GOVERNMENT DEGREE COLLEGE : : BHADRACHALAM.
BHADRADRI KOTHAGUDEM DISTRICT.

Date:28.04.2022.
BHADRACHALAM

From,
Sri.D.Bhadraiah.,M.Sc.,M.Ed.,
Principal(F.A.C).,
Govt.Degree College,
BHADRACHALAM.
BHADRADRI KOTHAGUDEM(Dt.)

To,
The Commissioner of Collegiate Education.,
Vidya Bhavan.,
Nampally.
HYDERABAD.
TELANGANA STATE.

Respected Sir,

Sub:-Govt.Degree College, Bhadrachalam-Collegiate Education-**JIGNASA-2021**-Attending for presentation of Student Study State Level Project-Request for according permission and Sanction of **"ON DUTY"** to certain Staff members of this College-Reg.

Ref:-File No.CCE-AC/JIGN/1/2021-ACADEMIC CELL,Dt.20.04.2022. of Commissioner of Collegiate Education.

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With reference to the subject cited above, I would like to bring to your kind notice that the details of the Staff members who are attending to guide and supervise the students of this college who are participating in ***Presentation of State Level Student "JIGANASA-2021" Project*** at various venues on different dates are furnished as below :

Sl.No	Name of the Staff Member	Designation	Venue of Attending	Date of Attending	Remarks
01	Sri D.Veeranna	Asst.Prof.of Chemistry	INDIRA PRIYA DARSINI GDC(W),NAMPALLY, HYDERABAD	30.04.2022	
02	Smt.V.Ragha Suma	C.F. in Chemistry	INDIRA PRIYA DARSINI GDC(W),NAMPALLY, HYDERABAD	30.04.2022	
03	Sri.K.Surya Rao	Asst.Prof.of Economics	GDC,KHAIRATHABHAD HYDERABAD	29.04.2022	
04	Smt.B.Durga Bhavani	Guest Faculty in Computers	GDC,KHAIRATHABHAD HYDERABAD	29.04.2022	

So, I kindly request you to accord permission to attend and sanction " ON DUTY" to the above said Staff members.

Thanking You Sir,

Yours faithfully,

Principal
Govt. Degree College
Bhadrachalam-507 111,
Bhadradri Kothagudem Dist.

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Proceedings of the Commissioner Collegiate Education, Telangana :: Hyderabad.

Present: Sri.Navin Mittal, IAS

Sub Collegiate Education- Jignasa Student Study Projects-2021– List of Selected Student Study Projects for State Level Presentation- Instructions- Issued- Reg.

Ref: File No. CCE-AC/JIGN/1/2021-ACADEMIC CELL Dated:15.09.2021

Commissionerate of Collegiate Education gives prominence to provide the opportunity to the students of all Government Degree Colleges to explore problems and challenges which have real world applications through project based learning. Learning through projects also increases the possibility of long-term retention of what students have learnt and establishes the linkage between theory and practice.

In view of the above, the Department has received a total of 855 Study Projects from all the Government Degree Colleges in 15 subjects. The projects were evaluated by a committee consisting of subject experts who have an aptitude for research and innovation. Out of 855 Projects, 285 projects have been selected in 15 subjects for state level presentation.

The subject wise selected list of Jignasa Study Projects for State Level Presentations is placed in the Annexure - I

In this regard, all the Principals of GDCs as per the Annexure-I are directed to ensure that the Mentor/Supervising faculty shall guide the students and prepare them thoroughly for state level presentations. Further, the Principals also instructed to send the soft copies of full length Study Projects which are selected for State Level Presentations by 18th April, 2022 to jignasa-ce@telangana.gov.in and instruct the faculty supervisors to submit the hard bound copies at the time of

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No	District	Name of the GDC	Subject	Name of the Project	Name of the Supervisor
				(working model)	
62	Rajanna Sircilla	GDC Agraharam	Physics	Photo acoustic spectroscopy	Rajesh.K
63	Ranga Reddy	GDC Hayathnagar	Physics	Study of Marangoni Flow on Fluid Surfaces	Dr.Parvathalu Kalakonda
64	Sangareddy	GDC Sadasivpet	Physics	The solar heating and night cooling of surfaces	P.Rajireddy
65	Siddipet	GDC Gajwel	Physics	The Importance of energy audit at institutional level	M. Bhavani
66	Wanaparthy	GDC (W) Wanaparthy	Physics	Water Analysis (TDS, pH and Temperature) in GDC Women Wanaparthy	R.Manjula , G. Vishnumurthy
67	Yadadri Bhuvanagiri	GDC Alair	Physics	Investigation of Urine Glucose using Refractometric Analysis	Dr. K.Haritha
68	Yadadri Bhuvanagiri	GDC Ramannapet	Physics	Electrical energy consumption in the college- A case study	Madhu Dharmapuri
69	Bhadradri Kothagudem	GDC Bhadrachalam	Chemistry	Determination of vitamin c in various fruits and vegetables and the role of vitamin c in Covid 19	D Veeranna & V Raga Suma
70	Hanamkonda	GDC Hanamkonda	Chemistry	Studies on Bio Ethanol production from waste Banana and Orange Fruits using Ecologically friendly methods	Dr. Vasam Sreenivas
71	Hyderabad	GDC (W) Begumpet	Chemistry	Hydrogen-fuel of the future	1. Dr. G.Pranitha, 2. Dr. Rafia Sultana
72	Hyderabad	GDC Nayapul	Chemistry	"Controlled release of Volatile organic compound by pH sensitive hydrogels"	Dr.Dayanand & Dr Viplav Duth shukla
73	Jangaon	GDC Jangaon	Chemistry	Assessment of Heavy Metals in Contaminated Soil and	Dr.J.Uma Rani

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STUDENT STUDY PROJECT WORK

"CAFFEINE IN TEA AND COFFEE A COMPARATIVE STUDY"

Done by the following students: III B.Sc Students

1) D. Vineeth Raju - 033-20-4109
2) G. Deepika - 033-20-4111
3) P. Sravanthi - 033-20-4128
4) G. Naga Sai Kiran - 033-20-3212
5) V. Sravan Kumar - 033-20-3248

Project Supervisor : Sri D. Veeranna

GUIDED BY :

Sri D. BHADRAIAH

Sri D. VEERANNA

Smt. V. RAGHA SUMA.

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Procedure:

Part 1: Dissolution of Caffeine in Water

1. **Obtain a 500 to 1000ml beaker.**
2. **Weigh about 15g of tea bags and place them in the beaker. Record actual weight: 14.98 g**
3. **Add 300ml of distilled water to the beaker.**
4. **Boil the water containing the tea bags on a boiling water bath for 15-20 minutes while stirring occasionally.**
5. **After the boiling period is over, remove the beaker from the heat and allow to cool 15 minutes or on ice until cooled.**
6. **After the solution has cooled, squeeze the tea bags to remove all the liquid. Dispose of the bags.**
7. **Using vacuum filtration, filter the solution through regular filter paper to remove any solid particles.**

Part 2: Transfer of Caffeine from Water to Chloroform

Caution: Use Chloroform under hood with proper ventilation. Do Not Breath Fumes.

1. **Transfer the solution obtained from step 7 above to a 500ml separatory funnel. Add 100ml of chloroform. Instructor will demonstrate proper use of the separatory funnel.**
2. **Allow the chloroform to settle to the bottom. Carefully drain the chloroform layer into a flask or beaker. Dispose of the aqueous top layer.**

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3. Filter the chloroform/caffeine solution through reverse-phase filter paper using vacuum filtration. This will allow the chloroform to filter through but will trap any water and residue. Transfer the solution to a 125ml flask.

Part: 3 Crystallization of Caffeine

1. Using a hot water bath in the fume hood, place the chloroform solution over the boiling water. The boiling point of chloroform is 61 to 62OC.
2. Evaporate the solution down to about 20ml and then remove from the heat.
3. Weigh a clean watch glass and record its weight here: 15.26 g
4. Place the watch glass over the boiling water bath, fill it with a portion of the concentrated caffeine solution, and evaporate it. Repeat this process until all the concentrated solution is gone.
5. Remove the watch glass from the water bath and let it cool. Wipe the moisture from the bottom of the watch glass.
6. Reweigh the watch glass. The weight of the caffeine: 0.0799 g.

Similarly quantity of caffeine yielded from 15gms of coffee powder was found and that is 4.5gms.

Result:

The percentage yield of caffeine in tea is

(Weight of caffeine/weight tea) x 100 = 5.33 %

The percentage yield of Caffeine from coffee is

(Weight of caffeine/Weight of coffee) x 100 = 30%

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SUMMARY

Extractions of certain solids can be performed by utilizing the different chemical properties of various solvents. The solubility of caffeine in chloroform is quite high at room temperature. The chloroform - caffeine mixture can be separated by utilizing the different densities of chloroform and water. Caffeine will be extracted from tea leaves and coffee seeds using polar-non polar solvent extraction techniques. The percentage yield of caffeine from tea was found to be 5% where as that from coffee was found to be 30%. In view of the many disadvantages and side effects of caffeine Tea is preferred to Coffee(since tea has less percentage of caffeine than that of coffee).

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