

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – 21-Jun-2023

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS
(RS-2, RS-3, RS-4 & RS-5)
Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Explain the types, Pathogenesis and clinical features of Pneumonia.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Name the causes of cell Injury and mention the signs of Inflammation.
3. Explain the method of testing for Blood cell counts.
4. Explain the examinations done on urine.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

5. Enlist four impacts of Genetic disorder on families.
6. Define consanguinity.
7. List the areas of assessment for developmental delay.
8. Define Oncogene.
9. List two Pediatric risk factors requiring genetic testing.
10. List four major works done by HGP (Human Genome Project).

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – 01-Mar-2023

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS
(RS-2, RS-3, RS-4 & RS-5)
Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Explain the etio-pathophysiology and clinical features of Rheumatic Heart Disease.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Explain the forms of cell adaptation after injury.
3. Explain the method of testing for Blood Group detection.
4. Explain the methods of collection of urine.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

5. Name the four phases of Mitosis.
6. Name four prenatal diagnostic measures.
7. Define Down's syndrome
8. Name any one inherited cancer and the respective gene responsible for it.
9. Name any two methods of Somatic Gene therapy.
10. Define Positive Eugenics.

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – 26-May-2022

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS

(RS-2, RS-3, RS-4 & RS-5)

Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1. What are the types of wound healing? Mention the factor affects wound healing.
Enumerate healing by primary intention.

1 x 10 = 10 Marks

SHORT ESSAYS

2. Morphology of renal carcinoma.
3. Ca Stomach. Aetiopathogenesis and pathology.
4. Methods of collection of CSF and other body fluids.

3 x 5 = 15 Marks

SHORT ANSWERS

GENETICS (12 Marks)

5. Enlist four autosomal recessive disorders.
6. Define Karyo-typing.
7. Four inborn errors of metabolism.
8. Define infertility.
9. Four maternal infections affecting the fetus.
10. Genetic counselling.

6 x 2 = 12 Marks

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination - 03-Aug-2021

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS
(RS-2, RS-3 & RS-4)

Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1. Explain the etio-pathophysiology and clinical features of Typhoid.

1 x 10 = 10 Marks

SHORT ESSAYS

2. Write the differences between Transudate and Exudate.
3. Name the sites of bone marrow aspiration and the cells observed in the aspirated sample.
4. Name the examinations done on sputum with inferences.

3 x 5 = 15 Marks

SHORT ANSWERS

GENETICS (12 Marks)

5. Name the types of Mutation.
6. Define Spina Bifida.
7. Define Meiosis.
8. Name any two inborn hematological disorders.
9. Name any two methods of Somatic Gene therapy.
10. List two Pediatric risk factors requiring genetic testing.

6 x 2 = 12 Marks

Rajiv Gandhi University of Health Sciences, Karnataka

~~II~~ Year B.Sc. Nursing Degree Examination – 29-Nov-2021

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS (RS-2, RS-3, RS-4 & RS-5) Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Explain the etio-pathology and the clinical features in Hepatitis.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Write the names of four major electrolytes in blood and their normal values.
3. Explain the method of testing for Haemoglobin using Sahli's Haemometer.
4. Explain the examinations done on pleural fluid with inferences.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

5. Enlist four causes of gene mutation.
6. Define Down's Syndrome.
7. Define Mitosis.
8. Name two genetic disorders of Nervous System.
9. Name any two vectors used in gene therapy.
10. List two Adult risk factors requiring genetic testing.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – 27-Nov-2020

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS (RS-4)

Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Write the etio- pathological changes and clinical features in primary Tuberculosis.

SHORT ESSAYS

3 x 5 = 15 Marks

2. List the branches of Pathology and any four methods used in it.
3. Explain the method of testing for Haemoglobin using Sahli's Haemometer.
4. Name the sites of cerebrospinal fluid aspiration and the examinations done on Cerebrospinal Fluid with Inferences.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

5. List four roles of Nurses in Genetics.
6. Name four maternal infections affecting the fetus.
7. List four congenital disorders.
8. Define Apoptosis.
9. Define oncogene.
10. Define Genome.

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – 10-Sep-2020

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS

(RS2, RS3 & RS4)

Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions.

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Differentiate between Gastric and Duodenal Ulcers.

SHORT ESSAYS

3 x 5 = 15 Marks

2. List the types and pathophysiology of oedema.
3. List the Serological tests. Mention the diseases related to them.
4. Explain the examinations done on semen and list the abnormalities observed.

GENETICS (12 Marks)

6 x 2 = 12 Marks

SHORT ANSWERS

5. Define Mutation.
6. Define spontaneous abortion.
7. List the areas of assessment for genetic abnormalities.
8. Name any two inborn disorders of amino acid metabolism.
9. List four major works done by HGP (Human Genome Project).
10. Define Eugenics.

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – OCT-2019

Time: Three Hours

Max. Marks: 37 Marks

PATHOLOGY AND GENETICS
(RS2, RS3 & RS4)
Q.P. Code: 1763

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer All Questions

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS

1 x 10 = 10 Marks

1. Write the etiology, pathological changes and clinical features in Bronchial Asthma.

SHORT ESSAYS

3 x 5 = 15 Marks

2. Explain the stages of wound healing.
3. Explain the method of testing for Bleeding and Clotting time.
4. Explain the examinations done on sputum with inferences.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

5. Define Mitosis.
6. Name four drugs having harmful effects on foetus.
7. List four assessments done for motor development.
8. Define spina bifida.
9. Name any two vectors used in gene therapy.
10. Define Eugenics.

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – APRIL-2019

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code: 1763

(RS2 Batch 2007-2008) & (RS3 & RS4 Batch 2008-2009 Onwards)

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. What is wound healing? Describe the stages and factors effecting wound healing.
2. Describe the etiopathology and complications of tuberculosis.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Peptic ulcer.
4. Blood grouping.
5. Semen analysis.
6. Benign and malignant tumors.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. What is Trisomy? Give two examples.
8. What is Infertility?
9. Goals of Human genome project.
10. Define chromosomal aberrations.
11. Name any three clinical features Huntington's disease.
12. Define genetic counselling and two steps taken during the process.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – SEP-2018

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code: 1763

(RS2 Batch 2007-2008) & (RS3 & RS4 Batch 2008-2009 Onwards)

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Mention the methods of collection of Cerebrospinal Fluid and laboratory tests used in analysis.
2. Define and classify Cirrhosis. Write morphology of Alcoholic Cirrhosis.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Wound healing.
4. Pathophysiology of thrombosis.
5. Metastasis
6. Bronchiectasis.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Mention any four abnormalities of Edward's Syndrome.
8. Give four examples for Autosomal recessive disorder.
9. Mention karyotypic pattern in Turner's syndrome.
10. Mention four chromosomal structural abnormalities.
11. Mention four chromosomal banding techniques.
12. Lyon Hypothesis.

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – APRIL-2018

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics
Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary.
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Discuss cutaneous wound healing by first intention. Mention local and systemic factors that influence wound healing. Enumerate the complications of the same.
2. Discuss the etiology and pathogenesis of rheumatic heart disease..

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Describe Benign prostatic hyperplasia
4. Explain the etiology and pathogenesis of bronchogenic carcinoma
5. Describe the Acute pyogenic meningitis
6. Explain about Infective endocarditis

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Define Infertility
8. Define Karyotyping
9. What is Mutation
10. Factors responsible for chromosomal aberrations
11. Clinical features of Turner's syndrome
12. Name the various procedures of prenatal diagnosis

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – APRIL 2017

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Discuss the difference between benign and malignant growth.
2. Explain in detail the process of wound healing.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Explain etiopathogenesis of Primary tuberculosis.
4. Describe about Bronchial asthma.
5. Explain about the Peptic ulcer.
6. Explain Transfusion reaction.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Name the types of chromosomes depending upon the placement of centromere.
8. Mention any four characteristics of Autosomal recessive disorders.
9. Define Barr body.
10. Application of recombinant DNA technology
11. Clinical features of Down's syndrome
12. Role of nurse in genetic counseling.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – SEP-2017

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define Thrombosis. Explain its causes and mechanism of formation of intravascular thrombus
2. How do the tumours spread in the body? Explain the differences between benign and malignant neoplasms

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Describe wound healing
4. Explain etiopathology of renal calculi
5. Describe Lung abscess
6. How will you collect urine for routine examination culture, biological tests?

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Mention any four structural chromosomal aberrations
8. List out any four causes of congenital anomalies
9. Types of neural tube defects
10. Define Mutation
11. Define Eugenics
12. Mention four ethical issues in the role of nurse in genetic counseling

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – SEP 2016

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define inflammation, enumerate the cardinal signs of inflammation and describe the vascular changes in acute inflammation
2. Explain in detail the etiopathogenesis of Tuberculosis

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Differentiate between Benign and Malignant growths.
4. Describe Pathology of Rheumatic heart disease.
5. Explain about Blood grouping.
6. Describe the etiopathogenesis of Embolism.

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Mention any four trisomies.
8. List down four characteristics of Autosomal dominant inheritance
9. Name any four inborn errors of metabolism
10. Name any four prenatal diagnostic tests
11. Define Gene therapy
12. Mention any four clinical manifestations of Turners syndrome

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – October 2015

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both OP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1. Discuss the differences between benign and malignant tumours.
2. Discuss etiology, morphology and complications of peptic ulcer.

1 x 10 = 10 Marks

SHORT ESSAYS (Answer any three)

3. Enumerate about Aneurisms
4. Describe Bone healing
5. Describe Haemoglobin estimation
6. Explain the etiopathogenesis of Primary tuberculosis

3 x 5 = 15 Marks

GENETICS (12 Marks)

SHORT ANSWERS

7. Mention any four prenatal diagnostic tests.
8. Role of nurse in genetic counseling
9. Structure of the chromosome
10. Define Karyotyping
11. List any four Autosomal abnormalities
12. Define Infertility

6 x 2 = 12 Marks

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – APRIL - 2015

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary.
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define inflammation. Describe cellular events in acute inflammation.
2. Discuss etiology, pathogenesis and morphology of carcinoma cervix.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Etiopathogenesis of thromboembolism
4. Describe Osteoporosis
5. Explain Bronchiectasis
6. Describe Semen analysis

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Define Mutation
8. What is Gene therapy
9. Disorders of chromosome structure
10. Types of genes
11. Define Spontaneous abortion
12. Mention four characteristics of Down syndrome

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination – September 2014

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics
Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both OP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define inflammation. Discuss the cellular events of inflammation.
2. Discuss the etiology of community acquired acute pneumonia. Write in brief morphology of lobar pneumonia. Mention its complications.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Difference between benign and malignant growth
4. Describe Bronchiectasis
5. Pathology of cirrhosis of liver
6. Explain about CSF analysis

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Mention four Sex linked inheritance disorders.
8. Mention four Prenatal diagnostic tests.
9. Discuss the disorders of chromosomal number.
10. Define Turner's syndrome.
11. Define Sex chromatin.
12. List four causes of Spontaneous abortion.



II Year B.Sc. Nursing Degree Examination – April 2014

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary.
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define cirrhosis of liver. Explain etiopathogenesis of cirrhosis of liver
2. Describe pathology and complications of peptic ulcer

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Inflammation
4. Pneumonia
5. Urine culture and sensitivity
6. Breast Cancer

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Iso chromosome
8. Mention four characteristics of sex – linked recessive inheritance
9. Mention four prenatal diagnostic tests
10. Genetic counseling
11. Mention any four causes of Congenital anomalies
12. Phenylketonuria

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Nursing Degree Examination - Aug 2013

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define neoplasm. Discuss different pathways of spread of a malignant tumor.
2. Define peptic ulcer. Discuss the pathogenesis and morphology.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Pathophysiology of edema
4. Aortic aneurysms
5. Renal calculi
6. Blood grouping and cross matching

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Spontaneous abortion
8. Clinical features of Klinefelter's syndrome
9. Amniocentesis
10. Methods of transfer of gene in gene therapy
11. Name single gene disorders
12. Legal and ethical issues in genetic counseling

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – Mar 2013

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both QP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Define oedema. Discuss pathogenesis of renal edema.
2. Discuss etiopathogenesis and morphology of pyogenic osteomyelitis.

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Atrophy
4. Differentiate between Benign and malignant tumors.
5. Bleeding time & clotting time
6. Factors affecting wound healing

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. Prenatal testing and diagnosis
8. Down syndrome (Trisomy 21)
9. Sickle cell anaemia
10. Autosomal recessive disorders
11. Sex chromosome
12. Tumour suppressor genes

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Nursing Degree Examination – Sep 2012

Time: 3 Hours

Max. Marks: 37 Marks

Pathology & Genetics

Q.P. Code : 1763

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary

(Note : Both OP Codes 1762 and 1763 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any one)

1 x 10 = 10 Marks

1. Mention the blood collection methods for pathology, biochemistry and microbiology tests
2. Discuss the etiopathogenesis and complications of rheumatic heart diseases

SHORT ESSAYS (Answer any three)

3 x 5 = 15 Marks

3. Bone healing
4. Cryptorchidism
5. Methods of blood grouping and cross matching
6. Lung abscess

GENETICS (12 Marks)

SHORT ANSWERS

6 x 2 = 12 Marks

7. What is trisomy. Give two examples
8. Mention four autosomal recessive disorders
9. What is Lyon hypothesis
10. What is co – dominance. Give 2 examples
11. Mention four abnormalities in Turner's syndrome
12. Goals of Human genome project
