Rs. 4000/- each]	8000	To prepare chemical reagents/solutions for biochemical analysis [B.Sc. (H) + M.Sc.]
	Micro Pipette [100µl - 1000µl]	01	Tarsons [Rs. 4000/-]	4000	To prepare chemical reagents/solutions for biochemical analysis [B.Sc. (H) + M.Sc.]
	Sahli's Haemoglobinometer	01	Marienfeld; [Rs. 2000/-]	2000	Measurement of Hemoglobin in blood [B.Sc. (H); 3 <sup>rd</sup> Year + M.Sc.]
	TDS meter	01	HM Digital; Model: CM-100 [Rs. 4000/-]	4000	Analysis of water samples during field excursions [B.Sc. (H) + M.Sc.]
	Salinometer	01	Noctronique; Model: NS01 [Rs. 2000/-]	2000	Analysis of water samples during field excursions [B.Sc. (H) + M.Sc.]
	Microtome	01	Weswox Model: MT-1090A [Rs. 40000/-]	40000	For cutting very thin slices from tissue samples to observe under microscope [B.Sc. (H); 3 <sup>rd</sup> Year + M.Sc.]
	Autoclave	01	Shivani Scientific Industries (P)	15000	Biochemical analysis, bacteria culture, cell culture [B.Sc. (H) +

			Ltd [Ketan Autoclaves]; Model: P21 [Rs.15000]		M.Sc.]
	Total			<b>Rs. 2,31,000.00</b>	

#### 6. Department of Botany

Laboratory Equipment	Specification	Qty	Price (Rs.)	Amount (Rs.)	Remarks
	Compound Microscope	10	18000.00	1,80,00.00	To magnify the tiny substance more than 1000 times.
	Turn Table	01	1200.00	1200.00	Sealing of temporary slides
	pH Meter	01	6500.00	6500.00	To check the pH of the solution.
	Lux Meter	01	4000.00	4000.00	To calculate light intensity of photosynthetic effective light
	Haemocytometer	20	1550.00	31,000.00	To calculate number of cells per unit volume
	Magnetic Stirrer	01	7,000.00	7,000.00	To mix a solute in a solvent properly.
	<b>Total</b>			<b>Rs. 2,29,700.00</b>	

#### 7. Department of Computer Science

Head	Specification	Quantity	Rate (Rs.)	Amount (Rs.)	Remarks
Laboratory Equipment	Oscilloscope	01	21,368.00	21,368.00	Required mainly for Honours Student according to their WBSU syllabus
	Microprocessor – 8085	10	8,558.00	85580.00	
	Seven Segment Display Tester	01	5,800.00	5,800.00	
	<b>Total</b>			<b>Rs. 112748.00</b>	

#### 8. Department of Electronics

Head	Equipments	Quantity	Rate (Rs.)	Amount (Rs.)	Remarks
Laboratory Equipment	8085 Microprocessor	3	8000.00	24,000.00	Required for 3(H) and 3(G) practical
	Cathode Ray Oscilloscope (CRO) 30MHz dual Channel Scientific made SM410	2	20,000.00	40,000.00	Required for all the Hons. practical
	Function Generator 3 MHz Scientific made SM5070	2	9000.00	18,000.00	Required for 1(H) and 3(H) practical
	Anderson Bridge experimental set up (including AC DC sources and meter)	2	5500.00	11,000.00	Required for 1(H) practical
	LCR Expt. Set up (with oscillator, Ac meter)	2	6000.00	12,000.00	Required for 1(H) practical
	<b>Total</b>			<b>Rs. 1,05,000.00</b>	

## 9. Central Research Laboratory

Research Laboratory Equipment	Specification	Qty	Price (Rs.)	Amount (Rs.)	Remarks
	Double Beam UV-VIS Spectrophotometer	1	6,32,450.00	6,32,450.00	Refers to <u>absorption spectroscopy</u> in the <u>ultraviolet-visible</u> spectral region. It is a basic instrument for Pure as well as Bio Sciences. Used to identify the functional groups, responsible for functional properties, present in a sample.
	FTIR	1	10,72,500.00	10,72,500.00	Examine the molecular fingerprint, through absorption & transmission, of the sample. A fundamental instrument for all branches of sciences.
	ATR accessory for FT-IR	1	2,01,500.00	2,01,500.00	Used in conjunction with <u>IR spectroscopy</u> which enables samples to be examined directly in the <u>solid</u> or <u>liquid</u> state without further preparation.
	High Speed Cooling Centrifuge	1	2,99,923.00	2,99,923.00	Works using sedimentation principle. Used for sedimentation of denser substance from solution or some other mixture.
	<b>Total</b>		<b>Rs. 22,06,373.00</b>		

<b>PROCUREMENT OF NEW EQUIPMENTS / FACILITIES ITEMS</b> <b>( 30% OF TOTAL FUND i.e. Rs 60.92 lakh)</b>					
Sports facility	Equipment	Quantity	Rate (Rs.)	Amount (Rs.)	Remarks
Computers	i) Intel Core i-3 CPU, Gigabyte/ASROCK Motherboard expandable to 8 GB with USB Port, Integrated graphics controller, 4 GB DDR III 1600 ,Seagate Seagate 500 GB SATA Hard Disc drive, ATX Cabinet with SMPS, LG DVD RW, HP 18.5 “ LED Monitor, Optical Mouse with 104 keys keyboard, 10/100/1000 integrated Network Port. UPS	50 Pcs	26,100.00	13,05,000.00	To establish a Computer Laboratory with LAN and internet connectivity and to conduct Online Examination of various National and Regional Concerns.  To cope up with the number of students and to provide more facilities more

	ii) Sony Projector VPL DX-102  iii) Lenovo/HP/DELL Laptop with 4 GB DDR III)15.6”Screen,500 GB HDD with Carry Case  iv) Lenovo/HP ALL-IN ONE Intel Core I 3/ 4 GB /1TB /DVDRW/Windows 8.1/ Wireless Keyboard/Mouse/19.5” Screen  v) HP Color Laser jet Printer Model : CLJ1025  vi) HP Color Laser jet Printer Model : CLJ1025  <b>Total:</b>	5 Pcs  10 Pcs  3 Pcs  5 Pcs 5 Pcs	33,300.00  31,960.00  44,250.00  15,500.00 15,500.00	1,66,500.00  3,19,600.00  1,32,750.00  77,500.00 77,500.00  <b>Rs. 20,01,350.00</b>	number of computers, laptops and other accessories are very much needed as per NAAC recommendation.
Books/Journals/ e-Resources				<b>96,158.00</b>	The number of books, e-books and e-journals has to be increased for the benefit of students and teachers as per NAAC recommendation.
Library Equipments	RFID Security Gate		68,251.58	<b>68,252.00</b>	RFID technology for library security would strengthen the security system of the library to check unwanted incidents.
	IBM System X3500 M4 738313 A server (one)		1,72,500.00	<b>1,72,500.00</b>	It will store all the e –resources to facilitate the users for easy and faster accessibility

	IBM System X3300 M4 73821A4server		1,35,500.00	<b>1,35,500.00</b>	This software will also enable the users with better and faster accessibility.
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#### 9.4 Short Listing Criteria Indicators& Weights (Total 80 marks) A.

##### NAAC Score (20 marks)

S. No.	Indicator	Weights
1	CGPA Above 3.5	20 marks
2	CGPA 3.25-3.49	18 marks
3	<b>CGPA 3.0-3.24</b>	<b>√16 marks</b>
4	CGPA 2.75-2.99	15 marks
5	CGPA 2.5-2.74	14 marks

##### B. Faculty Positions filled in regular mode (20 marks)

S. No.	Indicator	Weights
1	<b>Above 85% of sanctioned faculty positions</b>	<b>√20 marks</b>
2	80-84.9%	15 marks
3	70-79.9%	10 marks
4	60-69.9%	5 marks

##### C. Student-Teacher Ratio (20 marks)

S. No.	Indicator	Weights
1	Above 1:10 - 1:20	20 marks
2	<b>Above 1:20 - 1:30</b>	<b>√15 marks</b>
3	Above 1:30 - 1:40	10 marks
4	Above 1:40 - 1:60	5 marks

##### D. Funding Priority (20 marks)

S. No.	Parameter	Weight
1	Does the institution have a vision-mission statement? <b>Yes</b> ✓	<b>3 marks</b>
	No	0 marks
2	Does the institution offer inter-disciplinary program <b>Yes</b> ✓	<b>5 marks</b>
		0 marks
3	Does the institution offer: <b>UG &amp; PG</b> ✓	<b>3 marks</b>
	Only UG	1 mark
4	Does the institution have research program? (PhD) Yes	3 marks
	<b>No</b> ✓	<b>0 marks</b>
5	Does the institution have an Alumni Association? <b>Yes</b> ✓	<b>2 marks</b>
	No	0 marks
6	What is the percentage of students getting placed in the Institution? Over 90%	3 marks
	Over 75%	2 marks
	Over 50%	1 mark
	<b>Below 50%</b> ✓	<b>0 mark</b>

#### 9.5 a) Baseline Data

	Indicator	Unit	College 1	College 2	College 3
<b>Name of the College</b>			<b>BHAIRAB GANGULY COLLEGE</b>		
<b>Year of establishment</b>		Year	<b>1968</b>		
		Category	<b>(Govt./ ✓Aided)</b>		
<b>NAAC Accreditation(if none, status of application)</b>		Grade	<b>A</b>		
<b>Year of Accreditation &amp; Cycle</b>			<b>2016</b>		
<b>Whether included under 128 of UCG Act</b>		Yes/no	<b>Yes</b>		
<b>Area of the proposed College fall under</b>	Pis. Specify	Category			

T (Tier- 1/Tier-2/Tier-3)

Tier-2

Number of students enrolled	Tier-1/Tier-2/Tier-3	Number		UG 3177	PG 140	
SC	Number/total	Ratio 1:9.74		326/3177	05/140	
ST	Number/total	Ratio 1:453.8		07/3177	01/140	
OBC	Number/total	Ratio 1:37.8		84/3177	10/140	
Women students	Number/total	Ratio 1:1.9		1661/3177	115/140	
Special Attributes, if any						

b)Physical and Financial Details:

Details of existing college	college 1	College 2			college 3
		New Construction/ Renovation	Physical value (Area in Sq. Mt)	Financial value (Rs. In Lakhs)	
Laboratory		New Construction	160	25,91,000.00	
Laboratory Equipment		Procurement		36,18,821.00	
Computer Centre		Procurement		20,01,350.00	
Classrooms(including technologically enable classrooms)		New Construction	550	71,09,230.00	
Common room for students Canteen/Cafeteria					
Academic Buildings					
Administrative Building					
Campus development		Renovation	170	3,62,094.00	
Library					
Auditorium		Renovation	335	38,45,095.00	
Sports facility					
Books/Journals/e-Resources		Procurement		4,72,410.00	

