



**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
GUNTUR**

DEPARTMENT OF BIOCHEMISTRY

CERTIFICATE COURSE – 2018-19

**CERTIFICATE COURSE
IN
NUTRITIONAL BIOCHEMISTRY**

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GOVERNMENT COLLEGE FOR WOMEN(A).


5/12/18


CIRCULAR

This is to inform all the final year Students of the college, A certificate course is going to be organised in "Nutritional Biochemistry" by the Dept. of Biochemistry from 12th Dec onwards.

Interested students can give their names in the dept of Biochemistry.




Signature of
Course coordinator


HOD of
Biochemistry


Principal. 5/12/18

To
Dr. Ch. Pulla Reddy
The Principal
GCW (A), Guntur

From
B. Dorka Vijaya Kumari
I/C Dept. of Biochemistry
GCW (A), Guntur

Respected Principal,

Sub : Sanction of expenditure incurred for Certificate course from 12-12-2018 to 27.2.-19 – Reg

As per the above subject, I am bringing to your kind notice that we, the Dept. of Biochemistry had organized a Certificate course on "**Nutritional Biochemistry**" from 12-12-2018 to 27.2.19 to the students of final year Biochemistry, which was conducted for 30 hours as per the norms.

In this regard, I would like to mention that we spent an amount of Rs.6970/- (Six thousand Seven hundred and ninety only) to conduct the practical for the above certificate course. Hence I request you to sanction that amount to Quality Traders, Guntur, from autonomy grants.

pay from autonomous fund ok.
2018-19

Thanking you.

20/03/19
PRINCIPAL
GOVT. COLLEGE FOR WOMEN (A)
GUNTUR.

Yours faithfully



B. Dorka Vijaya Kumari
i/c. Dept. of Biochemistry
GCW (A), Guntur

CERTIFICATE COURSE IN NUTRITIONAL BIOCHEMISTRY (30 hrs)

Unit 1 Introduction to Nutrition and Energy Metabolism No. of Hours:

5hrs

- Defining Nutrition, Units of energy, measurement of energy content of food (Calorific values) their determination by bomb calorimeter; Balanced diet
- Standard dietary allowance (SDA); Basal Metabolic Rate (BMR), factors affecting it
- Recommended dietary allowance (RDA) for children, adult, pregnant & lactating women.- 2h

Unit 2 Dietary molecules in health No. of Hours:

10hrs

- **Carbohydrates:** Source, Dietary requirements, importance of carbohydrates
- **Lipids:** Source, Dietary requirements, importance of lipids; Essential Fatty Acids; Functions of EFA.
- **Proteins:** Source, Dietary requirements, importance of proteins; Essential and Nonessential amino acids; PEM, Kwashiorkor and Marasmus.
- **Minerals :** Ca, Mg, P, Fe, I, F, Cu, Zn, Se - Sources, importance
- **Vitamins:** Source, importance of vitamin A, C, D, E, K & B complex

Practicals :

15 hours

1. Estimation of carbohydrate by anthrone method
 2. Estimation of protein by Biuret method
 3. Determination of iodine value of an oil.
 4. Estimation of calcium by titrimetry
 5. Estimation of vitamin C by 2, 6 -dichlorophenol indophenol method.
-

Certificate Course in Nutritional Biochemistry : Students registered

| S.no | Name of the Student | Reg. No |
|-------------|----------------------------|----------------|
| 1 | T. Lakshmi Sireesha | 16407001 |
| 2 | N. Lakshmi Prasanna | 16407002 |
| 3 | Ch. AnithaKumari | 16407008 |
| 4 | J. Lavanya | 16407009 |
| 5 | K. Devayani | 16405001 |
| 6 | N. Narayanamma | 16405002 |
| 7 | B. Prameela | 16405003 |
| 8 | A. Mani | 16405005 |
| 9 | B. Yamini | 16405006 |
| 10 | G. Sukanya | 16405010 |
| 11 | G. Srilakshmi | 16405011 |
| 12 | H. Maha Lakshmi | 16405012 |
| 13 | K. Hymavathi | 16405017 |
| 14 | P. Mounika | 16405019 |
| 15 | K. Devika | 16405021 |
| 16 | Sk. Naseema | 16405022 |
| 17 | S. Krishna Priya | 16405023 |
| 18 | P. Nandini | 16405027 |
| 19 | S. Supriya | 16404004 |
| 20 | Y. Deepthi | 16404009 |
| 21 | P.Naga Lakshmi | 16404011 |
| 22 | P. Roja | 16404012 |
| 23 | V. Sowjanya | 16404014 |
| 24 | K. Neelima | 16404015 |
| 25 | D. Usha Rani | 16404018 |
| 26 | J. Sireesha | 16202009 |
| 27 | J. Sandhya | 16302032 |
| 28 | M. VenkataDivya | 16303011 |
| 29 | P. Theresa | 16103009 |
| 30 | P. Devi Akhilandeswari | 16106006 |
| 31 | P. Maneesha | 16106007 |



Objective of the Course:

Nutritional Biochemistry is an area of science where it encompasses the knowledge of nutrients and other food components with emphasis on their range of function and influence on human physiology, health and behavior. It includes the properties of nutrients, dietary constituents, physiological, metabolic, and epigenetic functions. The focus of this certificate course is to give the optimal dietary intake of every nutrient throughout the life cycle and to understand the interactive relationship among diet, health and diseases related to nutrients

Course Details:

Nutritional Biochemistry as a certificate course is offered by the department of Biochemistry to the final year students of the college. 2 credits were offered for the 30 hrs certificate course. As this certificate course is beneficial to each and every student of various groups since it is based on the regular diet to be taken to have a healthy life. Hence students from various streams including BA, BCom, BSc., and biology background students have opted for this course.

The syllabus of the course is framed for 30 hrs, having 15 hours for theory and 15 hours for practical part and an exam for 50 marks was conducted at the end of the course offering 2 credits.

D. Vijaya Sree, Lecturer in Biochemistry, as the course coordinator has started the course from November 11th of 2018 and extended upto February 4th considering mid exams and Christmas and Pongal vacations in between. Classes were taken from 4'O clock to 5'O clock during theory hours and 4'O clock to 6:30 pm during practical sessions.

As per the syllabus, various components of nutrients were discussed in detailed in theory part which include the carbohydrates, proteins, fats, vitamins and minerals their source, requirement per day, their metabolic action in body and effects if taken insufficient or in excess. In lab course basic estimations of various biomolecules, minerals and vitamins which are frequently available in diet were done

Along with these, the basic requirements like balanced diet required for all age group people including pregnant and lactation, basal metabolic rate, effect of malnutrition, obesity etc were also discussed which give clear picture on the importance of the course.

As the course is practical oriented, to check the student awareness on the course practical exam was conducted at the end of the course. Each student should submit their record during the time of examination as the evaluation of the course is practical oriented.

Students while doing practical's



Estimations



Titrations



Outcomes of the Course :

Students were now aware of conditions like many common diseases affecting human populations in both developing and developed countries result from general malnutrition, deficiencies of specific nutrients or over nutrition.

Students also gained awareness on specific nutrients or in combination can be protective by preventing diseases.

Nutrition based course to the students have imparted the quality of food to have for a healthy life.

Students were enable to apply & explain the importance of biomolecules, minerals and vitamins in diet to make it a balanced diet in their daily life.

Students were able to understand the function of biological molecules

| Name | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
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| | | 12 | 12 | 13 | 13 | 14 | 14 | 15 | 20 | 23 | 24 | 28 | 29 | 30 | 4 | 5 | 11 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 13 | 26 | 26 | 26 | | | |
| 1. T. Lakshmi Sireesha | 16407001 | | | / | / | | | | / | / | / | / | | | / | | | | | | | | | | | | | | | | |
| 2. M. Lakshmi Prasanna | 16407002 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 3. D. Ashritha | 16407004 | | | | | | | | | / | | | | | | | | | | | | | | | | / | / | / | | | |
| 4. Ch. Anitha Kumari | 16407008 | | | / | / | / | / | | | | | | / | / | | | / | / | / | / | / | / | | | | | | | | | |
| 5. J. Lavanya | 16407009 | / | / | / | / | / | / | / | / | / | / | / | | | | | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 6. K. Devayani | 16405001 | / | / | / | / | / | / | / | / | / | / | / | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 7. N. Narayanamma | 16405002 | / | / | / | / | / | / | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. B. Prameela | 16405003 | / | / | / | / | / | / | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. A. Mani | 16405005 | / | / | / | / | / | / | | / | / | | | | | | | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 10. B. Yamini | 16405006 | / | / | / | / | / | / | / | / | / | | | | | | / | | | | | | | / | / | / | / | / | / | | | |
| 1. G. Sukanya | 16405010 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | | | | | / | / | / | / | / | / | | | |
| 2. G. Srilakshmi | 16405011 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | | | | | | | | | | |
| 3. H. Maha Lakshmi | 16405012 | / | / | | | | | / | | | / | / | / | / | | | | | | | | | | / | / | / | | | | | |
| 4. K. Hymavathi | 16405017 | / | / | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | | |
| 5. P. Mounika | 16405019 | / | / | | | / | / | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | | |
| 6. K. Devika | 16405021 | / | / | / | / | / | / | / | / | / | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 7. Sk. Naseema | 16405022 | | | | | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 8. S. Krishna Priya | 16405023 | | | / | / | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 9. P. Nandini | 16405027 | / | / | / | / | | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | | | |
| 10. S. Supriya | 16404004 | / | / | / | / | / | / | / | / | / | / | | | | | | | | | | | | | | | / | / | / | | | |

| Name | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
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| P. Deena Kumari | 16404008 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| Y. Deepthi | 16404009 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| P.Naga Lakshmi | 16404011 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| V. Sowjanya | 16404014 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| K. Neelima | 16404015 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| D. Usha Rani | 16404018 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| J. Sireesha | 16202009 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| J. Sandhya | 16302032 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| M. Venkata Divya | 16303011 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| P. Theresa | 16103009 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| P. Devi | 16106006 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| Akhilandeswari | | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
| P. Maneesha | 16106007 | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / | / |
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Marks awarded in Certificate Course in Nutritional Biochemistry

| S.No | Name of the Student | Reg. No | Marks obtained |
|-------------|----------------------------|----------------|-----------------------|
| 1 | T. Lakshmi Sireesha | 16407001 | 36 |
| 2 | N. Lakshmi Prasanna | 16407002 | 45 |
| 3 | Ch. AnithaKumari | 16407008 | 41 |
| 4 | J. Lavanya | 16407009 | 40 |
| 5 | K. Devayani | 16405001 | 42 |
| 6 | N. Narayanamma | 16405002 | 37 |
| 7 | B. Prameela | 16405003 | 39 |
| 8 | A. Mani | 16405005 | 36 |
| 9 | B. Yamini | 16405006 | 41 |
| 10 | G. Sukanya | 16405010 | 42 |
| 11 | G. Srilakshmi | 16405011 | 42 |
| 12 | H. Maha Lakshmi | 16405012 | 42 |
| 13 | K. Hymavathi | 16405017 | 39 |
| 14 | P. Mounika | 16405019 | 41 |
| 15 | K. Devika | 16405021 | 42 |
| 16 | Sk. Naseema | 16405022 | 40 |
| 17 | S. Krishna Priya | 16405023 | 39 |
| 18 | P. Nandini | 16405027 | 43 |
| 19 | S. Supriya | 16404004 | 35 |
| 20 | Y. Deepthi | 16404009 | 38 |
| 21 | P.Naga Lakshmi | 16404011 | 40 |
| 22 | P. Roja | 16404012 | 41 |
| 23 | V. Sowjanya | 16404014 | 44 |
| 24 | K. Neelima | 16404015 | 41 |
| 25 | D. Usha Rani | 16404018 | 40 |
| 26 | J. Sireesha | 16202009 | 37 |
| 27 | J. Sandhya Rani | 16302032 | 41 |
| 28 | M. VenkataDivya | 16303011 | 40 |
| 29 | P. Theresa | 16103009 | 39 |
| 30 | P. Devi Akhilandeswari | 16106006 | 40 |
| 31 | P. Maneesha | 16106007 | 40 |

Certificates distributed to the students at the end of course



Certificates distributed by the Principal



Certificates distributed by the UGC Coordinator

Certificates distributed by the Course Coordinator



Govt. College for Women (Autonomous)
Department of Biochemistry
Evaluative report for Feedback on
Certificate course in Nutritional Biochemistry

1. The content is relevant to the syllabus *yes*
2. The syllabus useful to students *yes*
3. Students preferred changes to be done in the syllabus *NO*
4. Students enjoyed the practical sessions in the syllabus *yes*
5. Other suggestions by students *NIL*


Signature of

Course Coordinator


Signature of

I/C Department