

Second Year B. Sc. Nursing

ACA/D/05

Subject: Genetics

Faculty: Department of Anatomy, Dr.D.Y.patil Medical College

(External Faculty)

UNIT	TOPIC	No of lectures	Lecture Serial No
UNIT-I Explain nature, Principles and perspectives of heredity 3 Hours	Introduction <ul style="list-style-type: none">• Practical application of genetics in Nursing• Impact of genetic condition on families• Review of cellular division mitosis and meiosis	1	1
	<ul style="list-style-type: none">• Characteristics and structure of genes• Chromosomes – sex determination• Chromosomal aberrations pattern of inheritance	1	2
	<ul style="list-style-type: none">• Mendalian theory of inheritance• Multiple allots and blood groups• Sex linked inheritance• Mechanism of inheritance• Errors in transmission (Mutation)	1	3
UNIT-II Explain maternal, prenatal and genetic influences on development	Maternal, prenatal and genetic influences on development of defects and diseases <ul style="list-style-type: none">• Conditions affecting the mother: genetic and infections• Consanguinity atopy• Prenatal nutrition and food allergies	1	4

of defects and diseases 3Hours	Maternal age Maternal drug therapy Prenatal testing and diagnosis Effect of radiation, drugs and chemicals	1	5
	Infertility Spontaneous abortion Neural tube defects and the role of folic acid in lowering the risks Down syndrome (Trisomy21)	1	6
UNIT-III Explain the screening methods for genetic defects and diseases in neonates and children 2Hours	Genetic tests in neonates and children • Screening for Karyotype analysis Congenital abnormalities Developmental delay Dysmorphism	2	8
UNIT-IV Identify genetic disorders in adolescents and adults 2Hours	Genetic conditions of adolescents and adults • Cancer genetics – Familial cancer • Inborn errors of metabolism • Blood group alleles and hematological disorders • Genetic haemochromatosis • Huntington’s disease • Mental illness	2	10
UNIT-V Describe the role of nurse in genetic services and counselling 5Hours	Services related to Genetics • Genetic testing	1	11
	• Human genome project	1	12
	• Gene therapy		
	• The Eugenics movement	1	13
	• Genetic counseling	1	14
	• Legal and ethical issues • Role of nurse	1	15

Bibliography –(Genetics)

1. S Mandal: Fundamentals of Human Genetics II Edition New Central Book Agency, Kolkota 1996
2. S D Gangane : Human Genetics II Edition, Saurabh Printers, Noida.
3. Jorde Carey BamshadWhite : Medical Genetics, Mosby 2003.

4. J A Fraser Roberts : An introduction to medical genetics ,V Edition, Oxford University,1970.
5. Elisabeth F Lanzl : Medical Genetics ,The University of Chicago, USA1961.
6. J Ben Hill , Helen D Hill : Genetics and Human heredity , Mcgeaw hill book company, Newyork 1955.
7. Edmund W Sinnott : Principles of Genetics V Edition Mcgeaw hill book company, Newyork 1950.
8. P C Winter, G I Hickey : Instant notes in genetics , Viva books Pvt Ltd, New Delhi 2000.
9. Ching Chun L : Human Genetics- Principles and methods , Mcgeaw hill book company, Newyork 1961.
10. Mary B Mahowald , et al : Genetics in the clinic, Mosby Philadelphia.2001.
11. Robert F Muller , Ian D Young : Emery's elements of medical genetics , Churchill Livingstone,Philadelphia,2001.
12. Moore, Keith L: Developing Human Clinically oriented Embryology, II Edition, W B Saunders company, Philadelphia 1977
15. Pansky Ban, Review of Medical Embryology. Macmillian Publishing Company, New York 1982.
- 16.. Smell, Richard S: Clinical Embryology for medical students, Little Brown and Company, Boston,1972.
- 17 .Langman , Jan :Medical Embryology,William& Wilkins, Baltimore 1973.

EVALUATION SCHEME

Internal Assessment: Maximum Marks 25

Theory: 15 Marks

	Pharmacology	Pathology and genetics	Total Marks
Mid-term	30	20	50
Pre-final	40	35	75
Total			125

(125 Marks to be converted in to 15 Marks for Internal Assessment (Theory))

Assignments: Two

a) Pharmacology – Drug Study / Drug Presentation 25 Marks

b) Pathology - Preparation of Patient for diagnostic Test 25 Marks

Total: 50

Marks (50 Marks to be converted in to 10 Marks for Internal Assessment

(Assignments)) External assessment:

University Examination (Theory) 75 Marks