

## SARD PROGRAMME

### UTILIZATION CERTIFICATE

Certified that out of the grant-in-aid of Rs. 25,00,000.00 /- released by Kerala State

Council for Science, Technology and Environment in favour of the Principal/~~XXXXXX~~ CHRISTIAN COLLEGE,

KATTAKKADA, THIRUVANANTHAPURAM

Council Order

No. 675/2017/KSCSTE

dated 13/10/2017 towards the 1<sup>st</sup> /~~2<sup>nd</sup>~~ /3<sup>rd</sup> year SARD

grant to Dept. of CHEMISTRY, CHRISTIAN COLLEGE, KATTAKKADA, THIRUVANANTHAPURAM

Dr. L.S.AFINISHA DEEPA

as the co-ordinator of the programme, an amount of Rs. 22,96,320.00 /- was utilized for the SARD programme titled

“INFRASTRUCTURE STENGTHENING OF DEPT OF CHEMISTRY, CHRISTIAN COLLEGE, KATTAKKADA which it

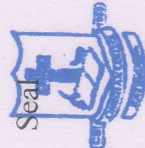
was sanctioned, leaving a balance of Rs. 85,891 /- at the close of 13/05/2019 as shown

in the Statement of Expenditure annexed.


Name & Signature  
Of Co-ordinator



**Dr. L.S. AFINISHA DEEPA**  
Assistant Professor  
Department of Chemistry  
Christian College  
Kattakada-695572  
afinishadpm@gmail.com  
9895609859 / 0471-2261235



Name & Signature  
of Head of the Institution/  
Principal

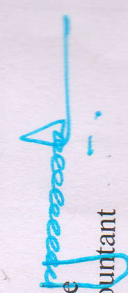
  
**Dr. VINCENT JOY N.S**  
Principal-in charge  
Christian College,  
Kattakad

Seal

Round Seal



Name & Signature  
of Chartered Accountant



**L. VINCENT, B.Com., F.C.A**  
Chartered Accountant  
M. No. 015593

Seal



**SARD PROGRAMME**


**Statement of Expenditure**

Year I/XXXX

Amount Released from KSCSTE	Total Amount Received	Expenditure/Payments	T o t a l E x p e n d i t u r e	Accrued Interest	Balance
25,00,000 /-	23,00,000 /-	22,96,320 /-		82,211 /-	85,891 /-
Equipments : Rs. Consumables : Rs. Contingency : Rs. Others : Rs.	Rs. 21,50,000 /- 1,50,000 /-	Equipments : Rs. 21,45,712 /- Consumables : Rs. Contingency : Rs. 1,50,608 /- Others : Rs.		Rs. 82,211 /-	Rs. 85,891 /-



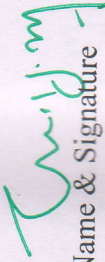
Certified that I have exercised all kinds of checks to see that the grant has been utilized for the purpose for which it was sanctioned by KSCSTE vide Council Order No. ....675/2017/KSCSTE dated .....13/10/2017.....

  
Name & Signature  
Of the Co-ordinator



(Seal)  
**Dr. L.S. AFINISHA DEEPA**  
Assistant Professor  
Department of Chemistry  
Christian College  
Kattakada-695572  
afinishadp@gmail.com  
9895609859 / 0471-2261235



  
Name & Signature  
of Head of the Institution/  
Principal

(Seal)  
**Dr. VINCENT JOY. N.S**  
Principal-in charge  
Christian College  
Kattakada

Round Seal

Name & Signature of  
Ms/ Chartered Accountant

(Seal)  
**L.VINCENT. B.Com., F.C.A**  
Chartered Accountant  
M. No. 015593



**SARD PROGRAMME**  
**Consolidated Statement of Expenditure**

Amount released from KSCSTE (Rs)	Year I	Year II	Year III	Expenditure/ payments (Rs)	Year I	Year II	Year III
Equipments	21,50,000			Equipments	21,45,712		
Consumables/Chemicals				Consumables/Chemicals			
Contingency	1,50,000			Contingency	1,50,608		
Annual maintenance				Annual maintenance			
Other Items				Other Items			
Total Amount Received	23,00,000			Total Expenditure	22,96,320		
Accrued interest	82,211			Accrued interest	82,211		
Balance	85,891			Unspent Balance	85,891		

Certified that I have exercised all kinds of checks to see that the grant has been utilized for the purpose for which it was sanctioned by KSCSTE vide Council Order No. ....675/2017/KSCSTE.....Dated.....13/10/2017.....

KSCSTE vide Council Order No. 675/2017/KSCSTE, THIRUVANANTHAPURAM

Dated..... 13/10/2017

Dated..... 13/10/2017

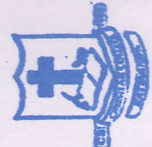
KSCSTE vide Council Order No. 673/DIR/2017/18/KSCSTE

Date of start of the project: March 2018

*[Handwritten Signature]*

Name & Signature  
Of the Co-ordinator

**Dr. L.S. AFINISHA DEEPAM**  
**Assistant Professor**  
**Department of Chemistry**  
**Christian College**  
**Kattakada-695572**  
**afinishadpm@gmail.com**  
**9895609859 / 0471-2261235**



*[Handwritten Signature]*

Name & Signature  
of Head of the Institution  
Principal  
**Dr. VINCENT JOY. N.S**  
**Principal-in charge**  
**Christian College**  
**Kattakada**

(Seal)

Round Seal

Name & Signature of  
Ms/ Chartered Accountant

*[Handwritten Signature]*

(Seal) **L.VINCENT B.Com., F.C.A**  
**Chartered Accountant**  
**M. No. 015593**



**FIST Program**  
**STATEMENT OF EXPENDITURE (2 copies)**  
**(for the Year of 1<sup>st</sup> April, 2018 to 31<sup>st</sup> March, 2019)**

1. Sanction Order No. & Date : FIST NO. 86 dtd 30.06.2015
2. Total Sanctioned Project Cost (in Rs): 50,00,000/-
3. Date of Commencement of the Project: 21.07.2015
4. Grant Received in each year (in Rs):

1 <sup>st</sup> Year (RS)	2 <sup>nd</sup> Year (RS)	3 <sup>rd</sup> Year (RS)	4 <sup>th</sup> Year (RS)	5 <sup>th</sup> Year (RS)	Interest, if any	Total
39,50,000/-			3,04049		3,20,951/-	45,75,000/-

5. Statement of Expenditure

Sr. no.	Sanctioned Budget Heads	Allocation of Funds (in Rs)	Expenditure incurred (Financial year-wise)(in Rs)					Total	Balance as on 20 <sup>th</sup> April, 2019 (in Rs)	Remarks, if any
			1st Year	2nd Year	3rd Year	4th Year	5th Year			
1.	Equipment (E)	32,00,000	0	32,00,000				32,00,000	-	
2.	Net Working & Computational Facilities (NW)	7,00,000	0	6,71,050				6,71,050	-	
3.	e-learning	5,00,000			4,99,149			4,99,149	851	
4.	Maintenance (M)	75,000			75000			75000	0	
5.	Books	1,00,000	0	50,000			50,000	100000	0	
6.	Total	45,75,000	0	39,21,050			6,24,149	4,545,199		2.50 RsBank charges

Dr. K.S. Affinisha Deepa

*[Signature]*

Name & Signature of Head of Department/Project Coordinator  
 Authority  
 Date: 21.5.19 Date: 21.5.19



Name & Signature of Principal/Financial  
 Principal-in charge  
 Christian College

Note: 1. Expenditure under the sanctioned Heads, at any point of time should not exceed funds allocated under that Head, without prior Kattakuda DST. Utilization Certificate for each financial year ending 31<sup>st</sup> March has to be enclosed along with request for carry forward permission to next year.



**GFR12-A**

[(See Rule 238 (1))]

**FORM OF UTILIZATION CERTIFICATE FOR AUTONOMOUS BODIES OF THE GRANTEE ORGANIZATION**  
UTILIZATION CERTIFICATE FOR THE YEAR 2018-2019 in respect of recurring/non-recurring  
GRANTS-IN-AID/SALARIES/CREATION OF CAPITAL ASSETS

1. Name of the Scheme : **FIST**
2. Whether recurring or non-recurring grants : **Non- recurring grants**
3. Grants position at the beginning of the Financial year
  - (i) Cash in Hand/Bank :
  - (ii) Unadjusted advances:
  - (iii) Total :
4. Details of grants received, expenditure incurred and closing balances: ( Actuals )

Unspent Balances of Grants received years [figure as at Sl. No. 3 (iii)]	Interest Earned thereon	Interest deposited back to the Government	Grant received during the year 2018-2019	Sanction No. (i)	Date (ii)	Amount (iii)	Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3	4				5	6	7
		31249/-		FIST NO. 86 dtd	30.06.2015	3,20,951/-			
		[30398/- +851/-] (interest + unspent)]		S. No. 452	12.03.2018	2,29,049/-	6,25,000/-	6,24,149/-	0
				S. No. 453	12.03.2018	75000/-			

Component wise utilization of grants:

Grant-in-aid- General	Grant-in-aid- Salary	Grant-in-aid-creation of capital assets	Total

Details of grants position at the end of the year

(i) Cash in Hand/Bank : 31246.50/-

(ii) Unadjusted Advances

(iii) Total : 31246.50/-



**GENERAL FINANCIAL RULES 2017**  
Ministry of Finance  
Department of Expenditure

**FORMGFR12A**

Certified that I have satisfied myself that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.  
(vii) It has been ensured that the physical and financial performance under **DST-FIST** (name of the scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure – I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure – II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure –II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

Date: 21.5.2019

Place: Kattakada, Trivandrum, Kerala



Signature

Name: .....

Chief Finance Officer

(Head of the Finance)

(Strike out inapplicable terms)  
Signature

Name :

Head of the Organization

*T. Vincent J. M.S.*  
DR. VINCENT J. M.S.  
Principal in charge  
Christian College  
Kattakana



**FORMAT - 2**

**Pro-Forma for Report for utilization of FIST support**

1. Name of College : CHRISTIAN COLLEGE KATTAKADA

2. Address for communication (Name and address of the Principal of the College with e-mail and telephone/fax numbers)

**PRINCIPAL**  
**CHRISTIAN COLLEGE KATTAKADA**  
**THIRUVANTHAPURAM-695572**  
**Tel:04 1-2290243, Fax: 0471-2290357**  
**[christiancollegektda@gmail.com](mailto:christiancollegektda@gmail.com)**

3. Date and ref. No. of DST Sanction letter: FIST NO. 86 dtd 30.06.2015

4. Details of the Grants

<i>Budget Heads</i>	<i>Amount Sanctioned with Date</i>	<i>Amount Received with Date</i>
<i>a. e-learning class room</i>	5,00,000/-, 13.3.2018	17.3.2018
<i>b. Infrastructure</i>	50,000/-, 13.3.2018	17.3.2018
<i>d. Maintenance</i>	75,000/- 13.3.2018	17.3.2018
<i>e. Total</i>	6,25,000/- 13.3.2018	17.3.2018

5. E-learning class room electronic devices/purchased/installed:

Sl. No.	Name (with model & make)	Model Number	Order date	Installation date	Cost in INR
1	Projector with Wifi, HDMI, VGA and 8 x 6 sqft motorized projector screen	Sony, VPL-EX 430	19.11.2018		76000
2	Speaker System 200 W	Ahuja. SRX 220 DX	19.11.2018		30984
3	Amplifier with rack 350 W	Ahuja TZA 4000 EM	19.11.2018		32706
4	Tabletop flexible Mic	Ahuja GM 605+ GMB-6C	19.11.2018		43110
5	Wired Headset	Zebronic	19.11.2018		7500
6	Branded CPU i7/8GB/1TB with 18.5	HP Desktop Pro G1 MT (Business)	19.11.2018		69500

	LED Monitor	Tpwer Desktop)			
7	Mono Laser Printer- multipurpose	Canon, MF 3010	19.11.2018		20000
8	Audio system with dual wireless hand mic	Ahuja, AWM 520 VHL	19.11.2018		4984
9	Wireless Microphone	Ahuja, AWM 520 VL	19.11.2018		3005
10	Digital Podium with display (Aluminium) with mic	Globus	19.11.2018		161000
11	24 Channel Mixer (analogue)	Studio Master, AIR Pro 24	19.11.2018		46380
12	Stand for two speaker systems		19.11.2018		14981

1. Synthesis, Characterization and Antimicrobial Studies of Vanadium (IV) and Ni(II) Complexes derived from 4-Nitro benzaldehyde and 1-naphthylamine.
2. Characterization study of Copper (II) and Cobalt (II) complexes of 1-(2-hydroxyphenyl azo)-2-naphthol
3. Development of Dye Sensitized Solar Cells from Natural Dyes
4. Synthesis, Characterization and antimicrobial studies of Copper (II) and Vanadium (IV) complexes derived from 3-nitro benzaldehyde and para-phenylenediaminedihydrochloride.
5. Effect of substituents on the stretching frequencies of Amine complexes

**Dr. L.S. Afnisha Deepam:**

**MSc Research program**

- b. For research: Identify the research programs, including names of groups or individual faculty members, who are using the major equipment (> 5 lakhs) acquired with the FIST support

- Online tests by making use of Networking Lab
- Mock tests of different courses
- Question discussion
- Seminar presentations
- MOOC's courses

- a. For teaching: The following programs were implemented for the PG students

8. Utilization of the facilities created under FIST support:

(Specify if the Internet facility is available to UG/PG/research students)

- project presentation during the end semester viva voce
- Presenting seminar topics by the students
- Invited lectures by eminent scientists/academicians
- UGC-CSIR/NET orientation classes

Digital podium with cordless mic system, table top flexible mic for the students, projector with sound system etc was installed in the e-learning class room. It supports the PG students in

7. Details of e-learning class room setting: 499149/-
6. Details of Infrastructure developed: Purchase of books for 50,000/-

Mr. Mahesh S.

1. Morphological and biochemical characterization of two Portulaca species.
2. A Preliminary study of fissidentals in Chani ward of KanjiramkulamGramapanchayath, Kerala.
3. A Preliminary study of fissidentals in Thudali ward of Aryanadugramapanchayath, Kerala.

9. Details of full length research publications (in peer-reviewed journals) during the period under report

1. Structural, Optical, thermal and electrical properties of thiourea doped KHP crystal. A.C. Saji Kumar, V.T. Jisha, Materials Today Proceedings, 2018. (Accepted)

2. Activity Studies of Selected Tuber And Vegetable Powder Mix Dr. Afinisha Deepam. L. S \*, Jisha. M. J\*\*, International Journal of Scientific and Research Publications, Vo. 7, 117-127, 2017

3. Water fern induced mitogen-activated protein kinase signalling in Sesamumorientale L. var. thilarani involved in systemic resistance against Alternaria leaf spot disease-1. Asian Journal of Pharmacy and Pharmacology 2019; 5(2) (Accepted)

4. Synthesis, Characterisation and Antimicrobial Studies of Vanadium(IV) And Nickel(II) Complexes Derived from 4-nitrobenzaldehyde And 1-naphthylamine. AswathySudhakar, A. Maria Starvin, A. C. Chinchu, Asian Journal of Chemistry (communicated)

5. Synthesis of dye sensitized solar cells from natural extracts. L. S. Afinisha Deepam, A. Maria Starvin, Lekshmi S. Nair, Manju P. Larson, Oriental Journal of Chemistry (communicated)

6. Isolation and characterization of bio active compound from ayurvedic massage oil murivenma, L S Afinisha Deepam, S. D. Binitha, and Saranya R. Nair (communicated)

10. Sponsored research projects in operation during the period under report (please provide name/s of PI/Co-PIs, title of the project, funding agency and total quantum of external support)

## RECEIVED PROJECTS

### Project No: I

Organization : Kerala State Council For Science Technology & Environment  
(KSCSTE)  
Scheme : Selective Augmentation of Research & Development (SARD)  
Amount Sanctioned : 25 Lakhs

Department  
Coordinator  
: Dr. L.S. Afnisha Deepam  
**Project No: 2**

Organization : Kerala State Council For Science Technology & Environment (KSCSTE)  
Scheme : Selective Augmentation of Research & Development (SARD)  
Amount Sanctioned : 13.9 Lakhs  
Department : Department Of Chemistry  
Coordinator : Dr. Lubaina A.S.  
11. Utilization of Equipment from outside the College :

1. Analysis of samples from other colleges by faculty and students  
2. Training conducted for the students of academic and research centers

I. Training No. : 1  
PG students of Biochemistry  
Emmanuel College Vazhichal  
TVP  
Equipment used: UV-Visible Spectrophotometre and Rotary Evaporator

II. Training No. : 2  
UG students of Chemistry  
Mother Theresa College, Nellikad  
TVP  
Equipment used: UV-Visible Spectrophotometre and Rotary Evaporator

III. Training No. : 3  
PG students of Botany,  
Christian College Kattakada  
Equipment Used: PCR, Horizontal & Vertical Gel Electrophoresis

IV. Training No. : 3  
PG students of Physics,  
Christian College Kattakada  
Equipment Used: Hall Effect, Faraday Effect, Zeeman Effect

12. SELF-ASSESSMENT OF THE IMPACT OF FIST SUPPORT: Please specify if any of the following activity emerged/ improved as a consequence of the FIST support:

- a. New class-room experiments at B.Sc./M.Sc. or other levels
- MSc students doing research projects using the FIST equipment
- BSc projects

b. Success of students at national level tests (various PG/Ph.D. entrance tests and tests for JRF etc)

1. PG/PhD Entrance/UGC-NET/JRF

• Department of Botany

- i. Ms. Pravitha Mole- II Rank University of Kerala (MSc Botany)
- ii. Reshma G.S. - UGC-CSIR NET
- iii. Pradeep D.P. - ARS NET
- iv. Thushara Mohan- Kerala University PhD Entrance Qualified
- v. Aheera S. Mami- Kerala University PhD Entrance Qualified
- vi. Renjini R.L. - Kerala University PhD Entrance Qualified

• Department of Chemistry

- i. Simi C.K. - V Rank University of Kerala (MSc Chemistry)
  - ii. Simi C.K. - UGC-NET-
  - iii. Remya T.S. - UGC-NET- University Rank- VI (MSc Chemistry)
  - iii. Gopika S- University I Rank (BSc Chemistry)
  - iv. Aswathy Sudhakkar- Qualified MPhil Entrance
  - v. Jinu John- Qualified MPhil Entrance
  - vi. Vaishnavi Chandran- Qualified JAM
- Department of Physics
- i. Arya S.R. - ASPIRE scholarship

c. Any new research project that emerged on the basis of the FIST support

1. Received Project from Kerala State Council for Science, Technology & Environment (KSCSTE) for 25 Lakhs under the program of Selective Augmentation of Research and Development (SARD) to the Department of Chemistry

2. Received Project from Kerala State Council for Science, Technology & Environment (KSCSTE) for 13.9 Lakhs under Science Research Scheme to the Department of Botany

d. Did the newly created facility lead to betterment of quality of research publications

Yes.

d. Any training program/ workshop organized by the department during the period of report, specially those involving the newly created facility)

I. Training No. : 1

PG students of Biochemistry  
Emmanuel College Vazhichal  
TVPM



Principal  
Dr. VINCENT JOY, N.S.  
Principal-in charge  
Christian College  
Kattakada



14. A report highlighting the research activities of the College during the period under review may also be provided.

- MSc students of three PG departments using the equipment purchased from the FIST fund to complete the end semester projects.
- BSc students also using the facility to complete their project work
- MSc students and faculty using the networking lab to practice the UGC-CSIR examination questions, to practice online questions for various entrance examinations
- Two projects were received from Kerala State Council for Science Technology and Environment based on the preliminary setup done by making use of FIST fund
- UGC has sanctioned two B Voc programs for the college because of the facility raised by making use of FIST fund
- Faculty received guideship in various subjects from the University of Kerala
- Department of Botany has given application to the University of Kerala to get approval as research centre
- An Instrumentation cum Research lab was set up for the Department of Chemistry by using the equipment received by FIST fund

No

13. Is any problem faced in utilization of the grant/facilities?

Equipment used: UV-Visible Spectrophotometre and Rotary Evaporator  
 II. Training No. : 2  
 UG students of Chemistry  
 Mother Theresa College, Nellikad  
 TVPM

Equipment used: UV-Visible Spectrophotometre and Rotary Evaporator

III. Training No. : 3  
 PG students of Botany,  
 Christian College Kattakada  
 Equipment Used: PCR, Horizontal & Vertical Gel Electrophoresis

IV. Training No. : 3  
 PG students of Physics,  
 Christian College Kattakada  
 Equipment Used: Hall Effect, Faraday Effect, Zeeman Effect



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Government of India Receipt Portal

## RECEIPT

Transaction Ref.No. 2105190004731

Dated: May 21 2019 4:14PM

Received from MR. PRINCIPAL with Transaction Ref.No.  
2105190004731

Dated May 21 2019 4:14PM the sum of INR 31231 (Thirty-One Thousand Two Hundred Thirty-One Only) through Internet based Online payment in the account of

Donation to Swachh Bharat Kosh, Christian College Kattakada FIST-2014  
Interest yr 2018-2019.

**Disclaimer:- This is a system generated electronic receipt, hence no physical signature is required for the purpose of authentication**

Printed On: 21-05-2019 04:20:38