

**1.2.1. Report of Add-On Courses
(2019 – 20)**

Molecular Spectroscopy
Department of Chemistry
2019 – 20



MAHATMA GANDHI COLLEGE

THIRUVANANTHAPURAM

POST GRADUATE DEPARTMENT OF CHEMISTRY & RESEARCH
CENTER

NOTICE

ADD-ON COURSE –MOLECULAR SPECTROSCOPY

Department of chemistry is conducting an Add-On course titled "MOLECULAR SPECTROSCOPY" for the academic year 2019-2020. This course aims to provide students with an in-depth understanding of spectroscopic techniques and their practical applications.

Course Duration: 30 hour

Last Date for Registration: 5/06/19

For any queries or additional information, please contact the course coordinator, Head, Department of Chemistry.

Head, Department of Chemistry

HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram

Principal
Mahatma Gandhi College
Thiruvananthapuram

Add on course Syllabus

Molecular spectroscopy

Unit 1 Introduction

8h

General features of absorption - Beer-Lambert's law and its limitations, transmittance, Absorbance, and molar absorptivity. Single and double beam spectrophotometers. Electronic spectroscopy: Interaction of electromagnetic radiation with molecules and types of molecular spectra. Energy levels of molecular orbitals (σ , π , n). Selection rules for electronic spectra. Types of electronic transitions in molecules effect of conjugation. Concept of chromophore and auxochrome.

UNIT-II Infra red spectroscopy

8h

Different Regions in Infrared radiations. Modes of vibrations in diatomic and polyatomic molecules. Characteristic absorption bands of various functional groups. Interpretation of spectra-Alkanes, Aromatic, Alcohols, carbonyls, and amines with one example to each.

UNIT-III Proton magnetic resonance spectroscopy

8h

Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals - spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate, toluene and acetophenone.

UNIT-IV

6h

Instrument demonstration

UV-Visible spectroscopy, IR spectroscopy, Photoluminescence Spectrometer (PL)

P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram

P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram

Principal
Mahatma Gandhi College
Thiruvananthapuram

Academic Year 2019-2020		
Batch 1		
Sl.No	Name	Candidate Code
1	Adarsh Ashok	235118638198
2	Ahalya Vijayan	235118688568
3	Akshay V.R	235118612113
4	Alisha B Anil	235118671897
5	Amaljith J.S	235118671768
6	Anjana S	235118681490
7	Avanthika A.S	235118681490
8	Goutham T.S	235118693503
9	Nandana S.S	235118601449
10	Nikhil Raju S	235118669449
11	Rahul J	235118672477
12	Rugma S.R	235118676549
13	Saranya S	235118615934
14	Shahana S	235118616631
15	Sivadarsh J.S	235118631275
16	Sooraj S.R	235118644530
17	Soorya S	235118654331
18	Vaishnavi Suresh	235118615298
19	Vinay Arun	235118626350
20	Abijith V	235118602232
21	Abijith A Nair	235118659208
22	Aiswarya S Nair	235118615403
23	Ajinun M.S	235118661002
24	Akhil A.S	235118661002
25	Akshay P.S	235118668942
26	Akshaya S Gopan	235118633376
27	Arya Krishna S.S	235118663466
28	Aswathy J	235118669188
29	Athira B	235118648928
30	Athira C.S	235118647524
31	Avani M.S	235118611487
32	Deethu T.D	235118626051
33	Devika J.S	235118616584
34	Gokul Dev S	235118670019
35	Gokul G.M	23511864345
36	MayaMurali M	235118678835
37	Medha Lal R	235118619113
38	Meenu Mohan	23511861099
39	Meenu V	235118650692
40	Nandana A	235118668413
41	Praseetha R	235118621594
42	Rahul Raj R	235118668983
43	Sathiwand B	235118687548
44	Sarath C	235118675483
45	Sarath S	235118609515
46	Sreelekshmy A.R	235118608536
47	Vaishnav S.S	235118650248


P.B. E. 
 Thiruvananthapuram
 Thiruvananthapuram

48	Aparna S.R	235118648579
49	Athira S	235118670821
50	Nazilu Beevi R	235118670821
51	Revathy Raj R	235118644579
52	Sandra S.B	235118610199
53	Simi S.S	235118649280
54	Aparna J.S	235118680162


HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram


Principal
Mahatma Gandhi College
Thiruvananthapuram

Academic Calendar 2019-2020		
Batch -11		
Sl.No	Name	Candidate Code
1	Abhirami J.S	235118313559
2	Aiswarya R Sarma	235118314948
3	Anagha M.G	235118355525
4	Anagha B	235118364830
5	Aparna S	235118337940
6	Arya B.L	235118329459
7	Athira K	235118314363
8	Bharath B.S	235118323962
9	Bijasha B.K	235118329803
10	Deepika D Nair	235118363199
11	Deepika J	235118324472
12	Fouziya Beegam	235118318356
13	Gokul J.M	235118366830
14	Harisankar S.S	235118350766
15	Jyothish C.S	235118316929
16	Jyothish R.R	235118327236
17	Kiran Krishna C	235118327243
18	Malavika B	235118313457
19	Meenakshi S	235118330313
20	Poojalekshmi G.S	235118347742
21	Prasteena Suresh	235118342297
22	Preethy Prasad S	235118376816
23	Reshma R.S	235118366620
24	Rupa Suresh	235118325614
25	Sangeeth Sivan	235118367210
26	Soorya Sambu	235118302657
27	Sarath J.S	235118315804
28	Savya M.S	235118388901
29	Sivan M.S	235118360443
30	Soja Vinod	235118376971
31	Sruthy B Nair	235118304784
32	Sujith S	235118360574
33	Vineetha B.S	235118379203
34	Vishnu A.P	235118312054
35	Vishnu priya S.S	235118314512
36	Akhil S	235118351794
37	Akshara S.S	235118358093
38	Amritha V.S	235118347458
39	Anagha P.S	235118359088
40	Anjitha L	23511854295
41	Aparna P.S	235118348092
42	Arathy M.L	235118344187
43	Arya B.S	235118306450
44	Bhadra V.S	235118336619
45	Farzana Mohammed	235118311288
46	Gangadevi	235118318230
47	Gayathry E	235118344400


 P.O. Dept. of Chemistry & Research Centre
 Mahatma Gandhi College
 Thiruvananthapuram

48	Manu M.L	235118374166
49	Reshma Vijayan	235118353516
50	Sanjay J.S	235118375154
51	Sarath Vijay S	235118364250
52	Saheerkhan	235118316590
53	Gayathry B	235118374541
54	Reshma B	235118352732
55	Abhilash A.S	235118340752



HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram



Principal
Mahatma Gandhi College
Thiruvananthapuram

Add on Course Examination

Molecular Spectroscopy

MCQ

Answer all the questions

Time: 15 minutes

Marks: 10

- Absorption of radiation in the UV range attributable to $n \rightarrow \pi^*$ electronic transitions is characteristic of which of the following types of compounds?
 - a) Aromatic hydrocarbons.
 - b) Unsaturated carbonyl compounds.
 - c) Non-conjugated polyenes.
 - d) Conjugated polyenes.
- Which is the correct order of increasing wave number of the stretching vibrations of (1) C-H (alkane), (2) C-H (alkene), (3) C-H (alkyne), and (4) C-H (arene)?
 - a) (1) < (2) \approx (3) < (4)
 - b) (4) < (3) \approx (2) < (1)
 - c) (3) < (4) \approx (2) < (1)
 - d) (1) < (4) \approx (2) < (3)
- Which of the following statements in the context of ^1H NMR spectroscopy is true?
 - a) Arene C-H chemical shift (δ) values are greater than simple alkenes C-H chemical shift values because of the aromatic ring current.
 - b) Arene C-H chemical shift (δ) values are smaller than simple alkenes C-H chemical shift values because of the aromatic ring current.
 - c) Arene C-H signals are always multiplets.
 - d) Arene C-H signals are always singlets.
- Which of the following statements is wrong?
 - a) UV absorption is attributable to electronic transitions.
 - b) UV spectra provide information about valence electrons.
 - c) IR absorption is attributable to transitions between rotational energy levels of whole molecules.
 - d) NMR spectrometers use radiofrequency electromagnetic radiation.
- Which is the correct order of increasing wave number of the stretching vibrations of (1) C-H (alkane), (2) O-H (alcohol), (3) C=O (ketone), and (4) C \equiv C (alkyne)?
 - a) (4) < (3) < (2) < (1)

(i) Infrared spectra give information about bonding features and functional groups in molecules.



HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram
Thiruvananthapuram



Principal
Mahatma Gandhi College
Thiruvananthapuram

SUMMARY REPORT OF ADD-ON COURSE – MOLECULAR SPECTROSCOPY (2019-2020)

Add on course on Molecular spectroscopy was successfully completed. In the academic year 2019-2020, hundred and nine students were enrolled for the course. Classes conducted from 05/08/19 to 28/02/2020, for 30 hours. Theory and practical sessions were included in this course. as per the suggestions of the students, we concentrated in practical sessions more. A hand on training was given to the students.

After the completion of the course, students were assessed by written examination. Those who secured 60% marks and above in written examinations were honoured by certificates.



HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram



Principal
Mahatma Gandhi College
Thiruvananthapuram

34.	Lekshmi S.S.	235118574016	10
35.	Megha M. Nair	235118572376	8
36.	Neethu Lekshmi R.J.	235118548320	9
37.	Nikhil Rajendran	235118527693	9
38.	Rajikrishna R.C.	235118561819	8
39.	Peshma S. Nair	235118556305	10
40.	Sreelekshmi R.	235118507775	10
41.	Senthy S.	235118524624	8
42.	Sucheesh S.	235118527774	9
43.	Syama M.S.	235118516577	9
44.	Veinda V.S.	235118508098	10
45.	Ameetha R.V.	235118538348	8
46.	Anusha Raj	235118536117	9
47.	Aarvind M. Raj	235118546153	9
48.	Fathima S.N.	235118535514	10
49.	Harikrishnan V.	235118526060	8
50.	Keishnanunni V.S.	235118522296	10
51.	Keishnaperga R.	235118501405	9
52.	J.D. Haripriya	235118559736	9
53.	Ariswarya Keishna	115118524092	10



HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram

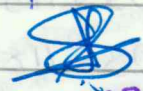


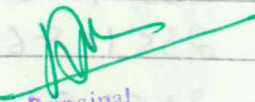
Principal
Mahatma Gandhi College
Thiruvananthapuram

2019-2020 Batch-I

Name	Mark
1. Adarsh Ashok	235118638198 10
2. Analya Vijayan	235118688568 8
3. Akshay V.R.	235118682113 7
4. Alisha B. Anil	235118671897 8
5. Amaljith J.S.	235118671768 9
6. Anjana S.	235118681490 9
7. Avanthika A.S.	235118681490 10
8. Gowtham T.S.	235118693503 10
9. Nandana S.S.	235118601449 8
10. Nikhil Raju S.	235118669949 9
11. Rahul J	235118672477 7
12. Rugma S.R.	235118676549 8
13. Saanya S.	235118615934 8
14. Shahana S.	235118616631 9
15. Sivadaash J.S.	235118631275 10
16. Sooraj S.R.	235118644530 10
17. Soorya S.	235118654331 10
18. Varshnavi Suresh	235118615298 9
19. Vinay Anun	235118626350 9
20. Abijith V.	235118602232 9
21. Abijith A. Nair	235118659205 8
22. Ariswarya S. Nair	235118615403 7
23. Ajinu M.S.	235118661002 10
24. Akhel A.S.	235118661002 10
25. Akshay P.S.	235118668942 9
26. Akshaya S. Gopan	235118633376 9
27. Aya Keishna S.S.	235118663466 9
28. Aswathy J	235118669188 8
29. Athira B	235118648128 7
30. Athira C.S.	235118647524 8
31. Avani M.S.	235118611487 9
32. Deethu T.D.	235118626051 8
33. Devika T.S.	235118611250 8

34	Gokul dev S	23511867009	7
35	Gokul G.M	23511864345	8
36	Maya Murali M	235118678835	8
37	Medha Lal R	23511861913	9
38	Meenu Mohan	23511861099	9
39	Meenu V	235118650692	8
40	Nandana A	23518668413	10
41	Peraseetha R	235118621574	10
42	Rahul Raj R	235118668983	9
43	Sandhya S.B	235118687548	9
44	Sarath C	235118675483	7
45	Sarath S.	23511860955	9
46	Sreelakshmi A.R	235118608536	10
47	Vaushnav S.S	235118650248	10
48	Aparna S.R	235118648579	8
49	Athira S.	235118670821	8
50	Azila Bevi R	235118670821	8
51	Revathy Ray R.	235118644579	9
52	Sandra S.B	235118610199	10
53	Simi S.S	235118649280	10
54	Aparna J.S	235118680162	10


 HEAD
 P.G. Dept. of Chemistry & Research Centre
 Mahatma Gandhi College
 Thiruvananthapuram


 Principal
 Mahatma Gandhi College
 Thiruvananthapuram

Batch - II

1.	Abhirami J.S	235118313559	10
2.	Aiswarya R Sarma.	235118314948	9
3.	Anagha. M.G.	235118355525	7
4.	Anagha B	235118364830	8
5.	Aparna S.	235118337940	9
6.	Arya B.L	235118329459	10
7.	Athira K.	23511834363	7
8.	Bharath B.S	235118323962	6
9.	Bijusha B.K.	235118329803	10
10.	Deepika Dnait	235118363199	8
11.	Deepika J	235118324472	7
12.	Fauziya Begum	235118318356	9
13.	Gokul J.M	235118366830	7
14.	Harisankar S.S	235118350766	6
15.	Jyothish C.S	235118316929	6
16.	Jyothish R.R	235118327236	6
17.	Kiran Krishna C	235118327284	7
18.	Malavika B.	235118313457	10
19.	Meenalakshi S.	235118330313	10
20.	Pooja Lekshmi G.S	235118347742	10
21.	Prasanna Suresh.	235118342297	10
22.	Preethy Prasad.S	235118376816	10
23.	Rushma R.S	235118366620	9
24.	Rupa Suresh	235118325614	10
25.	Sangeeth Sivan	235118367210	10
26.	Soorya Sambu	235118302657	9
27.	Sarath J.S	235118315804	8
28.	Savya M.S	235118388901	8
29.	Sivan M.S	235118360443	6
30.	Soya Vinod	235118376971	10
31.	S... R...	235118311101	9

32.	Sujeth S.	235118360574	7
33.	Vineetha B.S	235118379203	7
34.	Vishnu A.P.	235118312054	7
35.	Vishnu priya S.S	235118314512	8
36.	Akhil S.	235118351194	8
37.	Akshana S.S	235118358093	8
38.	Amritha V.S	235118347458	10
39.	Anagha P.S	235118359088	10
40.	Anjetha L.	235118354295	9
41.	Aparna P.S	235118348092	9
42.	Anathy M.L	235118344187	9
43.	Arya B.S	235118306450	9
44.	Bhadra V.S	235118336619	10
45.	Fansana Mohammed	235118311288	10
46.	Gangadevi	235118318230	10
47.	Gayathri E	235118344400	10
48.	Manu M.L	235118374166	7
49.	Preshma Vijaya	235118353516	10
50.	Sanjay J.S	235118375154	7
51.	Sarath vijay S.	235118364250	7
52.	Saheer Khan.	235118316590	6
53.	Gayathri B	235118374541	8
54.	Rushma B.	235118352732	9
55.	Abhilash A.S	235118340752	7

HEAD
P.G. Dept. of Chemistry & Research Centre
Mahatma Gandhi College
Thiruvananthapuram

Principal
Mahatma Gandhi College
Thiruvananthapuram

Water Quality Monitoring and Management

Department of Zoology

2019 – 20

NOTICE

The PG Dept of Zoology + Research Centre is offering an Add on course on "Water quality monitoring and Management" for the academic year 2019-20. The interested students may give their names to the course coordinator

Ashav

Dr Ashav G
Course coordinator

[Signature]

Head of the Dept



[Signature]
Principal
Mahatma Gandhi College
Thiruvananthapuram

ADD-ON COURSE 2019-20

WATER QUALITY MONITORING AND MANAGEMENT

INSTRUCTIONAL HOURS -30 hrs

COURSE DESCRIPTION

The purpose of the course is to develop understanding of water quality criteria, standards, impacts of water pollutants and treatment methods. It focuses on cause and effects of water pollution and water treatment methods.

Course objectives

1. To understand water quality criteria, and standards
2. To comprehend knowledge about sources, cause and impacts of water pollutants
3. To be abreast with physical, chemical and biological methods of water treatment
4. To build understanding of water quality parameters and their relation to public health and environment.

Learning outcomes

4. Understand meaning of important parameters for measuring water quality;
5. Gain insight into key concepts of water quality, water quality and health
6. Learn how to run accurate water quality tests and to determine how the parameters relate to each other;

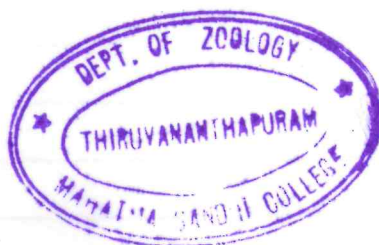
Pedagogical approach


Classroom teaching, field work and laboratory work

SYLLABUS

MODULE I

INTRODUCTION-water resources of India - Different ecosystem of Hydrology Riverine, Estuarine and marine - Causes and effects of water pollution - Water quality and health Linkage, - Water borne diseases- Standards of potable water-5hrs




Principal
Mahatma Gandhi Col.
Thiruvananthapuram

14

MODULE II

Water quality parameters and their interaction- physical characteristics - turbidity, color - temperature , pH- chemical constituents, taste, color, Chemical constituents -acidity, alkalinity - Co₂, hardness,- BOD, COD-Methods of testing- 5 Hrs

MODULE III

Waste water Treatment **Introduction of wastewater, its types and various sources, Concept of sewage, , Necessity of treatment of waste water -Preliminary treatment: screening and grit removal units, oil and grease removal, Primary treatment, Secondary treatment: Activated sludge process, trickling filter, sludge digestion, Stabilization pond (Brief Description only) -10 hrs**

Module IV

Water resources and quality management in India- Status of water quality in India-water stress index; status and trend of surface and groundwater; issues and policy interventions; pollution of rivers, lakes and ground water; GAP and National River Action Programme; role of national and international agencies in water health and sanitation. -10hrs

Reference :

1. Hydrology – Principles, analysis and Design- H.M Ragunath, New age International Publications.(1996)

2.. Standard methods for the examination of water and wastewater published by APHA 15th

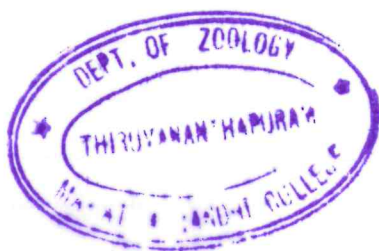

Principal
Mahatma Gandhi College
Thiruvananthapuram




Dr. Balamurali R.S.
Head of Department
Postgraduate and Research Department of Zoology
Mahatma Gandhi College, Thiruvananthapuram 695 034

PORTION ALLOTMENT

S L N O	TOPIC	Name of the teacher	Hours
	MODULE I INTRODUCTION-water resources of India - Different ecosystem of Hydrology Riverine, Estuarine and marine - Water quality and health Linkag, - Water borne diseases- Standards of potable water-	AVG	5 hrs
	MODULE II Water quality parameters and their interaction- physical characteristics - turbidity, color - temperature , pH- chemical constituents, taste, color, Chemical constituents -acidity, alkalinity - Co ₂ , hardness,- BOD, COD-Methods of testing-	PM	5 hrs
	MODULE III Waste water Treatment -Introduction of wastewater, its types and various sources, Concept of sewage, , Necessity of treatment of waste water -Preliminary treatment: screening and grit removal units, oil and grease removal, Primary treatment, Secondary treatment: Activated sludge process, trickling filter, sludge digestion, Stabilization pond (Brief Description only)	AMN	10 hrs
	Module IV Water resources and quality management in India- Status of water quality in India-water stress index; status and trend of surface and groundwater; issues and policy interventions; pollution of rivers, lakes and ground water; GAP and National River Action Programme; role of national and international agencies in water health and sanitation.	AMN	10 hrs



Dr. Balamurali R.S.

Head of Department

Postgraduate and Research Department of Zoology
Mahatma Gandhi College, Thiruvananthapuram 695004

1	Neethu. M. B	I sem	35	Gouri. M. Remyth
2	Padmanabhan. K.S		36	Lekshmi Nandane. S
3	Parvathy P.S		37	Meenu. A
4	Rohith. S		38	Ramehend k. B
5	S. Anenthe Lekshmi		39	Silpa Ramesh
6	Sandra Saji		40	Siva Prasad. R
7	Sneha S.S		41	Soorye. S
8	Vaishnav. V. L		42	Surashni.
9	Varsha Anreesh		43	Vishnu. S Govind
10	Vikram Krishna		44	Abhyuth. H
11	Vijayanthy L		45	Abhiram. A.S
12	Abhirami. S		46	Akash V J
13	Achu. S. Sunil		47	Anandhu M. S
14	Ajeesh A		48	Anericha. M.K
15	Akshay Sivan		49	Anupama Gopika. TC
16	Alphymol Thomas		50	Bhagya Vikas. I
17	Amritha. S Dhaaran			
18	Ananthu A			
19	Arathi A S			
20	Archane Chandran M			
21	Arya S S			
22	Bincy Ray B R			
23	Gopika Chandran			
24	Harikumar M			
25	Nithin Krishna			
26	Sreehari S M			
27	Sruthy. S Prasad			
28	Vaishnavi. S			
29	A dithye Chandran B J IIT			
30	Anuja V. V			
31	Aparna V S			
32	Archa Lal. J			
33				



Dr. Balamurali R.S.

Head of Department

Postgraduate and Research Department
Mahatma Gandhi College, Thiruvananthapuram

ATTENDANCE

17

31

	30/11/19	1/12/2019	2/12/19 (5)	7/12/19	16/12/19	23/12/19
1 Neethu. M. B	x	x	x	x	a	x
2 Padmanabhan . K.S	x	x	x	x	x	a
3 Parrathy PS	x	x	a	x	x	x
4 Rohith. S	a	x	x	x	a	x
5 S. Anantha Lekshmi	x	x	x	x	x	x
6 Sandra Saji	x	x	x	x	x	x
7 Sneha S.S	x	x	x	x	x	x
8 Vaishnav .V.L	a	x	x	x	x	x
9 Varsha Girceesh	x	a	x	x	x	x
10 Vikram Krishna	x	x	x	x	x	x
11 VyJaganthy L	x	x	x	x	x	x
12 Abhirami . S	x	x	x	x	x	a
13 Acho . S. Sunil	x	x	x	x	x	x
14 Ajeesh A	a	x	x	x	x	x
15 Akshay Sivan	x	a	x	x	x	x
16 Alphymol Thomas	x	x	x	x	x	a
17 Amrutha . S. Dharam	a	x	x	x	x	x
18 Ananthu A	x	x	a	x	x	x
19 Arathi A S	x	x	x	x	x	a
20 Archana Chandran M	x	x	x	a	x	x
21 Arya S S	x	x	x	x	x	x
22 Binoy Raj BR	x	x	x	x	a	x
23 Gopika Chandran	a	x	x	x	x	x
24 Marikumar M	x	x	x	x	a	x
25 Nithin Krishnan	x	a	x	x	x	a
26 Sreehari SM	x	x	x	x	x	x
27 Srothy . S Prasad	x	x	x	a	a	x
28 Vaishnavi . S	x	x	x	x	a	x
29 Adithya Chandran BJ	x	x	a	a	a	x
30 Anuja V.J	x	x	x	x	x	x
31 Aparna V S	x	x	x	x	x	a
32 Archa Lal. J	a	x	x	x	x	x
33 Arun . HC	x					

ASSESSMENT QUESTIONS

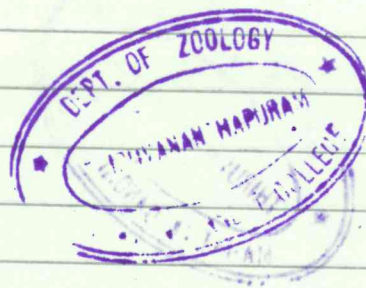
35	Gouri M Renjith	x	x	a	x	x	a
36	Lekshmi Nandana S	a	x	x	a	a	x
37	Meenu . A	x	x	x	a	x	x
38	Ramechand K.R	x	x	a	x	x	x
39	Silpa Ramesh	x	x	x	x	a	x
40	Sivaprasad . R	x	a	x	x	x	a
41	Soorya S	x	x	x	x	a	a
42	Sovarna	x	x	a	x	x	x
43	Vishnu S Govind	x	x	x	a	x	x
44	Abhijith . M.	x	x	a	x	x	x
45	Abhiram . A.S	x	a	x	x	x	x
46	Akash VJ	x	a	a	x	x	x
47	Anandhu M.S	x	x	x	a	a	x
48	Aneeka . M.K	x	x	x	x	a	x
49	Anupama Copika	x	x	x	x	x	x
50.	Bhagya Vikas	x	x	a	x	a	x



Dr. Balamurali R.S.
 Head of Department
 Postgraduate and Research Department of Zoology
 Mahatma Gandhi College, Thiruvananthapuram, 695004

Principal
 Mahatma Gandhi College
 Thiruvananthapuram

1.	Neethu . M.B	18	35	Gouri . M. Renjith	28
2	Padmanabhan . K. S	24	36	Lekshmi Nandana S	26
3	Parvathy PS	19	37	Meenu . A	24
4	Rohith . S	30	38	Ramachand K.R	18
5	S. Anantha Lekshmi	18	39	Silpa Ramesh	17
6	Sandra Saji	28	40	Sivaprasad . R	16
7	Sneha S.S	24	41	Soorya . S	18
8	Vaishnav . V.L	27	42	Soverna	21
9	Varsha Girresh	20	43	Vishnu . S. Govind	20
10	Vikram Krishna	16	44	Abhijith . H	27
11	Vyjayanthi L	21	45	Abhiram . A. S	24
12	Abhirami Abhirami . S	23	46	Akash VJ	22
13	Achu . S. Sunil	25	47	Anandhu M.S	20
14	Ajeesh A	26	48	Anerkha . M.K	21
15	Akshay Sivan	19	49	Anupama Gopika	15
16	Alphyniel Thomas	21	50	Bhagya Vikas .	18
17	Amrutha S Charan	21			
18	Ananthu A	18			
19	Arathi A S	27			
20	Archana Chandran M	18			
21	Arya S S	19			
22	Bincy Raj BR	24			
23	Gopika Chandran	28			
24	Marikumar M	27			
25	Nithin Krishnan	18			
26	Sreehari S M	19			
27	Sruthy S Prasad	18			
28	Vaishnavi . S	17			
29	Adithya Chandran B	15			
30	Anuja V.J	14			
31	Aparna VS	13			
32	Archa Lal . J	21			
33	Arya . V. S	24			
34	Gayathri . S. Mohan	25			



Dr. Balamurali R.S.
Head of Department

Postgraduate and Research Department of Zoology
Mahatma Gandhi College, Thiruvananthapuram 695004

Principal
Mahatma Gandhi College
Thiruvananthapuram

ASSESSMENT QUESTIONS

Time 1hrs

Total Marks : 30

I.. Answer any two of the following Each questions carries 15 mark

1. Write notes on the nutritional requirements of aquarium fishes .
2. Diseases of aquarium fishes.
3. Different methods of multiplication of aquarium plants.
4. Explain the commercial production of ornamental fishes with examples
5. Comment on aquarium management.
6. Explain water quality requirements in aquarium management . (2 x 15=30)



[Signature]
Dr. Balamurugan
 Head of Department

Postgraduate and Research Department of Zoology
 Mahatma Gandhi College, Thiruvananthapuram 695004

[Signature]
Principal
 Gandhi College

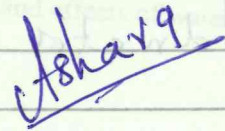
Gour
 Lek
 Mee
 Ram
 Silp
 Siva
 Soor
 Sov
 Vish
 Abh
 Abh
 Ak
 An
 Aw
 An
 Bh

Certificate

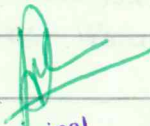
The Add on course on "Water quality monitoring and Management" conducted by the PG dept of zoology was successfully completed during the academic year 2019-20.



Head of The Dept



Dr. Asha V G
Course Co-ordinator



Principal
Mahatma Gandhi College
Thiruvananthapuram

Transactional Analysis
Department of Psychology
2019 – 20

MAHATMA GANDHI COLLEGE

Department of Psychology

Add on course on

Transactional Analysis

2019 - 20

**Register
now**

Course Coordinator

Dr. Prathibha S Nair



Phone : 94463-23061

Classes handled by

Dr. Prathibha S Nair (MG College)

Sri. Matus Vengal (Sanjeevani

Befrienders)



Principal
Mahatma Gandhi College
Thiruvananthapuram

TRANSACTIONAL ANALYSIS - PEOPLE MANAGEMENT SKILLS WITH

TA Total Hours : 30

Course Outcomes:

CSO1: Students will become familiar with basics of Transactional Analysis

CSO2: Students can identify People Management Skills in schools and workplaces

Module I 10 Hours

Identifying areas of People management in Schools, work

places 360° interpersonal relationship in schools, workplaces

Non Verbal Communication — Body Movement or

Kinesics, Physical characteristics, Vocal quality, Proxemics, Artifacts


and Environment . Listening and Responding – Active Listening,

Giving Feedback, Paraphrasing

Module 2 10 Hours

TA introduction, Ego states, Structure model, Contamination and Exclusion, Diagnosis of ego states, Ego grams

Motivation — Structure, Stimulus and Recognition Hunger . Emotional intelligence


P. T. O



Module 3. 10 Hours

Transaction - definition, types , rules

Strokes — Definition, types, stroke economy

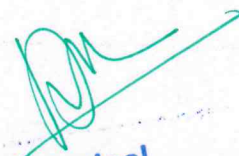
Life Position – Definition ,Ok ness , 4 position , Social

Time Structuring and effective life

Reference

TA Today

Stewart I , and Joines V


Principal
Mahatma Gandhi College
Thiruvananthapuram



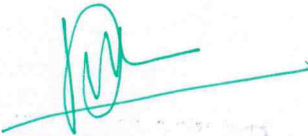
ADD ON COURSE
DEPARTMENT OF PSYCHOLOGY
TRANSACTIONAL ANALYSIS
2019-2020

MAX MARKS:20

ANSWER THE FOLLOWING

1. Interpersonal relationships in schools
2. What is nonverbal communication?
3. Explain the components in non verbal communication
4. Explain listening and responding
5. What is active listening?
6. What are the various ego states?
7. What is contamination and exclusion?
8. What is motivation?
9. What is emotional intelligence ?
10. What is transaction and mention it's types ?

2 x 10=20


Principal
Mahatma Gandhi College
Thiruvananthapuram



Department of Psychology

Add on Course

Transactional Analysis

2019- 2020

Sl. No.	Name of the Student	Total mark	Mark obtained
1.	Akhila Ajith	20	18
2.	Aparna Raj A	20	19
3.	Jinu Elsa Simon	20	18
4.	Theertha Sanal R	20	17
5.	Arundhathi Girikumari	20	16
6.	Thammanna Fathima E K	20	20
7.	Rajalakshmi	20	20
8.	Aneesha . J. J	20	18
9.	Meenakshi Vijayan	20	20
10.	Jincy J	20	15
11.	Krishna S	20	18
12.	Vaishnavi Krishna	20	17
13.	Gopi Krishnan. A G	20	16
14.	Aswathy K S	20	18
15.	Merlyn Nancy	20	19
16.	Ardra S	20	19
17.	Abhirami S Nair	20	17
18.	Lakshmi Priya J R	20	18
19.	Anagha B Murugan	20	19
20.	Midhuna U M	20	19
21.	Arya Muraleedharan	20	16
22.	Tripta Nair	20	18
23.	Prejith S	20	17
24.	Harinandan K A	20	19
25.	Rahul A S	20	20
26.	Gokul G R	20	17
27.	Praveen Kumar	20	17
28.	Arjun M	20	18
29.	Gopika S S	20	17
30.	Arya S Nari	20	19
31.	Angitha Krishna	20	19
32.	Sreelakshmi PS	20	17
33.	P Krishnapriya	20	18
34.	Haritha Prasad	20	19
35.	Amal S	20	18
36.	Ananthapadmanabhan	20	19
37.	Dhanalekshmi	20	17
38.	Arya Sudhakar	20	18
39.	Aparna Raj	20	19
40.	Soumya Krishnan	20	18
41.	Sandra Prasad	20	18

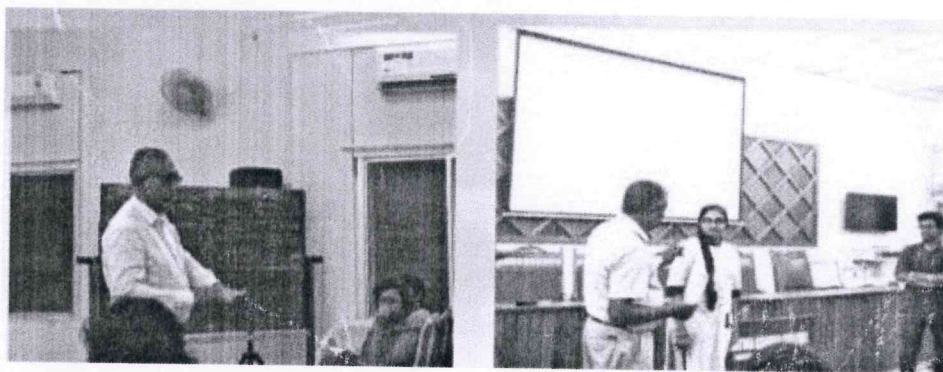
42.	Panchami P	20	17
43.	Lincy Justin J K	20	19
44.	Kailas BH	20	20
45.	Abhirami AL	20	20
46.	Sandeep S Kumar	20	19
47.	Vipin V G	20	20



Principal
Mahatma Gandhi College
Thiruvananthapuram


Course Coordinator

REPORT OF ADD ON COURSE ON TRANSACTIONAL ANALYSIS. (2019-20)

THE SPECIFIC TITLE OF THE COURSE WAS 'PEOPLE ENHANCEMENT SKILLS WITH TA'. THE COURSE COMPRISED OF 30 HOURS. 47 STUDENTS HAD ENROLLED FOR THE COURSE. THIS COURSE WAS CONDUCTED IN ASSOCIATION WITH SANJEEVANI BEFRIENDERS WITH WHOM MOU IS SIGNED. TA TRIVANDRUM CHAPTER RUNS IN SANJEEVANI BEFRIENDERS. THE COURSE WAS TAKEN BY SRI MATIUS VENGAL OF SANJEEVANI AND DR PRATHIBHA S NAIR, HEAD OF THE DEPARTMENT OF PSYCHOLOGY WHO IS A BTA HOLDER




Principal
Mahatma Gandhi College
Thiruvananthapuram




Class on Transactional Analysis.

14/11/19

Topics covered

- History of Eric Berne
- Overview of TA
- Egoogram questionnaire
- Structural analysis
- Functional analysis
- Egoogram Analysis

Name	Class	Signature
1) Akhila Ajith	III DC, Psychology	
2) Aparna Raj A	III DC, Psychology	
3) Jina Elsa Simon	III DC, Psychology	
4) Theertha Sanal R	II DC, Psychology	
5) Anandhathi Girelikunari	II DC, Psychology	
6) Thamanna Jathima E K	III DC, Psychology	
7. Rajalekshmi R.S	II DC Psychology	
8. Aneesa J.J	II DC Psychology	
9. Meenalakshi vijayan	II DC psychology	
10. Jincy P	II DC Psychology	
11. Krishna S	II DC Psychology	
12. Vaishnavi Krishna	II DC Psychology	
13. Gopika Krishnam. Aeg	III DC Psychology	
14. Aswathy K.S	III DC "	
15. Merlin Nancy	III DC "	
16. Adras	III DC "	
17. Abhirami S.Nair	III DC "	
18. Lekshmi Priya J.R	II DC "	
19. Anagha B. Marudan	III DC "	
20. Midhuna U.M	III DC "	
21. Anya Muralidharan	II DC "	
22. Jyoti Nair	III DC "	
23. Divyitha S	III DC "	

24) Haribandan K.A.	II DC Psychology	
25) Rahul A.S	III DC psychology	
26) Gokul G.R	III DC psychology	
27) Praveen Kumar	III DC Psychology	
28) Aojun M	III DC Psychology	
29) Gopika S.S	"	
30) Anya S.Nair	"	
31) Anitha Krishna	"	
32) Sreelakshmi PS	"	
33) P.Kaishnapriya	"	
34) Haritha Prasad	II DC psychology	
35) Anals	III DC Psychology	
36) Anantha Padmanabhan V.R.	III DC Psychology	
37) Dhara Lekshmi	II DC Psychology	
38) Anya Sudhakar	II DC psychology	
39) Aparna Raj	II DC psychology	
40) Suroya Krishna	II DC psychology	
41) Sancha P. Prasad	3 rd DC psychology	
42) Panchami P	3 rd dc Psychology	
43) Lincy Justin J.K	3 rd DC psychology	
44) Kailas B.H	3 rd DC Psychology	
45) Abhiram A.L	3 rd DC Psychology	
46) Sandeep S. Kumar	II DC psychology	
47) Vipin V.G	II DC psychology	

Registered student list shown above. Attendance to be maintained in Attendance register

Principal
Mahatma Gandhi College
Thiruvananthapuram



Yoga and Stress Management

Department of Psychology

2019 – 20

MAHATMA GANDHI COLLEGE

Department of Psychology



BALANCE
YOU BODY &
MIND

ADD ON COURSE

Yoga and Stress Management

2019 - 20



Course Coordinator : Dr. Prathibha S Nair
Phone : 94463-23061



ADD-ON COURSE – YOGA AND STRESS MANAGEMENT

Duration: 30 hours

Instructor: Dr. Prathibha S Nair

Department of Psychology

Mahatma Gandhi College, Thiruvananthapuram

Course Outcomes

CSO1. To familiarize with the concept of yoga.

CSO2. Effectively use Yoga Asanas for stress management.

Module-wise topics:

Module 1: Introduction

Duration:10 hours

- Relevance of Yoga in Modern Life- Misconceptions about Yoga – Secular Nature of Yoga

Module 2: Stress

Duration:10 hours

- Definition of stress
- Causes of Stress - Symptoms of Stress -Physical-Psychological-Behavioral
- Coping with Stress – relaxation- life style management.



P.T.O
P.T.O

Module 3: (Theory and Practicals)

Duration: 10 hours

- Basic Relaxation Techniques
- Simple meditation Techniques
- Basic Pranayama Techniques
- Yoga Nidra
- Basic Asanas (Postures).

References

Iyengar, B.K.S (2011) Light on yoga. Harper Collins Publishers, New Delhi

Tamini, I.K (2011) Commentary - Harper Collins Publishers, New Delhi

Swami Vivekananda, (2004). Raja Yoga revised. Cosmo Publication, New Delhi.


Principal
Mahatma Gandhi College
Thiruvananthapuram



ADD ON COURSE
DEPARTMENT OF PSYCHOLOGY
YOGA AND STRESS MANAGEMENT
2019-2020

MAX MARKS:20

ANSWER THE FOLLOWING


1. Stress is
2. Eustress is
3. Bad stress is also known as
4. Yoga can be defined as

1 x 4=4

5. Relevance of yoga in modern times
6. Physical aspects of stress
7. Psychological aspects of stress
8. Behaviourial aspects of stress
9. What are the basic asanas?
10. What is life style management?
11. What are the simple meditation techniques?
12. What are the basic relaxation techniques?

2x

2x 8=16


Principal
Mahatma Gandhi College
Thiruvananthapuram



Open with


Department of Psychology

Add on Course

Yoga and Stress Management

2019-2020

Sl. No.	Name of the Student	Total mark	Mark obtained
1.	Aiswarya S S	20	18
2.	Anagha S	20	19
3.	Aparna K N	20	18
4.	Arsha A S	20	17
5.	Bhagya R Nair	20	16
6.	Chandna Jayakumar	20	20
7.	Deepika K S	20	20
8.	Gopika Anil Kumar	20	18
9.	Kavya S	20	20
10.	Lakshmi B	20	15
11.	Sooraj B	20	18
12.	Vaishaki D V	20	17
13.	A R Ardra	20	16
14.	Adharsh A S	20	18
15.	Anagha Ashok	20	19
16.	Aparna A	20	19
17.	Dileep T S	20	17
18.	Gopika JR	20	18
19.	Karthik V Nair	20	19
20.	Megha J S	20	19
21.	Sandeep Chandran	20	16
22.	Sankeerthana S	20	18
23.	Saraswathi Devi K	20	17
24.	Swathi J Das	20	19
25.	Syam Kumar S	20	20
26.	Abhiramiraj A G	20	17
27.	Akhil A J	20	17
28.	Aneeta Grace	20	18
29.	Anjali Mohan M	20	17
30.	Dipin D S	20	19
31.	Doel Douglas	20	19
32.	Gayathri	20	17
33.	Krishnachandran S	20	18
34.	Krishnadevi S A	20	19
35.	Krishnaprasad P	20	18
36.	Nandana B	20	19
37.	Rahul R	20	17
38.	Shibir S L	20	18
39.	Sooraj Singh	20	19
40.	Divya M	20	18
41.	R Devapriya	20	18
42.	Vaishna G	20	17

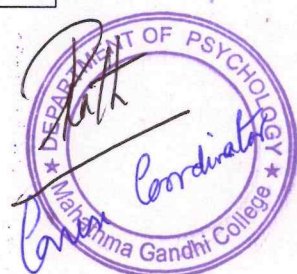

Principal
Mahatma Gandhi College
Thiruvananthapuram


Coordinator
Mahatma Gandhi College

Department of Psychology
Add on Course Yoga and Stress Management
2019-2020


Si No	Name of student	Total Mark	Marks Obtained
1	Aiswarya S S	20	18
2	Anagha S	20	19
3	Aparna K N	20	18
4	Arsha A S	20	17
5	Bhagya R Nair	20	16
6	G Chandna Jayakumar	20	20
7	Deepika K S	20	20
8	Gopika Anil Kumar	20	18
9	Kavya S	20	20
10	Lakshmi B	20	15
11	Sooraj	20	18
12	Vaishaki D V	20	17
13	AR Ardra	20	16
14	Adharsh A S	20	18
15	Anagha Ashok	20	19
16	Aparna A	20	19
17	Dileep T S	20	17
18	Gopika JR	20	18
19	Karthik V Nair	20	19
20	Megha J S	20	19
21	Sandeep Chandran	20	16
22	Sankeerthana S	20	18
23	Saraswathi Devi K	20	17
24	Swathi J Das	20	19
25	Syam Kumar S	20	20
26	Abhiramiraj A G	20	17
27	Akhil AJ	20	17
28	Aneeta Grace	20	18
29	Anjali Mohan M	20	17
30	Dipin D S	20	19
31	Doel Douglas	20	19
32	Gayathri	20	17
33	Krishnachandran S	20	18
34	Krishnadev SA	20	19
35	Krishnaprasad P	20	18
36	Nandana B	20	19
37	Rahul R	20	17
38	Shibin SL	20	18
39	Suraj Singh	20	19
40	Divya M	20	18
41	R Devapriya	20	18
42	Vaishna G	20	17

Principal
Mahatma Gandhi College
Thiruvananthapuram



REPORT OF ADD-ON COURSE ON YOGA AND STRESS MANAGEMENT (2019 -20)

42 STUDENTS ENROLLED FOR THE YOGA AND STRESS MANAGEMENT ADD-ON COURSE AND COMPLETED THE COURSE. THE COURSE COMPRISED OF 30 HOURS. STUDENTS WERE TAUGHT BOTH THE THEORY AND PRACTICALS. THE COORDINATOR OF THE COURSE WAS DR PRATHIBHA S NAIR, HEAD OF THE DEPARTMENT OF PSYCHOLOGY.

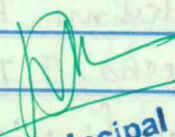

Principal
Mahatma Gandhi College
Thiruvananthapuram



2019-20

YOGAL STRESS MANAGEMENT 1st yr

- | | | | |
|-----------------------------|------------------------|------------------|------------------|
| 1. Aniswarya S.S | <u>Aniswarya</u> | 36. Nandana B | <u>Nandana</u> |
| 2. Anakha S | <u>Anakha</u> | 37. Rahul R | <u>Rahul</u> |
| 3. Aparna K.N | <u>Aparna</u> | 38. Shubin S.L | <u>Shubin</u> |
| 4. Arsha A.S | <u>Arsha</u> | HQ39 Suraj Singh | <u>Suraj</u> |
| 5. Bhagya R Nair | <u>Bhagya</u> | H10 Danya M | <u>Danya</u> |
| 6. Chandana Jayakumar | <u>Chandana</u> | H11 R. Perapanya | <u>Perapanya</u> |
| 7. Deepika K.S | <u>Deepika</u> | H12. Vyshna G | <u>Vyshna</u> |
| 8. Gopika Anilkumar | <u>Gopika</u> | | |
| 9. Kanya S | <u>Kanya</u> | | |
| 10. Lekshmi B | <u>Lekshmi</u> | | |
| 11. Sooraj B | <u>Sooraj</u> | | |
| 12. Vaishkhi DV | <u>Vaishkhi</u> | | |
| 13. A.R. Ardra | <u>Ardra</u> | | |
| 14. Adash A.S | <u>Adash</u> | | |
| 15. Anakha dshok | <u>Anakha</u> | | |
| 16. Aparna A | <u>Aparna</u> | | |
| 17. Dileep T.S | <u>Dileep</u> | | |
| 18. Gopika J.R | <u>Gopika</u> | | |
| 19. Karthik V. Nair | <u>Karthik</u> | | |
| 20. Megha J.S | <u>Megha</u> | | |
| 21. Sandeep Chandran B.M | <u>Sandeep</u> | | |
| 22. Sankethana S | <u>Sankethana</u> | | |
| 23. Saraswathidevi K | <u>Saraswathi</u> | | |
| 24. Swathy J. Das | <u>Swathy</u> | | |
| 25. Syankumar S | <u>Syankumar</u> | | |
| 26. Abhiramiraj A.G | <u>Abhiramiraj</u> | | |
| 27. Akhil A.J | <u>Akhil</u> | | |
| 28. Anela Grace | <u>Anela</u> | | |
| 29. Anjali Mohan M | <u>Anjali</u> | | |
| 30. Dipin D.S | <u>Dipin</u> | | |
| 31. Doel Douglas | <u>Doel</u> | | |
| 32. Gayathri ... | <u>Gayathri</u> | | |
| 33. Krishnachandran S | <u>Krishnachandran</u> | | |
| 34. Krishnadev S.A | <u>Krishnadev</u> | | |


Principal
Mahatma Gandhi College
Thiruvananthapuram



COURSE-COORDINATOR
PRATHIBHA S NAIR