

[Jai Sri Gurudev]

SRI ADICHUNCHANAGIRI FIRST GRADE COLLEGE

CHANNARAYAPATNA-573116

DEPARTMENT OF ZOOLOGY



To,

The Principal

Sri Adichunchanagiri First Grade College

Channarayapatna – 573116

From,

HoD of Zoology

Sri Adichunchanagiri First Grade College

Channarayapatna – 573116

Respected Sir,

Sub: Requisition for introducing Add-on Course

With respect to the above cited subject, the Department of Zoology decided to offer an Add-on course on Human Genetics in this semester for the academic year 2023-24. We have enclosed the syllabus copy of the add-on course along with this requisition for your kind approval.

Thanking you,

Yours faithfully

A handwritten signature in blue ink, appearing to be "D. S. S.", written over the typed name "D. S. S.".

Date: 23/02/2024

A handwritten signature in blue ink, appearing to be "M. S. S.", written over the typed name "M. S. S.".
Principal
Sri Adichunchanagiri First Grade College
Channarayapatna

II Jai Sri Gurudev II

Sri Adichunchanagiri First Grade College,

Channarayapatna-573116

Department of Zoology

Human Genetics -Add on Course-2023-24



Sl no.	Name of the Students	Assignment Topic	Signature
1	Rachana A L	History of Human Genetics and Cytogenetics	Rachana, A.L
2	Kirankumara R	Pedigree Analysis - History, Symbols used in Pedigree studies, Pedigree Construction and Pedigree of Autosomal Inheritance	Kirankumara R
3	Nikhitha V J	Pedigree of Sex-linked Inheritance, Mitochondrial, Incomplete Dominance and Incomplete Penetrance	Nikhitha.V.J
4	Pramod A S	Chromosome - History, Macro molecular Organization, Primary and Secondary Constriction, Sat-bodies and Telomeres	Pramod. AS
5	Likhitha A M	Heterochromatin, Euchromatin and their significance	Likhitha A.M
6	Bhanupriya M.J	Ultrastructure of Chromosome Nucleosome Model and Nucleosome Structure	Bhanupriya M.J
7	Varshini M	Human Karyotype and Idiogram, Paris Nomenclature, Types of Karyotyping	Varshini. M
8	Shivani K R	Banding Techniques, Classification and Use of human Cytogenetics in Medical Science	Shivani. K.R
9	Pooja M D	Numerical Chromosomal aberrations Euploidy-monoploidy with suitable examples	Pooja M.D
10	Darshan S P	Numerical Chromosomal aberrations Haploidy and polyploidy with suitable human examples	Darshan S.P.
11	Jeevangowda M G	Aneuploidy- Monosomies and Trisomies with suitable human examples, Meiotic behavior of chromosome and non-disjunction	Jeevan Gowda M.G
12	Sachin Gowda K B	Structural Chromosomal aberrations- Deletion with suitable human examples	Sachin Gowda K.B
13	Harshitha N K	Duplication with suitable examples	
14	Gowda Pooja Prakash	Inversions with suitable examples	Pooja
15	Vaishnavi. K.S	Translocations with suitable examples	Vaishnavi K.S
16	Spoorthi A	Evolutionary significance of chromosomal aberrations	SPOORTHI. A
17	Harshitha S S	Inheritance Pattern of Genetic Diseases	Harshitha S.S
18	Rakshitha C N	Genetic Diseases and Inheritance Pattern- Autosomal Dominant Condition	Rakshitha C.N
19	Sinchana H D	Genetic Diseases and Inheritance Pattern- Autosomal Recessive Condition	Sinchana H.D
20	Varsha D D	X-Linked and Y-Linked Inheritance Pattern	Varsha D.D
21	Nadiya Khanum	Oncogenetics - Properties of Malignant Cells and the Types of Genes- Proto-oncogenes and Oncogenes	Nadiya
22	Mehnaz Mokhtar	Multifactorial Inheritance and the Mitochondrial Diseases	Mehnaz
23	Tejaswini B J	Tumour Suppressor Genes and Chromosomal Abnormalities Associated with APL, CML and Retinoblastoma	Tejaswini B.J
24	Sneha D	Cells of the Immune System	Sneha.D
25	Bhoomika	Genetics of the Immune System	Bhoomika

[Signature]
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[Signature]
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DEPARTMENT OF ZOOLOGY

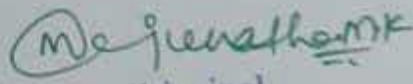


CIRCULAR

It is hereby notified to all the interested students to opt for an Add-on course on "Human Genetics" offered by the Department of Zoology in this semester for the academic year 2023-24. Interested candidates must register their name with Dr. Nirupama M., Head of the Department of Zoology on or before 29th February 2024.

Note: First 30 members will be considered for the course. Certificate will be provided after completion of the course.


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Circular

Date: 01-03-2024

The following faculty members are informed to take classes for Add on courses for the academic year 2023-24 as per the time table attached along with circular and they are instructed to submit the attendance and necessary reports at the end of Semester/ academic year 2023-24.

Sl. No	Faculty Name	Signature
2	Dr. M. Nirupama	
3	Mrs. Radhamma. K.M	

Co-ordinators

Channarayapatta-573116

Principal
Principal

Sri Adichunchanagiri First Grade College
Channarayapatta.

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CHANNARAYAPATNA-573116

DEPARTMENT OF ZOOLOGY

Academic Year 2023-24



Day/Time	9 to 10 AM	College Time table		
Monday	MN	-	-	-
Tuesday		-	-	-
Wednesday	MN	-	-	-
Thursday		-	-	-
Friday	KMR	-	-	-
Saturday		-	-	-

Note: The Time Table is prepared as per direction of Time Table and Examination Committee coordinator.

Co-ordinators

n.O.D. of
S. A. F. G. College
Channarayapatna-573116

Time table Coordinator

Principal
Principal

Sri Adichunchanagiri First Grade College
Channarayapatna.

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DEPARTMENT OF ZOOLOGY

SYLLABUS

Add on course: Human Genetics



Objective of the course: The course was designed to provide an opportunity to students to study the importance of Human genetics. The course was aimed to help students to develop the transferable skills necessary for careers in research, teaching, entrepreneurship, professions allied to genomic and other relevant field.

Learning Outcomes:

On successful completion of this course, the students will be able to:

1. Understanding of how genetic concepts affect broad societal issues including health and disease, food and natural resources, environmental sustainability, etc.
2. Understanding the role of genetic mechanisms in evolution.
3. Demonstrate the Some genetic changes have been associated with an increased risk of having a child with a birth defect or developmental disability or developing diseases such as cancer or heart disease.

Mode of Teaching : Regular mode
Total Duration of the Course : 30 hrs.
Fee : Free

Co-ordinator: 1) Dr. Nirupama.M, Department of Zoology

Total Hours: 30

Unit 1: Introduction:

06 Hrs.

Introduction, History of Human Genetics and Cytogenetics, Dermatoglyphics Introduction, Classification and Flexion creases Dermatoglyphics- Inheritance Pattern, Clinical Applications, Advantages and Limitations, Heterochromatin, Euchromatin and their significance, Ultrastructure of Chromosome Nucleosome Model and Nucleosome Structure, Numerical Chromosomal aberrations Euploidy-monoploidy with suitable examples



Unit 2: Pedigree analysis and Human Karyotype

12 Hrs.

Pedigree Analysis - History, Symbols used in Pedigree studies, Pedigree Construction and Pedigree of Autosomal Inheritance, Pedigree of Sex-linked Inheritance, Mitochondrial, Incomplete Dominance and Incomplete Penetrance. Chromosome - History, Macro molecular Organization, Primary and Secondary Constriction, Sat-bodies and Telomeres

Human Karyotype and Idiogram, Paris Nomenclature, Types of Karyotyping, Banding Techniques, Classification and Use of human Cytogenetics in Medical Science.

Unit 3: Chromosome aberrations and genetic diseases

12 Hrs.

Numerical Chromosomal aberrations Haploidy and polyploidy with suitable human examples. Aneuploidy- Monosomies and Trisomies with suitable human examples, Meiotic behavior of chromosome and non-disjunction, Structural Chromosomal aberrations- Deletion, Duplication, translocation and inversion with suitable human examples. Evolutionary significance of chromosomal aberrations.

Inheritance Pattern of Genetic Diseases, Genetic Diseases and Inheritance Pattern- Autosomal Dominant Condition, Autosomal Recessive Condition, X-Linked and Y-Linked Inheritance Pattern, Multifactorial Inheritance and the Mitochondrial Diseases Oncogenetics - Properties of Malignant Cells and the Types of Genes- Proto-oncogenes and Oncogenes.

Books for Reference :

1. Lodish et al: Molecular Cell Biology: Freeman & Co, USA(2004).
2. Alberts et al: Molecular Biology of the Cell: Garland(2002).
3. Cooper: Cell: A Molecular Approach: ASM Press(2000).
4. Karp: Cell and Molecular Biology: Wiley (2002). Pierce B. Genetics. Freeman(2004).
5. Lewin B. Genes VIII. Pearson (2004). 6. Watson et al. Molecular Biology of the Gene. Pearson(2004).
7. Thomas J. Kindt, Richard A. Goldsby, Barbara A. Osborne, Janis Kuby- Kuby Immunology. W H Freeman (2007).
9. Principles of Genetics by B. D. Singh

N.O.D. in Zoology
S. A. F. G. College

Channarayana-573216

Principal

Sri Adichunchanagiri First Grade College
Channarayana.

Scheme and evaluation

Assessment is by coursework, which integrates the following:

- Group Discussion
- Reading various texts
- Individual PowerPoint Presentation
- Conversation practices
- Field work / Experiential Learning
- Problem solving skill



Participation in classroom activities, progress and motivation will account for the overall assessment. A final exam will comprise of written exam and as follows.

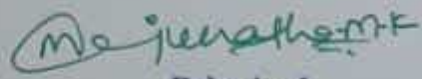
Components	Marks
Attendance	10
Assignment	20
Seminar and Viva	20
Written examination	50
Total	100

Minimum attendance required is 75 % attendance.

Grading System:

Percentage of marks	Grade
95 and above	A++
85 and above	A+
70 and above	A
50 and above	B
35 and above	C


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Channarayapatna-573116
DEPARTMENT OF ZOOLOGY
Add on course Examination- June/July 2023-24
Human Genetics



Time: 2 Hours

Max marks: 50

I. Answer any FIVE of the following:-

5X1=05 Marks

1. Define Human Genetics.
2. Mention the four types of human genetics.
3. Karyotype.
4. Pedigree analysis
5. Who is the father of human genetics?

II. Answer any Five of following questions.

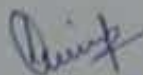
5x5 = 20 Marks

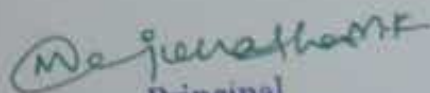
1. Write a note on X-linked Inheritance
2. Genotype and Phenotype
3. Write a brief note Mutation.
4. What are lethal genes? Explain.
5. Sex influenced characters.
6. Inbreeding Coefficient

III. Answer any TWO of the following questions.

2x 10 = 20 M

1. Give an account of pedigree analysis and its significance in family studies.
2. Explain polygenic inheritance with example.
3. Explain the concept of linkage and crossing over.
4. Describe the various methods of genetic counselling.


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Add on Course
REGISTER OF ATTENDANCE & FEES
 2023-2024

FOR THE MONTH OF 2024

Theory Name of the Institute: Sri Adichunchanagiri first Grade College: _____ Place: Channarayana

Sl. No.	Admission No.	NAMES	2023												2024												No. of days present	FEES		Date of payment				
			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
01		Banupriya MJ	1	2	3	4	A	5	6	7	8	9	10	11	12	13	14	15	16	A	17	18	19	20	21	A	22	23	24	25	26	27	28	29
02		Darshan S.P	1	2	A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	A	26	27	28	29	
03		Gowda pooja prakash	1	2	3	4	5	6	A	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	A	25	26	27	28	29	
04		Harshitha N.K.	1	2	3	A	4	5	6	7	8	9	10	11	A	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
05		Harshitha S.S	1	2	3	4	5	A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	A	23	24	25	A	26	27	28	29
06		Jeevan Gowda M.G	1	2	3	4	5	6	A	7	8	9	10	11	12	13	14	15	16	A	17	18	19	20	21	22	23	24	25	26	27	28	29	
07		Kisan Kumar R	1	2	3	A	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	A	25	26	27	28	29	
08		Likhittha A.M	1	2	3	4	A	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	A	26	27	28	29	
09		Mehnaz Mokhtar	1	2	3	4	5	6	A	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	A	26	27	28	29	
10		Nadiya Khanum	1	2	3	4	5	6	A	7	8	9	10	11	12	A	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
11		Nikhitha V.J	1	2	3	A	4	5	6	7	8	9	10	A	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
12		pooja M.D	1	2	3	4	5	6	A	7	8	9	10	11	A	12	13	14	15	A	16	17	18	19	20	21	22	23	24	25	26	27	28	
13		premod A.S	1	2	3	4	5	6	A	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	A	25	26	27	28	29	
14		Rachana A.L	1	2	3	4	5	6	7	8	A	9	10	11	12	13	14	15	16	17	18	19	20	21	22	A	23	24	25	26	27	28	29	
15		Rakshitha C.N	1	2	3	4	5	6	7	8	A	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
16		Sachin Gowda K.B	1	2	3	4	A	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		
17		Shivani K.R.	1	2	3	4	5	6	A	7	8	9	10	11	12	13	14	15	16	A	17	18	19	20	21	22	A	23	24	25	26	27	28	29
18		Sinchana H.D	1	2	3	4	5	6	7	A	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	A	23	24	25	26	27	28	29	
19		Sneha D.	1	2	3	4	5	6	7	A	8	9	10	11	12	A	A	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	A	
20		Spoorthi A.	1	2	3	A	4	5	6	7	A	8	9	10	A	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	A	28
21		T.B.Jaswini B.J	1	2	3	4	A	5	6	7	8	9	10	11	12	13	14	15	16	A	17	18	19	20	21	22	23	24	A	25	26	A	27	
22		Vaishnavi K.S	1	2	3	4	5	A	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	A	23	24	25	A	26	27	28	29
23		Varsha D.D	1	2	3	4	5	6	7	8	A	9	10	11	12	A	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	A	28	
24		Varshini M	1	2	A	4	5	6	7	8	A	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	A	25	26	27	A	28	
25		Bhoemika	1	2	3	4	5	6	7	8	9	A	10	11	12	A	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	

Number present: M _____ Daily: E _____

Initial: M _____ E _____

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DEPARTMENT OF ZOOLOGY



Human Genetics

Course Details :

- Introduction on Human genomics
- Karyotype and pedigree analysis
- Chromosomal Abnormalities and genetic Diseases

Duration of Course : 30 Hours

Days : 3 days per week

Timings : 9.00 AM to 10.00 AM

**Exclusively
for 1st 30
Students of
SAFGC**

**Hurry up
Limited
Seats**

**For registration/ enquiry please
contact us at :**

8095380939/ 92421552571

Last date of

Registration : 29-02-2024



|| Jai Sri Gurudev ||

Sri Adichunchanagiri Shikshana Trust (R.)

Sri Adichunchanagiri First Grade College

Channarayapatna - 573116, Hassan Dist.,

(Affiliated to University of Mysore)

(Re-Accredited with 'B+' Grade by NAAC)

CERTIFICATE OF COMPLETION

This is to certify that Ms./Mr.*Bhampriya M. J. D. B.Sc. S.A.G. College*.....
has Successfully completed the **add on course** entitled **"HUMAN GENETICS"**
of 30 hours duration organized by Department of Zoology in the academic
year 2023-24.

Date : 30-05-2024


Course Coordinator


IQAC Co-ordinator


Principal