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THEORY

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GENERAL ANATOMY
GENERAL EMBRYOLOGY
GENETICS
UPPER LIMB
LOWER LIMB
THORAX

PAPER II

HEAD, NECK & BRAIN
ABDOMEN, PELVIS & PERINEUM

PATTERN OF EXAM

➤ THEORY

2 PAPERS X 50 MARKS 100

➤ PRACTICALS

SPOTTING, QUALITATIVE,
QUANTITATIVE, CHART, RECORD
40

➤ INTERNAL ASSESSMENT

THEORY 20
PRACTICALS 20

➤ VIVA VOCE 20

TOTAL FOR THE SUBJECT 200 MARKS

ANATOMY THEORY

NB: PAGES INDICATED ARE FROM 'BD CHAURASIA'S HUMAN ANATOMY'- 5TH Edition

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- BRANCHES OF MEDIAL CORD OF BRACHIAL PLEXUS
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“**ULTRA**”
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 - RADIAL NERVE
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LATTISSIMUS DORSI BETWEEN PECTORALIS MAJOR &
TERES MAJOR
 - BRANCHES OF AXILLARY ARTERY
“**SIX AMERICAN LADIES SIPPING A PEPSI**”/SAL SAP
SUPERIOR THORACIC ARTERY
ACROMIOTHORACIC(THORACOACROMIAL
ARTERY)
LATERAL THORACIC ARTERY
SUBSCAPULAR ARTERY
ANTERIOR CIRCUMFLEX SCAPULAR ARTERY
PO**STERIOR CIRCUMFLEX SCA**PULAR ARTERY
 - STRUCTURES PIERCING CLAVIPECTORAL FASCIA
“**TALC**”
THORACOACROMIAL VESSELS
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 - BURSA-ULNAR&RADIAL
- CARPAL BONES
SHE LOOKS TOO PRETTY ,TRY TO CATCH HER
 - SCAPHOID,LUNATE,TRIQUETRAL,PISSIFORM
 - TRAPEZIUM,TRAPEZOID,CAPITATE,HAMATE
- ACTIONS OF INTEROSSEI
PAD DAB
 - PALMAR –ADDUCT
 - DORSAL-ABDUCT
- HAND: NERVE LESIONS
DR CUMA:
 - DROP=RADIAL NERVE
 - CLAW=ULNAR NERVE
 - MEDIAN NERVE=APE HAND (OR APOSTOL [PREACHER] HAND)

LOWER LIMB

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INDIANS LOVE FAME AND MONEY BUT LACK MONEY
INTERMEDIUS,LATERALIS,BICEPS
FEMORIS,ADDUCTOR
MAGNUS,BREVIS,LONGUS&VASTUS MEDIALIS
- ACTIONS OF SARTORIUS
LOVE AT FIRST SIGHT
LATERAL ROTATOR, ABDUCTOR, FLEXOR-SARTORIUS
- ATTACHMENTS ON MEDIAL SIDE OF TIBIA
GIRL BETWEEN TWO SURGEONS
GRACILIS BETWEEN SARTORIUS&SEMITENDINOSUS
- STRUCTURES UNDER FLEXOR RETINACULUM
TOM DICK AND HARRY
TIBIALIS POSTERIOR
FLEXOR DIGITORUM LONGUS
POSTERIOR TIBIAL ARTERY
TIBIAL NERVE
FLEXOR HALLUCIS LONGUS
- STRUCTURES UNDER EXTENSOR RETINACULUM
TEACHER HAS A NICE DARK PEN
TIBIALIS ANTERIOR
EXTENSOR HALLUCIS LONGUS
DORSALIS PEDIS ARTERY
DEEP PERONEAL NERVE
EXTENSOR DIGITORUM
PERONEUS TERTIUS

THORAX

ESSAYS

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THORAX-CODES

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VAN
VEIN
ARTERY
NERVE
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VERY ATTRACTIVE BOY
PULMONARY VEIN
ARTERY
BRONCHUS
FROM ABOVE DOWNWARDS
LEFT: ARE BRAHMINS VEGETARIANS

ARTERY
BRONCHI
VEIN

RIGHT: BRAHMINS ARE BORN VEGETARIANS

BRONCHUS
ARTERY
BRONCHUS
VEIN

- SUPERIOR VENECAVA
ORIGIN: 1ST COSTAL CARTILAGE
PIERCES PERICARDIUM: 2ND COSTAL
CARTILAGE
TERMINATION: 3RD COSTAL CARTILAGE

- INFERIOR VENA CAVA TRIBUTARIES

"I LIKE TO RISE SO HIGH":

ILLIACS
LUMBAR
TESTICULAR
RENAL
SUPRARENAL
HEPATIC VEIN.

THINK OF THE IVC WANTING TO RISE HIGH UP TO THE
HEART.

- BRONCHOPULMONARY SEGMENTS OF RIGHT LUNG
"A PALM SEED MAKES ANOTHER LITTLE PALM":
IN ORDER FROM SUPERIOR TO INFERIOR:

APICAL
POSTERIOR
ANTERIOR
LATERAL
MEDIAL
SUPERIOR
MEDIAL BASAL
ANTERIOR BASAL
LATERAL BASAL
POSTERIOR BASAL

- THORACIC DUCT

"THE DUCK IS BETWEEN TWO GOOSEES."

DUCK - THORACIC DUCT

2 GOOSEES = AZYG**OU**S VEIN AND ESOPH**AG**OUS

➤ SUPERIOR MEDIASTINUM: CONTENTS

PVT LEFT BATTLE:

PHRENIC NERVE

VAGUS NERVE

THORACIC DUCT

LEFT RECURRENT LARYNGEAL NERVE (NOT THE RIGHT)

BRACHIOCEPHALIC VEINS

AORTIC ARCH (AND ITS 3 BRANCHES)

THYMUS

TRACHEA

LYMPH NODES

ESOPHAGUS

➤ AORTIC ARCH: MAJOR BRANCH ORDER

"KNOW YOUR ABC'S":

AORTIC ARCH GIVES RISE TO:

BRACHIOCEPHALIC TRUNK

LEFT COMMON CAROTID

LEFT SUBCLAVIAN

BEWARE THOUGH TRICK QUESTION OF 'WHAT IS FIRST BRANCH OF AORTA?' TECHNICALLY, IT'S THE CORONARY ARTERIES.

ABDOMEN, PELVIS & PERINEUM

ESSAYS

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NB: FOR STUDYING DEVELOPMENT OF ORGANS YOU PLEASE REFER IB SINGH'S "HUMAN EMBRYOLOGY"

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 - F. URETER

ABDOMEN & PELVIS-CODES

- STRUCTURES PASSING THROUGH PELVIS OF KIDNEY
 - VAU
 - RENAL VEIN
 - RENAL ARTERY
 - URETER
- SPLEEN-HARRIS DICTUM
 - 1,3,5,7,9,11
 - THICKNESS-1''
 - BREADTH-3''

LENGTH-5''

WEIGHT-7 OUNCES

RIBS AGAINST WHICH SPLEEN REST-9-11

- MECKELS DIVERTICULUM

222

LENGTH -2 INCHES

OCCURRENCE-2% OF SUBJECTS

ARISES 2 FEET PROXIMAL TO ILEOCAECAL
JUNCTION

- STRUCTURES PASSING THROUGH OESOPHAGEAL
OPENING OF DIAPHRAGM

VOLGA

VAGUS

OESOPHAGUS

OESOPHAGEAL BRANCHES OF LEFT GASTRIC

ARTERY

- LAYERS OF SCROTUM

SOME DIRTY ENGLISHMEN CALL IT TESTIS

SKIN

DARTOS

EXTERNAL SPERMATIC FASCIA

CREMASTERIC FASCIA

INTERNAL SPERMATIC FASCIA

TUNICA ALBUGINEA

- INTERNAL ILIAC

ANTERIOR DIVISION

'SO I(V) MUST GET PASS UNIVERSITY'

SUPERIOR VESICAL

OBTURATOR

INFERIOR VESICAL (VAGINAL ARTERY
IN FEMALE)

MIDDLE RECTAL

INFERIOR GLUTEAL

INTERNAL PUDENDAL

UTERINE ARTERY

HEAD AND NECK

ESSAYS

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HEAD AND NECK-CODES

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- EMISSARY VEIN
- FORAMEN MAGNUM:STRUCTURES PIERCING
ABCD Vs MAST
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 - B** –BASIOCIPUT
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 - M**-MEDULLA OBLANGATA
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 - VESSELS&NERVES
 - MAXILLARY NERVE
 - MAXILLARY ARTERY
 - PTERYGOID VENOUS PLEXUS
- NERVES RELATED TO MANDIBLE
MY MOTHERS FAMILY
 - MENTAL
 - MASSETERIC
 - FACIAL
- PAROTID STRUCTURES PIERCING
BBBB
 - BUCCINATOR
 - BUCCOPHARYNGEAL FASCIA
 - BUCCAL PAD OF FAT
 - BUCCAL MUCOSA
- LAYERS OF SCALP
SCALP

- SKIN, CONNECTIVE TISSUE, APONEUROSIS,
LOOSE CONNECTIVE TISSUE, PERIOSTEUM
- INTERNAL CAROTID ARTERY- BRANCHES
**CPI(M) STRONGEST POLITICAL ORGANISATION
ARRANGED A MEETING**
CAROTIDOTYMPANIC BRANCHES, PTERTYGOID
CANAL BRANCHES, INFERIOR HYPOGLOSSAL
ARTERIES, MENINGEAL BRANCH, SUPERIOR
HYPOPHYSEAL ARTERIES, POSTERIOR
COMMUNICATING ARTERIES, OPHTHALMIC
ARTERY, ANTERIOR CHOROID ARTERY,
ANTERIOR CEREBRAL ARTERY, MIDDLE
CEREBRAL ARERY
 - TRIBUTARIES OF INTERNAL JUGULAR VEIN
**INDIAN POLICE COMMISIONER LOVES SIVPURI,
MADHURI ,OMPURI & TIWARI**
INFERIOR PETROSAL SINUS, PHARYNGEAL
VEINS, COMMON FASCIAL VEIN, LINGUAL
VEIN, SUPERIOR THYROID VEIN, MIDDLE
THYROID VEIN, OCCIPITAL VEIN, THORASIC
DUCT
 - MANDIBULAR NERVE BRANCHES
 - A. FROM TRUNK (**N2**)
NERVUS SPINOSUS, NERVE TO MEDIAL PTERTYGOID,
 - B. FROM ANTERIOR DIVISION (**MISS NIMNA DANCES
BRILLIANTLY**)
MASSETERIC NERVE, NERVE TO LATERAL
PTERTYGOID, DEEP TEMPORAL, BUCCAL.
 - C. FROM POSTERIOR DIVISION (**ALI**)
AURICULO TEMPORAL, LINGUAL, INFERIOR
ALVEOLAR
 - THYROID GLAND: DIMENSIONS
5-3=2
LENGTH-5CM, BREADTH-3CM , THICKNESS-2CM
 - NUTRITIONS OF CORNEA
LA.....LA.....
LOOPS OF CAPILLARIES
AQUEOUS HUMOR

LACRIMAL SECRETION

ATMOSPHERIC OXYGEN

- NERVE SUPPLY OF EXTRINSIC MUSCLES OF EYEBALL

[LR6(SO4)]3

LATERAL RECTUS 6TH CRANIAL NERVE

SUPERIOR OBLIQUE 4TH CRANIAL NERVE

ALL OTHER MUSCLES 3RD CRANIAL NERVE

- BRANCHES OF EXTERNAL CAROTID ARTERY

SISTER LUCY'S POWDERED FACE OFTEN ATTRACTS

SILLY MEDICOS

SUPERIOR THYROID ARTERY

LINGUAL ARTERY

POSTERIOR AURICULAR ARTERY

FACIAL ARTERY

OCCIPITAL ARTERY

ASCENDING PHARYNGEAL ARTERY

SUPERFICIAL TEMPORAL ARTERY

MAXILLARY ARTERY

- SKULL BONES

"STEP OF 6 "

THE 6 SKULL BONES ARE:

SPHENOID

TEMPORAL

ETHMOID

PARIETAL

OCCIPITAL

FRONTAL

ALTERNATIVELY: "STEP OFF MY SKULL

- VOICEBOX: NAMES OF PARTS IN SAGITTAL CROSS-SECTION

"THERE'S 3 V'S IN YOUR VOICEBOX":

VESTIBULAR FOLD

VENTRICLE

VOCAL FOLD

NOTE: VESTIBULAR AND VOCAL CORD ALSO KNOWN AS FALSE AND TRUE CORDS RESPECTIVELY.

- HORNER'S SYNDROME COMPONENTS

SPAM

SUNKEN EYEBALLS/ SYMPATHETIC PLEXUS
(CERVICAL) AFFECTED

PTOSIS
ANHYDROSIS
MIOSIS

- TERMINAL BRANCHES OF THE FACIAL NERVE
"TEN ZOMBIES BOUGHT MY CAR"
TEMPORAL, ZYGOMATIC, BUCCAL, MARGINAL
MANDIBULAR, CERVICAL

NEUROANATOMY

I.B Singhs Neuroanatomy 7th edition

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BRAIN-CODES

➤ **LOBULES OF CEREBELLUM**

**LOVE CAN CAUSE DIFFICULTY FOR TWO PERSONS
UN NECESSARILY**

LINGULA

CENTRAL LOBULE

CULMEN

DECLIVE

FOLIUM

TUBER

PYRAMIDS

UVULA

NODULE

CEREBELLAR NUCLEI

➤ **DEFG**

DENTATE NUCLEUS

EMBOLIFORM NUCLEUS

FASTIGIAL NUCLEUS

GLOBOSE NUCLEUS

CROSS SECTIONAL ANATOMY

A)UPPER LIMB

1. MIDDLE OF ARM

2. MIDDLE OF FOREARM

B)LOWER LIMB

1. MIDDLE OF THIGH

2. MIDDLE OF LEG

C)THORAX AT THE LEVEL OF

1. T3,T4 *

2. T5,T6,T12

D)BRAIN

1. Transverse section through the medulla at (fig 11.1, 11.2, 11.3)

a) level of pyramidal decussation

b) a level little above the pyramidal decussation

c) the level of olive

2. Transverse section through the lower part of pons (fig 11.5)
3. Transverse section through upper part of pons (fig 11.7)
4. Transverse section through lower part of midbrain (fig 11.8)
5. Transverse section through upper part of midbrain (fig 11.9)

GENERAL ANATOMY

PLEASE REFER '*TEXTBOOK OF HISTOLOGY*' BY IB SINGH

1. SYNOVIAL JOINTS-CLASSIFICATION
2. GLANDULAR EPITHELIUM
3. CONNECTIVE TISSUE CELLS & FIBRES
4. BLOOD SUPPLY OF LONG BONE
5. TRANSITIONAL EPITHELIUM
6. PRIMARY CARTILAGINOUS JOINTS
7. NEUROGLIA
8. OSSIFICATION
9. EPITHELIUM –CLASSIFICATION, MICROSCOPY
10. PERIOSTEUM & EPIPHYSIS
11. CARTILAGE & ITS TYPES
12. MICROSCOPIC ANATOMY OF
 - CARTILAGE
 - LYMPH NODE
 - BONE
 - FIBROBLAST

GENERAL EMBRYOLOGY

NB: PAGE NUMBERS INDICATED ARE FROM '*HUMAN EMBRYOLOGY-8th Edn by IB SINGH*' UNLESS SPECIFIED OTHERWISE..

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2. KARYOTYPING*
3. SEX LINKED INHERITANCE
4. TURNER'S SYNDROME, DOWN'S SYNDROME & KLINEFELTER'S SYNDROME*
5. CHROMOSOME BANDING
6. ATAVISM
7. GENES
8. TRANSLOCATION
9. NON DISJUNCTION

DISCUSSION TOPICS

UPPER LIMB

1. MAMMARY GLAND
2. AXILLA
3. MUSCLES OF SCAPULAR REGION
4. TRIANGULAR & QUADRANGULAR INTERMUSCULAR SPACES
5. CUBITAL FOSSA
6. FLEXOR COMPARTMENT-ARM & FOREARM
7. EXTENSOR COMPARTMENT OF FOREARM
8. FLEXOR & EXTENSOR RETINACULA
9. RADIAL , MEDIAN & ULNAR NERVES
10. SUPERFICIAL & DEEP PALMAR ARCHES

LOWER LIMB

1. FEMORAL TRIANGLE
2. FLEXOR, EXTENSOR & ADDUCTOR COMPARTMENT OF THIGH
3. STRUCTURES UNDER GLUTEUS MAXIMUS
4. POPLITEAL FOSSA
5. RETINACULA OF LEG
6. COMPARTMENTS OF LEG

7. SOLE OF FOOT-LAYERS
8. DORSUM OF FOOT
9. KNEE JOINT-LIGAMENTS

THORAX

1. THORACIC WALL
2. LUNGS
3. CHAMBERS OF HEART
4. BLOOD SUPPLY OF HEART

ABDOMEN & PELVIS

1. INGUINAL CANAL & CONTENTS
2. TESTIS
3. STOMACH
4. DUODENUM-2nd PART
5. CAECUM & APPENDIX
6. SPLEEN
7. PANCREAS
8. LIVER
9. KIDNEY & URETERS
10. DIAPHRAGM
11. URINARY BLADDER & PROSTATE
12. UTERUS, FALLOPIAN TUBE & OVARY
13. RECTUM & ANAL CANAL
14. PELVIC WALL & PELVIC FLOOR

HEAD NECK AND BRAIN

1. DURAL VENOUS SINUSES
2. MUSCLES OF MASTICATION
3. SURFACE OF BRAIN-SULCI&GYRI
4. BRAIN STEM
5. DURAL FOLDS,CRANIAL NERVES&BASE OF SKULL
6. EYE BALL
7. SUBMANDIBULAR REGION
8. LARYNX
9. LATERAL WALL OF NOSE
10. NASAL SEPTUM
11. TONGUE-DEVELOPMENT&SUPPLY
12. MIDLINE STRUCTURES OF NECK
13. TRIANGLES OF NECK
14. PAROTID GLAND
15. THYROID GLAND

16. SPINAL CORD
17. PHARYNX
18. BASE OF BRAIN
19. VENTRICLES OF BRAIN
20. CORPUS CALLOSUM
21. INTERNAL CAPSULE

SPOTTERS

PLEASE NOTE.....

- ❖ STUDY THE IMPORTANT ATTACHMENTS & SIDE IDENTIFICATION OF THE BONES
- ❖ FOR A NERVE, STUDY ITS FORMATION, ROOT VALUE, BRANCHES & DISTRIBUTION.
- ❖ FOR AN ARTERY STUDY ITS ORIGIN & BRANCHES
- ❖ FOR A VEIN STUDY ITS FORMATION, TRIBUTARIES AND TERMINATION.
- ❖ FOR A MUSCLE, STUDY ORIGIN, INSERTION, NERVE SUPPLY & ACTIONS.
- ❖ FOR EVERY PAIRED ORGAN, STUDY SIDE IDENTIFICATION
- ❖ ALSO STUDY RELEVANT APPLIED ANATOMY

UPPER LIMB

1. CLAVICLE (Imp – PECULIARITIES)
2. SCAPULA
3. HUMERUS
4. RADIUS
5. ULNA
6. CARPAL BONES
7. PECTORALIS MAJOR & MINOR
8. CAPSULE OF SHOULDER JOINT
9. DELTOID(AA-IM INJECTIONS)
10. QUADRANGULAR & TRIANGULAR SPACES & CONTENTS
11. RADIAL NERVE IN RADIAL GROOVE
12. AXILLARY ARTERY
13. AXILLARY NERVE
14. BICEPS
15. BRACHIALIS
16. CORACOBRAHIALIS

17. BRACHIAL ARTERY
18. BRACHIORADIALIS
19. MUSCULOCUTANEOUS NERVE
20. TRICEPS
21. ANCONIUS
22. ANATOMICAL SNUFFBOX-BOUNDARIES & CONTENTS
23. CEPHALIC VEIN
24. ANTERIOR INTEROSSEOUS ARTERY
25. POSTERIOR INTEROSSEOUS ARTERY & NERVE
26. PALMAR APONEUROSIS
27. PALMARIS LONGUS
28. INTEROSSEI & LUMBRICALS
29. MEDIAN CUBITAL VEIN
30. PRONATOR TERES
31. PRONATOR QUADRATUS
32. EXTENSOR RETINACULUM & ATTACHMENTS
33. SUPINATOR
34. ULNAR NERVE
35. MEDIAN NERVE
36. SUPERFICIAL & DEEP PALMAR ARCH
37. FLEXOR RETINACULUM
38. DORSAL VENOUS ARCH

LOWER LIMB

1. HIP BONE(Imp-ATTACHMENTS ON ILIAC CREST)
2. FEMUR(Imp-ATTACHMENTS ON LINEA ASPERA)
3. TIBIA & FIBULA
4. PATELLA
5. TALUS & CALCANEUS
6. CUTANEOUS SUPPLY OF DORSUM OF FOOT
7. FEMORAL ARTERY
8. FEMORAL NERVE
9. ILIOTIBIAL TRACT
10. FEMORAL SHEATH
11. PROFUNDA FEMORIS ARTERY
12. ADDUCTOR CANAL
13. SARTORIUS
14. VASTUS MEDIALIS & LATERALIS
15. ADDUCTOR MAGNUS
16. OBTURATOR NERVE
17. GLUTEUS MAXIMUS , MEDIUS & MINIMUS

18. PIRIFORMIS(KEY MUSCLE OF GLUTEAL REGION)
19. 'PIN' STRUCTURES-PUDENDAL NERVE ,INTERNAL PUDENDAL ARTERY,NERVE TO OBTURATOR INTERNUS
20. POPLITEAL ARTERY
21. TIBIAL NERVE
22. COMMON PERONEAL NERVE
23. SCIATIC NERVE
24. SAPHENOUS NERVE
25. FLEXOR, EXTENSOR & PERONEAL RETINACULA
26. ANTERIOR TIBIAL ARTERY
27. DEEP PERONEAL NERVE
28. DORSALIS PEDIS ARTERY
29. PERONEUS LONGUS & BREVIS
30. GREAT SAPHENOUS VEIN
31. TENDOCALCANEUS
32. PLANTARIS
33. POPLITEUS
34. TIBIALIS POSTERIOR
35. PLANTAR APONEUROSIS
36. LIGAMENTUM PATELLAE
37. TIBIAL & FIBULAR COLLATERAL LIGAMENT
38. CRUCIATE LIGAMENT
39. MENISCI OF KNEE JOINT
40. SPRING LIGAMEN

THORAX

1. 1ST RIB-ATTACHMENTS & RELATIONS
2. TYPICAL RIB
3. STERNUM –PARTS
4. THORACIC VERTEBRAE
5. INTERCOSTAL MUSCLES
6. INTERNAL THORACIC ARTERY
7. AZYGOS VEIN
8. THORACIC DUCT
9. PULMONARY LIGAMENT
10. ROOT OF LUNG
11. FISSURES OF LUNG
12. SINUSES OF PERICARDIUM
13. RIGHT ATRIUM
14. FOSSA OVALIS-Devpt

15. ATRIOVENTRICULAR VALVES
16. CORONARY ARTERIES
17. CORONARY SINUS
18. INTERVENTRICULAR SEPTUM
19. GREAT CARDIAC VEIN
20. LIGAMENTUM ARTERIOSUM & RECURRENT
LARYNGEAL NERVE
21. SUPERIOR VENACAVA
22. AORTA
23. PLEURA
24. IMPRESSIONS ON LUNG
25. PHRENIC NERVE
26. SUBCLAVIAN ARTERY

ABDOMEN & PELVIS

1. INGUINAL LIGAMENT
2. RECTUS ABDOMINIS & RECTUS SHEATH
3. INGUINAL CANAL
4. TESTIS-(Imp-SIDE IDENTIFICATION)
5. EPIPLOIC FORAMEN
6. STOMACH
7. DUODENUM-MAJOR & MINOR DUODENAL PAPILLA
8. BARE AREA OF LIVER
9. VERMIFORM APPENDIX
10. SIGMOID COLON
11. PORTAL VEIN
12. GREATER OMENTUM
13. SPLEEN
14. ANTERIOR ABDOMINAL WALL MUSCLES
15. SPERMATIC CORD(Imp-CONTENTS)
16. CAECUM
17. SUPERIOR MESENTERIC ARTERY
18. INFERIOR MESENTERIC ARTERY
19. GALL BLADDER
20. PANCREAS(PARTS)
21. LIGAMENTS OF LIVER
22. STRUCTURES AT HILUM OF KIDNEY & SIDE
IDENTIFICATION
23. URETER
24. SUPRARENAL GLAND
25. DIAPHRAGM –CENTRAL TENDON & OPENINGS

26. PSOAS MAJOR
27. URINARY BLADDER-TRIGONE
28. OVARY
29. FALLOPIAN TUBES
30. BROAD LIGAMENT
31. PROSTATE
32. INTERNAL ILIAC ARTERY
33. COMMON ILIAC ARTERY
34. INFERIOR VENACAVA
35. OBTURATOR NERVE
36. VAS DEFERENS
37. PELVIS-SEX DIFFERENCE

HEAD, NECK AND BRAIN

1. PARIETAL BONE
2. TEMPORAL BONE
3. FRONTAL BONE
4. PALATINE BONE
5. OCCIPITAL BONE
6. SPHENOID BONE
7. ATLAS&VERTEBRAE
8. MANDIBLE
9. HYOID BONE
10. DENS
11. FORAMEN SPINOSUM
12. SOFT PALATE
13. FORAMEN OVALE
14. HYPOGLOSSAL CANAL
15. JUGULAR FORAMEN
16. FRONTAL AIR SINUSES
17. STYLOID PROCESS
18. STYLOID FORAMEN
19. TEMPORALIS MUSCLE
20. MASSETER
21. CRISTA GALLI
22. BUCCINATOR
23. FACIAL ARTERY
24. FACIAL NERVE
25. STERNOCLEIDO MASTOID
26. EXTERNAL JUGULAR VEIN
27. EXTERNAL CAROTID ARTERY

28. HYPOGLOSSAL NERVE
29. GREATER AURICULAR NERVE
30. SPINAL ROOT OF ACCESSORY N.
31. SCALENUS ANTERIOR
32. VERTEBRAL ARTERY
33. TENTORIUM CEREBELLI
34. FALX CEREBRI
35. MIDDLE MENINGEAL ARTERY
36. EXTRA OCULAR MUSCLES
37. ORBICULARIS OCULI
38. EYE LENS
39. CRICOTHYROID
40. HYOGLOSSUS
41. INFERIOR CONSTRUCTOR
42. MYLOHYOID
43. POST.CRICOARYTENOID
44. STYLOHYOID
45. ANSA CERVICALIS
46. GLOSSOPHARYNGEAL N.
47. THYROID CARTILAGE
48. VOCAL FOLDS
49. CONCHAE AND MEATUSSES
- 50.

SURFACE ANATOMY

UPPER LIMB

1. AXILLARY ARTERY
2. BRACHIAL ARTERY
3. RADIAL ARTERY
4. ULNAR ARTERY
5. SUPERFICIAL & DEEP PALMAR ARCH
6. ULNAR NERVE
7. AXILLARY NERVE
8. RADIAL NERVE
9. MEDIAN NERVE
10. FLEXOR & EXTENSOR RETINACULA
11. CEPHALIC VEIN

LOWER LIMB

1. FEMORAL ARTERY
2. POPLITEAL ARTERY

3. DORSALIS PEDIS ARTERY
4. GREAT SAPHENOUS VEIN
5. SMALL SAPHENOUS VEIN
6. SCIATIC NERVE
7. FEMORAL NERVE
8. COMMON PERONEAL NERVE
9. FEMORAL RING
10. SAPHENOUS OPENING
11. FLEXOR ,EXTENSOR & PERONEAL RETINACULA

THORAX

1. PLEURA
2. INTERNAL THORACIC ARTERY
3. ARCH OF AORTA
4. HEART-BORDERS & VALVES
5. LUNGS-BORDERS & FISSURES
6. THORACIC DUCT

HEAD, NECK & BRAIN

1. FACIAL ARTERY
2. MIDDLE MENINGEAL ARTERY
3. COMMON & EXTERNAL CAROTID ARTERY
4. PAROTID GLAND & PAROTID DUCT
5. FACIAL NERVE
6. THYROID GLAND
7. EXTERNAL JUGULAR VEIN
8. SUPERIOR SAGITTAL SINUS
9. CENTRAL & LATERAL SULCUS
10. MAXILLARY ARTERY
11. SUBMANDIBULAR GLAND.

ABDOMEN, PELVIS & PERINEUM

1. SPLEEN
2. STOMACH
3. GALL BLADDER-MURPHY'S POINT
4. APPENDIX-McBURNEY'S POINT
5. KIDNEY-MORRIS PARALLELOGRAM
6. ABDOMINAL AORTA
7. INGUINAL CANAL
8. ROOT OF MESENTERY
9. LIVER
10. URETER-ON THE BACK

11. DUODENUM
12. PANCREAS
13. SUBCOSTAL, TRANSPYLORIC & TRANSTUBERCULAR PLANES

DO YOU KNOW!!!!!!!!!!!!!!!!!!!!!!

UPPER LIMB

- Clavicle is the first bone to start ossifying
- Capitate is the first carpal bone to start ossifying
- Pisiform is the last carpal bone to ossify
- In scaphoid fracture maximum tenderness is at the anatomical snuff box
- The median cubital vein is the choice for intravenous injection as it is fixed by perforators and separated from the artery by the bicipital aponeurosis
- Radial nerve injury in radial groove can lead to wrist drop
- Median nerve injury results in ape thumb deformity
- Inflammation of palmar aponeurosis results in Dupuytren's contracture
- Intramuscular injections should be given in the lower half of deltoid to prevent injury to axillary nerve
- The stabilizing bone of forearm-Ulna
- Three nerves related closely to humerus-Axillary, radial and ulnar nerves
- Boxer's muscle-Serratus anterior
- Labourer's nerve-Median nerve
- Musician's nerve-Ulnar nerve
- Nerve of bell-Long thoracic nerve
- Surgeon's nerve-Axillary nerve
- Musculocutaneous nerve pierces coracobrachialis
- Posterior interosseous nerve passes between two planes of supinator
- Median nerve passes between two heads of pronator teres
- Freshman's nerve-Palmaris longus

LOWER LIMB

- Sartorius is the longest muscle in the body
- Femur is the longest bone in the body
- Sciatic nerve is the thickest nerve in the body
- Patella is the largest sesamoid bone in the body
- Tendocalcaneus is the strongest tendon in the body

- Quadriceps is the largest muscle in the body
- Illofemoral ligament is one of the strongest in the body
- Chronic enlargement of prepatellar bursa-Housemaid's knee
- Infrapatellar bursitis-Clergyman's knee
- The safe quadrant of gluteal region to give intramuscular injection is the upper outer quadrant
- Temporary compression of sciatic nerve –sleeping foot
- Soleus is known as the peripheral heart
- Running muscle-Gluteus maximus
- Soleus and gastrocnemius together forms triceps surae
- Tailor's muscle-Sartorius
- Unlocking muscle-Popliteus
- Custodian of virginity-Gracilis
- Rider's muscle-Adductor longus
- Nervus hisitans-Deep peroneal nerve
- Key muscle in gluteal region-Pyiformis
- Tibial collateral ligament is the degenerated tendon of adductor magnus
- Fibular collateral ligament is the degenerated part of adductor longus
- Oblique popliteal ligament-expansion from the tendon of semimembranosus
- Sacrotuberous ligament is the degenerated part of Biceps femoris
- Sacrospinous ligament is the degenerated part of coccygeus muscle
- THORAX
- Fascial part of suprapleural membrane-Sibson's fascia-is derived from endothoracic fascia and the muscular part from the scaleneus minimus
- Typical thoracic vertebrae-2nd to 8th
- Atypical thoracic vertebrae:1st, 9-12th
- Typical intercostals nerves 3rd-6th
- Atypical intercostals nerve 1st 2nd 7th -12th
- Sternal angle-level between T4 and T5
- Root of lung- T5-T7
- Great saphenous vein is commonly used for coronary bypass surgery
- Apex of the heart- in the left 5th intercostals space just medial to the midclavicular line
- Base of the heart- T5-T8(supine), T6-T9(erect)

- Superior venacava-
- Begins at the level of 1st rt costal cartilage, Pierces pericardium- level of 2nd costal cartilage, Terminates- 3rd costal cartilage
- Thoracic duct begins at the level of T12 vertebrae

HEAD AND NECK

- Facial artery is known as the anaesthetist's artery
- The principle landmark of neck-Sternocleidomastoid
- Key muscle of the infratemporal region-Lateral pterygoid
- Upper lip and lower part of nose is considered as dangerous area of face
- Superior tarsal muscle of the orbit is known as muller's muscle
- Loose areolar tissue layer is regarded as the dangerous layer of scalp
- Nerve of the pterygoid canal- Vidian's nerve
- Auricular branch of vagus-Alderman's nerve
- The key muscle of submandibular region-Hyoglossus
- The opening of parotid duct lies opposite the crown of upper second molar tooth
- Sphenopalatine ganglion is the largest parasympathetic ganglion in the body
- The incision for myringotomy is done in the posteroinferior quadrant of the tympanic membrane
- When tympanic membrane is illuminated for examination, a cone of light is produced over the anteroinferior quadrant
- The smallest muscle in the human body-Stapedius
- Pasavants ridge is formed by palatopharyngeus muscle
- All muscles of pharynx except stylopharyngeus is supplied by cranial accessory nerve through the branches of vagus
- The only intrinsic muscle lying outside the larynx-cricothyroid
- Only unpaired muscle of larynx-Transverse arytenoids
- Only abductor of vocal cords-posterior cricoarytenoid
- All the muscles of tongue except the palatoglossus are supplied by hypoglossal nerve

ABDOMEN

- Median umbilical fold is formed by urachus
- Medial umbilical fold is formed by obliterated umbilical artery
- Lateral umbilical fold is formed by inferior epigastric artery
- Inguinal ligament is also known as poupart's ligament
- The pectineal part of the inguinal ligament or lacunar ligament is also known as Gimbernath's ligament

- Pyramidalis muscle is supplied by subcostal nerve
- Most dependent part of pelvic cavity in supine position-Pouch of Douglas
- Vermiform appendix is known as abdominal tonsil
- The most movable part of large intestine-Transverse colon
- Murphy's point-Position of fundus of gall bladder
- Mc Burney's point-marks the base of appendix on rt side
- Lian's point- equivalent of Mc Burney's point on left side
- Weber's Point-Centre of gravity of the body {1 cm below the sacral promontory}
- Epiploic foramen {foramen of Winslow} is the communication between lesser sac and greater sac

BRAIN

- FUNCTIONAL AREAS OF BRAIN
- 6,8-PREMOTOR AREA
- 9,10,11-PREFRONTAL AREA
- 44,45-MOTOR SPEECH AREA OF BROCA
- 41,42-PRIMARY AUDITORY AREA
- 39,40-WERNICKES AREA
- 17-PRIMARY VISUAL AREA
- 1,2,3-PRIMARY SENSORY AREA
- 4-PRIMARY MOTOR AREA
- 18,19-PSYCHIVISUAL AREA
- 22-AUDITORY ASSOCIATION ARE

**First Professional MBBS Degree Examination, 2011
ANATOMY - Paper I**

Time: 3 hrs

Max marks: 50

Long essay

1. A 12 Year old boy following an inadvertent intramuscular injection in the gluteal region developed certain neurological deficits including difficulty to dorsiflex the foot. With your knowledge in Anatomy answer the following questions
 - Mention briefly the structures under cover of gluteus maximus
 - Name the structures affected in this case. Give its origin, course and distribution in the thigh.
 - Give the cutaneous innervation of lower limb below knee.
 - Name the muscle responsible for the dorsiflexion and eversion of the foot. **(2+4+2+2=10 marks)**

Write briefly on: (3x5=15 marks)

2. Coronary arteries
3. Rotator cuff of shoulder joint
4. Thoracic part of oesophagus

Write notes on: (5x3=15 marks)

5. Implantation
6. Medial collateral ligament of knee joint
7. Connective tissue fibres
8. Lymphatic drainage of the breast
9. Posterior interosseous nerve

Write short answers on: (3x2=6 marks)

10. Spermiogenesis
11. Turner's syndrome
12. Microscopic structure of hyaline cartilage

Draw neat labelled diagram of the following:

13. Transverse section at the level of the sterna angle
14. Palmar arterial arches. **(2x2=4 marks)**

First Professional MBBS Degree Examination, 2011**ANATOMY - Paper II****Time: 3 hrs****Max marks: 50****Long essay**

1. A 65 old man presented with dilated vein around the umbilicus and vague pain in the epigastric region. He also a history of bleeding per rectum. Radiological examination revealed an abnormal growth in the 'head and neck' of pancreas. Based on your anatomical knowledge answer the following questions
 - Name the structures that would have been compressed by the pancreatic growth to cause the clinical findings.
 - Give the formation, course, relations and termination of the structure.
 - Name all the possible sites, where there could be dilated veins, giving the name of the vein involved with reasons and clinical implications.
 - What are the other structures that are likely to be compressed by the growth
 - Mention the sources of development of pancreas
(1+4+3+1+1=10 marks)

Write briefly on:**(3x5=15 marks)**

2. Vermiform appendix
3. Mandibular nerve
4. Thalamus

Write notes on:**(5x3=15 marks)**

5. Tympanic membrane
6. Interior of larynx
7. Development of lips
8. Crus cerebri
9. Levator palpebrae superioris

Write short answers on: (3x2=6 marks)

10. Visual cortex
11. Development of anal canal
12. Microscopic structure of palatine tonsil

Draw neat labeled diagram of the following:

13. Diagram showing the floor of fourth ventricle.

14. Posterior surface of the left kidney showing relations
(2x2=4 marks)

MODEL QUESTION PAPER
First Professional MBBS Degree Examination
Paper I – ANATOMY

Time: 3 hrs

Max marks: 50

Long essay

1. A 70 year old man on walking uphill feels sudden onset of severe chest pain radiating to the medial side of left arm associated with tiredness and sweating. He gives a history of similar attacks and was on treatment. With your knowledge in Anatomy answer the following questions.
- Name the organ affected
 - Give a brief account of its arterial supply.
 - Mention the reason for the radiation of pain.
 - Name the covering of the organ and give their nerve supply.

(1+4+2+3=10 marks)

Write briefly on:

(3x5=15 marks)

2. Inversion and eversion of foot
3. Bronchopulmonary segments of right lung
4. Radioulnar joints

Write notes on:

(5x3=15 marks)

5. Decidua
6. Medial longitudinal arch of foot
7. Clavipectoral fascia
8. Coronary sinus
9. Rotator cuff

Write short answers on:

(3x2=6 marks)

10. Enumerate the derivatives of neural crest
11. Down's Syndrome
12. Microscopic structure of lymph node

Draw neat labelled diagram of the following:

13. Sagittal section through the shoulder joint
14. Sternocostal surface of heart (2x2=4 marks)

MODEL QUESTION PAPER
First Professional MBBS Degree Examination
Paper II – ANATOMY

Time: 3 hrs**Max marks: 50****Long essay**

1. A 10 year old boy was brought to the O.P with fever and difficulty in opening his mouth and chewing. On examination there was a swelling in front of his left ear associated with tenderness. Based on your knowledge in Anatomy answer the following questions.
 - Name the structure affected in this case
 - Describe the coverings, surfaces and borders of the structure
 - Mention the structure traversing it
 - Give the nerve supply of the structure

(1+5+2+2=10 marks)**Write briefly on:****(3x5=15 marks)**

2. Ischiorectal fossa
3. Constituent fibres and arterial supply of internal capsule
4. Development and congenital anomalies of palate.

Write notes on:**(5x3=15 marks)**

5. Superior constrictor muscle
6. Auditory tube
7. Lateral geniculate body
8. Microscopic structure of retina
9. Superior mesenteric artery

Write short answers on: (3x2=6 marks)

10. Enumerate the arteries and nerves supplying anterior quadrant of scalp
11. Meckel's diverticulum
12. Coverings of prostate gland

Draw neat labelled diagram of the following:

13. Structures seen posterior to the stomach
14. Transverse section through upper part of midbrain

(2x2=4 marks)**First Professional MBBS Degree Supplementary Examination,****March 2012****ANATOMY - Paper I****Time: 3 hrs****Max marks: 50****Long essay**

1. A 60 Year old man while rushing to catch a train in the railway station felt severe chest pain with profuse sweating and tingling

sensation over along the medial aspect of his left upper arm. He was soon taken to the hospital where the ECG shows irregularities. His blood pressure dropped dramatically and he lapsed into deep coma and died several minutes later. Post mortem study revealed that total obstruction of the left coronary artery and near complete obstruction of the right coronary artery. Based on your anatomical knowledge answer the following questions

- Explain how a coronary artery disease produce retrosternal chest pain, tingling sensation over the medial side of his left arm and profuse sweating.
- Briefly explain the origin, course and distribution of coronary arteries.
- What is meant by left artery dominances.
- Obstruction to which coronary artery is more likely to produce irregularities in the heart rhythm and why.
- Mention the sites where the left and right coronary arteries anastomose; what is the functional significance of these anastomosis

(2+4 1/2+1+1+1 1/2=10 marks)

Write briefly on: (3x5=15 marks)

2. External ligaments of knee joint
3. Synovial joint : classification with examples
4. Blood supply and lymphatic drainage of the breast

Write notes on: (5x3=15 marks)

5. Yolk sac and its fate in humans
6. Azygos vein
7. Superficial palmar arch
8. Microscopic structure of lymph node
9. Femoral sheath

Write short answers on: (3x2=6 marks)

10. Turner's syndrome
11. Boundaries and contents of quadrangular space of scapular region
12. Neural crest

Draw neat labelled diagram of the following:

(2x2=4 marks)

13. Mediastinal surface of lung
14. Transverse section through middle of right thigh

**First Professional MBBS Degree Supplementary Examination,
March 2012
ANATOMY - Paper II**

Time: 3 hrs

Max marks: 50

Long essay

1. A 65 Year old man came to hospital with difficulty in passing urine and increased frequency of micturition during night time. His condition was diagnosed as benign enlargement of prostate. With your knowledge in anatomy answer the following questions. With your knowledge in anatomy answer the following questions.

- Name the lobe of prostate which is usually involved in this condition
- Briefly explain its coverings, lobes, venous and lymphatic drainage
- Mention the type of gland found in the prostate with help of a diagram
- Name the part of urethra passing through it. Give its internal features. **(1+4+2 1/2+2 1/2=10 marks)**

Write briefly on:

(3x5=15 marks)

2. Spleen-gross anatomy, relations, development and applied anatomy
3. Cavernous sinus
4. Lateral ventricle of brain

Write notes on:

(5x3=15 marks)

5. Lateral pterygoid
6. Innervation of the tongue
7. Superficial perineal pouch
8. Sternocleidomastoid muscle
9. Circle of Willis

Write short answers on:

(3x2=6 marks)

10. Development of kidney
11. Tympanic membrane
12. Extra ocular muscle - enumerate with nerve supply

Draw neat labelled diagram of the following:

(2x2=4 marks)

13. Transverse section of midbrain at the level of inferior colliculus

14. Structure forming stomach bed

First Professional MBBS Degree Examination, August 2012

ANATOMY - Paper I

Time: 3 hrs

Max marks: 50

Long essay

2. A football player fell heavily and dislocated his right shoulder joint while playing. A collar cuff support was given, after reducing the dislocation. Subsequently an orthopedic surgeon noticed that his right shoulder was less prominent than left. The player was finding it difficult to abduct the arm to the horizontal level. With your knowledge in anatomy answer the following questions.
- What anatomical features make the shoulder joint particularly prone to dislocation
 - Briefly describe the stabilizing structure of the joint and why the head of humerus is often displaced downwards.
 - In this case, what is the subsequent cause of flattening of the right shoulder and the difficulty in abducting the arm to horizontal level.
 - Briefly mention the ligaments and muscles acting at the shoulder joint

(2+2½+1+4½=10 marks)

Write briefly on:

(3x5=15 marks)

- Coronary arteries
- Sciatic nerve: formation, course and branches
- Longitudinal arch of foot

Write notes on:

(5x3=15 marks)

- Neural tube
- Microscopic structure of hyaline cartilage
- Flexor retinaculum of hand: attachments, relations, and applied aspects
- Great saphenous vein: formation, relation, function and applied aspect
- Broncho pulmonary segments

Write short answers on:

(3x2=6 marks)

- Linea aspera
- Parts and branches of axillary artery
- Interossei of hand

Draw neat labelled diagram of the following:

- C.S of thorax at level of sternal angle
- Boundaries and contents of femoral triangle

(2x2=4 marks)

First Professional MBBS Degree Examination, August 2012
ANATOMY - Paper II

Time: 3 hrs

Max marks: 50

Long essay

1. A 4 year old child swallowed a shirt button. Since the child began to suffocate she was rushed to the hospital, where on x-ray examination, impaction of foreign body in the larynx was confirmed
 - Which is the narrowest part of laryngeal cavity
 - Briefly describe the interior of larynx
 - Which muscle is known as the safety muscle of larynx and why
 - Name the joint at which the muscles of larynx act and briefly mention the movements taking at these joints
 - What is the anatomical structures in the midline of neck are encountered during surgical approach to trachea below isthmus of thyroid. (1+3½+1+2½+2=10 marks)

Write briefly on:

(3x5=15 marks)

2. Anal canal
3. Spinal cord- gross anatomical features, blood supply and vertebral levels of spinal segments
4. Inguinal canal- extent, boundaries, contents and applied anatomy

Write notes on:

(5x3=15 marks)

5. Posterior triangle of neck
6. Lacrimal apparatus.
7. Corpus callosum
8. Microscopic structure of palatine tonsil
9. First brachial artery

Write short answers on:

(3x2=6 marks)

10. Enumerate the muscles of soft palate
11. Deep perineal pouch and its contents
12. Derivatives of pre arterial segment of midgut loop

Draw neat labeled diagram of the following:

13. Horizontal section through the abdomen at the level of L4 vertebrae
14. Circle of Willis

(2x2=4 marks)

PHYSIOLOGY

TOPIC DIVISION

THEORY

PAPER I

BLOOD

RESPIRATORY SYSTEM

CVS

GIT

RENAL SYSTEM

PAPER II

ENDOCRINOLOGY

CNS

SPECIAL SENSES

REPRODUCTION

NERVE&MUSCLE

TEMPERATURE REGULATION

PATTERN OF EXAM

➤ THEORY

2 PAPERS X 50 MARKS **100**

➤ PRACTICALS

LONG BLOOD EXPT 10

SHORT BLOOD EXPT 5

EXPT.PHYSIOLOGY 5

SPOTTERS 10

SYSTEM EXAMINATION 10

TOTAL **40**

➤ INTERNAL ASSESMENT **40**

THEORY 20

PRACTICALS 20

➤ VIVA VOCE **20**

TOTAL FOR THE SUBJECT 200 MARKS

PHYSIOLOGY THEORY

BLOOD

ESSAYS

1. ANEMIA-CLASSIFICATION
2. ERYTHROPOESIS WITH DIAGRAMS & ITS REGULATION**
3. BLOOD COAGULATION CASCADE-INTRINSIC & EXTRINSIC**
4. STEPS OF HEMOSTASIS
5. BLOOD GROUPS, TRANSFUSION & ITS COMPLICATION
6. LYMPH-FORMATION, FUNCTIONS, COMPOSITION & APPLIED PHYSIOLOGY
7. FIBRINOLYTIC SYSTEM-FLOW CHART*
8. CELLULAR AND HUMORAL IMMUNITY*

SHORT NOTES

1. T LYMPHOCYTES & FUNCTIONS
2. HELPER T-CELLS*
3. PLATELETS-PROPERTIES & FUNCTIONS*
4. ARNETH COUNT
5. CLOTTING FACTORS*
6. ORAL ANTICOAGULANTS
7. BLEEDING DISORDERS (PURPURA ETC..)
8. Rh INCOMPATIBILITY
9. LANDSTEINER'S LAW & CROSS MATCHING
10. FUNCTIONS OF RETICULOENDOTHELIAL SYSTEM
11. FUNCTIONS OF TISSUE MACROPHAGES
12. PROPERTIES OF WBC
13. FUNCTIONS OF B LYMPHOCYTES
14. STARLING'S LAW
15. PLASMAPHERESIS
16. EDEMA & ITS TYPES
17. HYPERTENSION IN POLYCYTHEMIA VERA & ITS COMPLICATIONS

PHYSIOLOGICAL BASIS

1. BLEEDING TIME IS PROLONGED BUT CLOTTING TIME IS NORMAL IN THROMBOCYTOPENIC PURPURA.WHY?

2. BLOOD CLOTS ARE NOT FORMED IN VASCULAR SYSTEM (IN VIVO)
3. BLEEDING IS MANIFESTED IN DEFICIENCY OF FACTOR VIII & IX THOUGH EXTRINSIC MECHANISM IS NORMAL
4. EDEMA MANIFESTED IN MALNUTRITION / HYPOPROTEINEMIA
5. BLEEDING MANIFESTATION IN LIVER DISEASE
6. POLYCYTHEMIA IN HIGH ALTITUDE

RESPIRATORY SYSTEM

ESSAYS

1. REGULATION OF RESPIRATION-NEURAL & CHEMICAL**
2. HYPOXIA
3. VITAL CAPACITY AND TIMED VITAL CAPACITY*
4. RESPIRATORY CHANGES IN EXERCISE
5. CARBON DIOXIDE TRANSPORT
6. OXYGEN TRANSPORT

SHORT NOTES

1. SURFACTANT, IRDS & ARDS*
2. COMPLIANCE*
3. SPIROGRAM-LUNG VOLUMES & CAPACITIES*
4. DEAD SPACE & MEASUREMENT*
5. INTRAPLEURAL & INTRAPULMONARY PRESSURE CHANGES WITH GRAPH*
6. CO₂ DISSOCIATION CURVE
7. LAPLACE LAW & ITS APPLICATION IN BLOOD VESSELS, LUNGS & URINARY BLADDER
8. NON RESPIRATORY FUNCTIONS OF LUNG
9. PULMONARY CIRCULATION*
10. ALVEOLAR AIR COMPOSITION
11. VENTILATION PERFUSION RATIO WITH GRAPH
12. RESPIRATORY MEMBRANE & FACTORS AFFECTING DIFFUSION
13. BOHR EFFECT & HALDANE EFFECT
14. CHLORIDE SHIFT
15. HEME-HEME INTERACTION
16. O₂ DISSOCIATION CURVE** (GRAPH, SHIFT TO RIGHT & LEFT)

17. ASPHYXIA
18. HYPERCAPNEOA
19. HERRING-BRUER REFLEX*
20. ACCLIMATIZATION
21. CHEYNE-STOKES BREATHING & BIOTS BREATHING
22. CYANOSIS
23. CAISSONS DISEASE OR DYSBARISM*
24. CAUSE OF NEGATIVITY OF IPP?
25. SIGNIFICANCE OF RV & FRC

PHYSIOLOGICAL BASIS

1. LUNG ALVEOLI ARE KEPT DRY NORMALLY
2. ALVEOLI DOES NOT COLLAPSE IN EXPIRATION
3. CYANOSIS IS DIFFICULT TO MANIFEST IN ANEMIA, WHY?
4. IRDS MORE PRONE IN CHILDREN OF DIABETIC MOTHERS, WHY?
5. TB AFFECTS LUNG APEX FIRST, WHY?
6. PERIPHERAL CHEMO RECEPTORS ARE NOT STIMULATED IN ANEMIA OR CO POISONING

GIT

ESSAYS

1. PHASES & REGULATION OF GASTRIC SECRETION*
2. BILE-COMPOSITION & REGULATION OF SECRETION
3. MOVEMENTS OF SMALL INTESTINE*
4. PANCREATIC JUICE & ITS REGULATION*
5. JAUNDICE& ITS TYPES.

SHORT NOTES

1. FUNCTIONS OF SALIVA
2. REGULATION OF SALIVARY SECRETION
3. DEGLUTITION-PHASES(2ND PHASE IMP)**
4. MIGRATING MOTOR COMPLEX &BER
5. CEPHALIC PHASE OF GASTRIC SECRETION *
6. MUCOSAL BARRIER*
7. HCL SECRETION(FIG)**
8. GASTRIC EMPTYING-FACTORS AFFECTING
9. GASTRIC JUICE AND ITS FUNCTIONS*
10. HUNGER CONTRACTIONS
11. DUMPING SYNDROME

12. ENTEROHEPATIC CIRCULATION (FIG)**
13. FUNCTIONS OF BILE*
14. GASTRIN*
15. SUCCUS ENTERICUS
16. MECHANISM OF VOMITING
17. DEFECATION REFLEX*
18. CCK-PZ
19. SHAM FEEDING
20. PERISTALSIS*
21. PEPTIC ULCER*
22. FUNCTIONS OF STOMACH
23. PARASYMPATHETIC INNERVATION OF SALIVARY GLAND*
24. MASS PERISTALSIS
25. CHYLOMICRONS
26. DIFFERENCE B/W LIVER BILE & GALLBLADDER BILE
27. ACHALASIA CARDIA
28. FUNCTIONS OF LARGE INTESTINE

PHYSIOLOGICAL BASIS

1. CLAY COLOURED STOOLS ARE SEEN IN OBSTRUCTIVE JAUNDICE
2. STEATORRHOEA IN ACUTE PANCREATITIS
3. MEGALOBlastic ANEMIA IN VIT B12 DEFICIENCY
4. ANAEMIA FOLLOWING PARTIAL GASTRECTOMY
5. POST PRANDIAL ALKALINE TIDE
6. DUODENAL ULCER CAN BE TREATED BY VAGOTOMY
7. ALCOHOL INTOXICATION CAN BE AVOIDED IF IT CONSUMED AFTER INGESTION OF DRINK RICH IN FAT

RENAL SYSTEM

ESSAYS

1. RENAL BLOOD FLOW-ITS REGULATION & SPECIAL FEATURES
2. GFR-MEASUREMENT VALUES, FACTORS AFFECTING
3. COUNTERCURRENT MECHANISM
4. Na⁺ REABSORPTION
5. WATER REABSORPTION*

6. GLUCOSE REABSORPTION, TUBULAR MAXIMUM, CLEARANCE AND SPLAY*
7. ACIDIFICATION OF URINE

SHORT NOTES

1. CORTICAL & JUXTAMEDULLARY NEPHRONS (DIFFERENCE)*
2. AUTOREGULATION OF RENAL BLOOD FLOW *
3. JUXTAMEDULLARY APPARATUS (FIG)*
4. COUNTER CURRENT EXCHANGERS-VASA RECTA*
5. TUBULOGLOMERULAR FEEDBACK & GLOMERULOTUBULAR BALANCE.(FIG)*
6. CLEARANCE VALUES & THEIR USES*
7. BARTTER'S SYNDROME
8. INNERVATION OF BLADDER -TABETIC, ATONIC,
9. AUTONOMIC BLADDER*
10. CYSTOMETROGRAM*
11. MICTURITION REFLEX*
12. OBLIGATORY & FACULTATIVE REABSORPTION
13. DIABETES INSIPIDUS
14. FUNCTIONS OF KIDNEY – ENDOCRINE & NON ENDOCRINE
15. DIFFERENCES BETWEEN OSMOTIC & WATER DIURESIS
16. DIURETICS*
17. SPECIAL FEATURES OF RENAL BLOOD FLOW
18. PAH CLEARANCE*
19. ROLE OF UREA IN CONCENTRATING URINE.
20. PAH & ITS CLEARANCE
21. INSULIN CLEARANCE & ITS SIGNIFICANCE

PHYSIOLOGICAL BASIS

1. RENAL MEDULLARY INTERSTITIUM&KEPT HYPERTONIC
2. FILLING AND EMPTYING OF URINARY BLADDER

CVS

ESSAYS

1. BP & ITS REGULATION*
2. CONDUCTING SYSTEM OF HEART
3. ORIGIN & SPREAD OF CARDIAC IMPULSE *
4. CARDIAC OUTPUT & ITS REGULATION*
5. CARDIAC CYCLE-PRESSURE & VOLUME CHANGES*
6. SHOCK AND ITS TYPES*
7. CVS CHANGES IN EXERCISE

SHORT NOTES

1. FIG PRESSURE WAVE FOR RIGHT & LEFT VENTRICLE
2. PACEMAKER POTENTIAL*
3. HEART BLOCK
4. STOKES ADAMS SYNDROME
5. SICK SINUS SYNDROME
6. PR INTERVAL & ITS SIGNIFICANCE-WENKEBACH PHENOMENON & WPW PHENOMENON
7. ARTERIAL PULSE
8. REGULATION OF STROKE VOLUME*
9. FICK'S PRINCIPLE-MEASUREMENT OF CARDIAC OUTPUT
10. CORONARY BLOOD FLOW-FEATURES & GRAPH*
11. BLOOD BRAIN BARRIER
12. CSF-FORMATIONS & FUNCTIONS*
13. REGULATIONS OF CEREBRAL BLOOD FLOW
14. CIRCUMVENTRICULAR ORGANS
15. TRIPLE RESPONSE & AXON REFLEX*
16. LAPLACE LAW-APPLICATIONS (IN CVS, RESPIRATION ETC.)*
17. CUSHING REFLEX & BEZOLD JARISH REFLEX*
18. BARORECEPTOR REFLEX & MARY'S LAW*
19. HEART SOUND*, ESP 2ND*
20. JUGULAR VENOUS PRESSURE*
21. FRANK STARLING'S LAW*
22. EINTHOVEN'S LAW & TRIANGLE

23. ECG-WAVES, INTERVALS & LEADS*

24. TYPES OF BLOOD VESSELS

25. WINDKESSEL EFFECT

PHYSIOLOGICAL BASIS

1. SUBENDOCARDIAL PORTION IS PRONE TO ISCHEMIA

2. RAPID THRADY PULSE SEEN IN HYPOVOLEMIC SHOCK

3. MANAGEMENT OF HYPERTENSION

4. INCREASED STROKE VOLUME DURING EXERCISE

5. WHY BRADYCARDIA SEEN IN INCREASED INTRACRANIAL TENSION?

6. CORONARY ARTERIES ARE PERFUSED DURING DIASTOLE

7. PALPATORY METHOD IS DONE BEFORE AUSCULTATORY METHOD IN MEASURING BP

8. IN THYROTOXICOSIS, SYSTOLIC BP INCREASED & DIASTOLIC BP DECREASED

9. VAGAL ESCAPE

10. BEZOLD-JARISCH REFLEX

11. SPLITTING OF HEART SOUNDS ARE MORE PROMINENT DURING INSPIRATION

12. HEART RATE INCREASES DURING INPIRATION

CNS

ESSAYS

1. PROPERTIES OF SYNAPSE & SYNAPTIC INHIBITION*

2. TOUCH RECEPTORS & PATHWAY *

3. TEMPERATURE PATHWAY

4. PAIN PATHWAY & CENTRAL ANALGESIC PATHWAY

5. PYRAMIDAL SYASTEM & LESIONS*

6. TRANSECTION OF SPINAL CORD- EFFECTS*

7. BASAL GANGLIA- FUNCTIONS, CONNECTIONS & LESIONS*

8. CEREBELLUM-FUNCTIONS,FUNCTIONAL DIVISIONS, CONNECTIONS & LESION
9. CEREBELLUM-FUNCTIONS,FUNCTIONAL DIVISIONS, CONNECTIONS & LESIONS*
10. FUNCTIONS OF HYPOTHALAMUS

SHORT NOTES

1. RENSHAW CELL INHIBITION*
2. SUBLIMINAL FRINGE
3. CLASSIFICATION OF RECEPTORS
4. GENERATOR POTENTIAL
5. LAW OF PROJECTION & PHANTOM LIMB
6. MONOSYNAPTIC REFLEX- STRETCH REFLEX*
7. STRUCTURE OF MUSCLE SPINDLE*
8. RECIPROCAL INNERVATION*
9. INVERSE STRETCH REFLEX*
10. WITHDRAWAL REFLEX*
11. PROPERTIES OF REFLEXES
12. ADEQUATE STIMULUS
13. REFERRED PAIN & THEORIES
14. BABINSKI'S SIGN
15. FUNCTION OF THALAMUS
16. SENSORY & MOTOR HOMUNCULUS*
17. DECORTICATE & DECEREBRATE RIGIDITY*
18. CHOREA, ATHETOSIS & BALLISM
19. HUNTINGTON'S DISEASE
20. PARKINSON'S DISEASE*
21. LEAD PIPE RIGIDITY & COG WHEEL RIGIDITY
22. LESIONS OF CEREBELLUM
23. FUNCTIONAL DIVISIONS OF CEREBELLUM*
24. LIMBIC SYSTEM
25. REGULATION OF FOOD INTAKE
26. CONDITIONED REFLEXES-TYPES
27. WERNICKE'S AREA & BROCA'S AREA
28. APHASIA & TYPES*
29. SUMMATION & OCCLUSION*
30. BROWN SEQUARD SYNDROME*
31. TYPES OF MEMORY-CONNECTIONS & FUNCTIONS
32. PAPEZ CIRCUIT
33. ARAS

34. EEG WAVES & ALPHA BLOCK
35. REM & NREM SLEEP*
36. UMN & LMN LESIONS- DIFFERENCES*
37. VESTIBULAR APPARATUS*
38. EPSP & IPSP
39. GATE CONTROL OF THEORY OF PAIN(FIG)*
40. EXTRAPYRAMIDAL TRACTS*
41. LESIONS OF INTERNAL CAPSULE*
42. CELL GROUPS IN GREY MATTER OF SPINAL CORD AT T6& FUNCTIONS
43. TEMPERATURE REGULATION- MECHANISMS
44. ROLE OF HYPOTHALAMUS IN TEMPARATURE REGULATION*
45. MECHANISM OF HEAT LOSS ON EXPOSURE TO HOT ENVIRONMENT

PHYSIOLOGICAL BASIS

1. SPASTICITY IN HEMIPLEGIA
2. POLYPHAGIA IN DIABETES MELITUS
3. PAIN CAN BE PERCEIVED EVEN AFTER REMOVAL OF SENSORY CORTEX
4. RIGIDITY & RESTING TREMOR IN PARKINSONISM

VISION

ESSAYS

1. VISUAL PATHWAY & FIELD DEFECTS DUE TO LESIONS AT VARIOUS LEVELS

SHORT NOTES

1. DUPLEX THEORY OF VISION
2. AQUEOUS HUMOR-PRODUCTION,CIRCULATION & FUNCTIONS
3. GLAUCOMA
4. ACCOMODATION*
5. NEAR RESPONSE
6. PUPILLARY REFLEXES*
7. ERRORS OF REFRACTION WITH DIAGRAMS*
8. ASTIGMATISM
9. DIFFERENCE B/W RODS & CONES*

10. ELECTRICAL EVENTS IN PHOTORECEPTORS
11. COLOUR VISION & THEORIES-YOUNG HELMHOLTZ THEORY*
12. COLOUR BLINDNESS*
13. DARK ADAPTATION*
14. NIGHT BLINDNESS*
15. MACULAR SPARING*
16. STRABISMUS
17. PRESBYOPIA*
18. ARGYLL ROBERTSON PUPIL

PHYSIOLOGICAL BASIS

1. RADIOLOGISTS USE RED GOGLES IN BRIGHT LIGHT
2. PITUITARY TUMORS CAUSE BITEMPORAL HEMIANOPIA
3. NEAR POINT RECEDES RAPIDLY WITH ADVANCING AGE

HEARING, SMELL & TASTE

SHORT NOTES

1. ORGAN OF CORTI*
2. AUDITORY PATHWAY*
3. FUNCTIONS OF MIDDLE EAR*
4. IMPEDENCE MATCHING*
5. TYMPANIC REFLEX*
6. CONDUCTION DEAFNESS & NERVE DEAFNESS*
7. VESTIBULO OCULAR REFLEX & NYSTAGMUS
8. THEORIES OF HEARING*
9. ENDOCOCHELEAR POTENTIAL
10. OLFACTORY PATHWAY*
11. STRUCTURE OF TASTE BUD
12. BASIC TASTE MODALITIES
13. TASTE PATHWAY*
14. DIAGRAMS OF
AUDITORY PATHWAY
OLFACTORY PATHWAY
TASTE PATHWAY
ORGAN OF CORTI

PHYSIOLOGICAL BASIS

1. REMOVAL OF ONE AUDITORY CORTEX DOES NOT CAUSE HEARING LOSS

REPRODUCTION

ESSAYS

1. MENSTRUAL CYCLE * - HORMONAL REGULATION (IMP)

SHORT NOTES

1. SPERMATOGENESIS & FACTORS INFLUENCING SPERMATOGENESIS*
2. BLOOD-TESTIS BARRIER*
3. DRAW & LABEL VERTICAL SECTION OF TESTIS AND FUNCTIONS OF EACH CELL
4. FUNCTIONS OF SERTOLI CELLS*
5. TESTICULAR FUNCTION & REGULATION
6. GRAPH OF MENSTRUAL CYCLE
7. LH SURGE*
8. GRAFFIAN FOLLICLE
9. ACTIONS OF OESTROGEN & PROGESTERONE
10. FOETOPLACENTAL UNIT*
11. FOETAL CIRCULATION-SPECIAL FEATURES
12. HORMONES OF PREGNANCY
13. MILK EJECTION REFLEX*
14. HORMONAL REGULATION OF LACTATION
15. CONTRACEPTION
16. ORAL CONTRACEPTIVE PILLS & MINI PILLS*
17. CRYPTORCHIDISM
18. FUNCTIONS OF TESTOSTERONE*
19. TESTS FOR PREGNANCY*
20. PHYSIOLOGICAL CHANGES DURING PREGNANCY
21. TESTS FOR OVULATION
22. REGULATION OF OVULATION*
23. OOGENESIS
24. PROLACTIN-ACTIONS

NERVE & MUSCLE PHYSIOLOGY

ESSAYS

1. EXCITATION CONTRACTION COUPLING
2. SLIDING THEORY
3. NEUROMUSCULAR JUNCTION & TRANSMISSION&(FIG)*

SHORT NOTES

1. ACTION POTENTIAL & ITS IONIC BASIS*
2. RESTING MEMBRANE POTENTIAL-IONIC BASIS*
3. CLASSIFICATION OF NERVE FIBERS
4. COMPOUND ACTION POTENTIAL
5. CHRONAXIE & RHEOBASE*
6. NEUROMUSCULAR JUNCTION*
7. WALLERIAN DEGENERATION*
8. MYASTHENIA GRAVIS
9. SIGNIFICANCE OF MOTOR UNITS*
10. ALL OR NONE PRINCIPLE*
11. TYPES OF MUSCLE FIBER
12. ISOMETRIC & ISOTONIC CONTRACTION
13. SARCOTUBULAR SYSTEM
14. ANTIDROMIC&ORTHODROMIC CONDUCTION
15. PLATEAU POTENTIAL*
16. DIFF. B/W AP & PLATE POTENTIAL
17. ROLE OF CALMODULIN IN SMOOTH MUSCLE CONTRACTION.
18. DISEASES OF NEUROMUSCULAR JUNCTION & NMJ BLOCKERS
19. TYPES OF SMOOTH MUSCLE-MULTI UNIT & SINGLE UNIT
20. PLASTICITY

PHYSIOLOGICAL BASIS

1. TETANUS NOT POSSIBLE IN CARDIAC MUSCLE?
2. PARATHYROIDECTOMY LEADS TO SIGNS OF NEUROMUSCULAR HYPER ACTIVITY
3. CALCIUM PLAYS A MAJOR ROLE IN SKELTAL MUSCLE RELAXATION
4. A NERVE DOES NOT RESPOND IF STIMULUS IS APPLIED DURING ARP

ENDOCRINOLOGY

ESSAYS

1. THYROID HORMONE-SYNTHESIS, ACTION, REGULATION & DISORDERS INSULIN-SECRETIONS, ACTION & REGULATION
2. INSULIN-SECRETION, ACTION & REGULATION
3. GLUCOCORTICOIDS – ACTION & REGULATIONS*
4. CALCIUM HOMEOSTASIS*
5. ADH-BIOSYNTHESIS, ACTION & REGULATIONS
6. MINERALOCORTICOIDS-FUNCTIONS, REGULATION & ABNORMALITIES
7. GROWTH HORMONE – ACTION, REGULATION & ABNORMALITIES

SHORT NOTES

1. MECHANISM OF HORMONAL ACTION
2. UPREGULATION AND DOWNREGULATION OF HORMONES
3. SOMATOMEDINS
4. NEUROENDOCRINE REFLEX WITH 2 EXAMPLES*
5. ACROMEGALY, GIGANTISM & DWARFISM*
6. PITUITARY DWARFISM VS THYROID DWARFISM
7. SYNTHESIS OF THYROID HORMONES
8. ACTION OF GH & REGULATION*
9. HYPERTHYROIDISM
10. MYXEDEMA
11. ANTITHYROID DRUGS
12. HORMONAL REGULATION OF GLUCOSE METABOLISM, SECOND MESSENGERS
13. WOLFF CHAIKOFF EFFECT
14. DIABETES MELLITUS-TYPES & CLINICAL FEATURES
15. GLUCAGON
16. CUSHING'S SYNDROME*
17. ADRENOGENITAL SYNDROME
18. REGULATION OF MINERALOCORTICOID SECRETION*
19. ADDISON'S DISEASE*
20. PERMISSIVE ACTION OF GLUCOCORTICOIDS
21. CIRCADIAN RHYTHM

22. ACTIONS OF THYROID HORMONE*
23. VIT-D ACTIONS*
24. PARATHYROID HORMONE-ACTIONS & REGULATIONS
25. HYPOCALCEMIC TETANY
26. CALCITONIN-ACTIONS*
27. ALDOSTERONE ESCAPE*
28. THYROID FUNCTION TESTS
29. DIABETES INSIPIDUS-TYPES
30. ROLE & REGULATION OF OXYTOCIN*
31. FEATURES OF EXCESS MINERALOCORTICOID SECRETION
32. RENIN-ANGIOTENSIN SYSTEM*
33. REGULATION OF GLUCOCORTICOID SECRETION
34. REGULATION OF ADH SECRETION*
35. INSULIN-RECEPTORS, REGULATION & FUNCTIONS
36. ADDISONIAN CRISIS
37. DIFFERENCES BETWEEN*
 - T3 & T4
 - CRETINISM & DWARFISM

PHYSIOLOGICAL BASIS

1. OSTEOPOROSIS IN CUSHINGS SYNDROME
2. MYXOEDEMA IN HYPOTHYROIDISM
3. EXOPHTHALMOS IN HYPERTHYROIDISM
4. HYPER EXCITABILITY IN TETANY

PHYSIOLOGY PRACTICALS

PHYSIOLOGY SPOTTERS

1. ECG WAVES
2. ACTION POTENTIAL IN CARDIAC MUSCLE
3. SPIROGRAM
4. PERIPHERAL SMEAR-PICTURES
5. ALL CNS PATHWAYS (SENSORY & PYRAMIDAL PATHWAYS)
6. ALL EXPERIMENTAL PHYSIOLOGY GRAPHS
7. EEG WAVES AND ALPHA BLOCK

8. CALCULATION OF GFR,RPF&RBF
9. CALCULATION OF BLOOD INDICES
10. CHROMOSOMAL ABNORMALITIES
11. NERVE SUPPLY OF URINARY BLADDER
12. SIGNS OF HYPOPARATHYROIDISM-CHVOSTEK'S SIGN&TROUSSEAU'S SIGN
13. IUCD-COPPER T AND LIPPE'S LOOP
14. OCP
15. PHACOSCOPE
16. SNELLENS CHART
17. MODEL OF EAR-SEMICIRCULAR CANALS & TYMPANIC MEMBRANE
18. INTRAPLEURAL & INTRAPULMONARY PRESSURE CHANGES
19. ENDOCRINE DISORDERS-MYXOEDEMA, HYPERTHYROIDISM, ACROMEGALY & CUSHING'S SYNDROME
20. PULSE PRESSURE AND DICROTIC NOTCH
21. VISUAL PATHWAY AND ITS LESION
22. EYEBALL MODEL
23. STRETCH REFLEX & INVERSE STRETCH REFLEX (FIG-6.6)
24. CEREBELLUM-CONNECTIONS
25. CONDUCTING SYSTEM OF HEART
26. ACTION OF EPINEPHRINE& NOR EPINEPHRINE ON BP (FIG-26.6)
27. JVP
28. PRESSURE &VOLUME CHANGES DURING CARDIAC CYCLE
29. NEPHRON
30. GRAPH SHOWING BONE CONDUCTION & AIR CONDUCTION
31. OXYGEN DISSOCIATION CURVE (ODC)
32. OPHTHALMOSCOPE
33. HYPOTHALAMIC PITUITARY GONADAL AXIS

SKILL TESTS

1. TRICEPS & BICEPS JERK
2. WEBER'S TEST, RINNE'S TEST

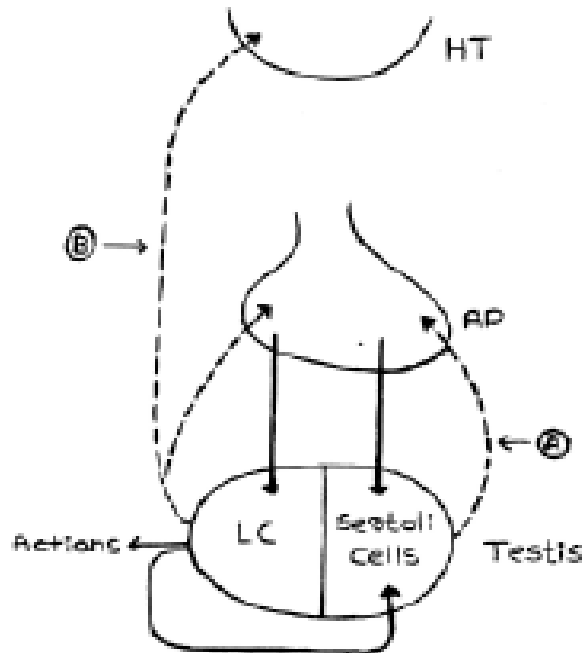
3. PUPILLARY REFLEX
4. VOCAL FREMITUS
5. FIELD OF VISION-CONFRONTATION TEST
6. SPINAL PART OF ACCESSORY NERVE
7. EXAMINATION OF PULSE
8. MOTOR ROOT OF TRIGEMINAL NERVE
9. MOTOR PART OF FACIAL NERVE
10. GAG REFLEX
11. CORNEAL & CONJUNCTIVAL REFLEX
12. DEMONSTRATE PLANTAR REFLEX
13. TEST CRANIAL NERVE 3,4,6,5,7

DO YOU KNOW.....

- ADRENOGENITAL SYNDROME
- BARTTER'S SYNDROME
- BROWN – SEQUARD SYNDROME
- CAROTID SINUS SYNDROME
- CHIARI-FROMMEL SYNDROME
- CUSHING'S SYNDROME
- DOWN SYNDROME
- DUMPING SYNDROME
- KALLMANN'S SYNDROME
- KLUVER-BUCY SYNDROME
- LOWN-GANONG-LEVINE (LGL) SYNDROME
- SHEEHAN'S SYNDROME
- SICK SINUS SYNDROME
- SYNDROME OF INAPPROPRIATE HYPERSECRETION OF ADH
- STOKES ADAMS SYNDROME
- WOLFF PARKINSON WHITE SYNDROME
- ZOLLINGER ELLISON SYNDROME
- ALL OR NONE LAW
- BELL-MAGENDIE LAW
- EINTHOVEN'S LAW
- LANDSTEINER'S LAW
- LAPLACE LAW
- STARLING'S LAW
- WEBER FECHNER LAW
- LAW OF PROJECTION

PHYSIOLOGY CHARTS

1.



- Name the hormone marked A. What is its action?
- Name the hormone marked B.

2. Calculate the vital capacity from the given data:

Tidal volume	-	500ml
IRV	-	3300ml
ERV	-	1000ml
RV	-	1200ml

3. A patient complaining of abdominal pain has kidney stones. When x-ray abdomen was taken, he also has multiple bone cysts.

- What is the probable condition?
- What is the cause for kidney stones?

4. A 50 year old man entered the doctor's room with short quick steps. The doctor smiled at him, but his face showed no expression. The doctor noticed the tremor of his hands.

- What is the diagnosis of this condition?
- Where is the lesion?

5. Calculate the MCHC from the given data.
PCV - 45%, Concentration of Hb - 13gm%
RBC count - 5×10^6 cells/mm³
6. A 60 year old woman came to a doctor complaining of diarrhea and excessive anxiety. On examination, the resting pulse rate was found to be 100 per minute. Her BMR was 55cal/hour/m².
a) What endocrine dysfunction may be responsible for the above disorder?
b) What is the likely cause for tachycardia in this patient?
7. Calculate the renal blood flow (RBF) from the given data.
RPF - 700ml/min
Hematocrit - 45%
8. Calculate the MCH from the data given.
Hb - 15gm%
RBC count - 5million/mm³
PCV - 45%
9. An 18 year old female was taken to a gynecologist for investigation of amenorrhea. On examination she is short statured, has webbing of neck, shield like chest, widely spaced nipples and poorly developed breasts. On USG of abdomen and pelvis, she has only rudimentary ovaries.
a) What is the clinical condition?
b) What is her chromosomal pattern?
10. A patient was admitted to the hospital with multiple fractures after a fall. His serum calcium was found to be 14mg%.
a) Dysfunction of which gland could have lead to this condition?
b) What will be the level of inorganic phosphate in the serum of this patient?
11. A 20 year old boy approached the doctor with complaints of weight loss inspite of increased appetite, tiredness, excessive thirst and passing large quantities of urine.
a) What can be the condition?
b) Mention one investigation to confirm the diagnosis.

12. A 50 year old man having DM of long duration is found in an unconscious state inside his room .he was taken to casualty .on testing his blood sugar it was found to be 530mg%,urine is acidic, blood lactic acid was normal.

- a) Write the cause for unconsciousness in this condition?
- b) Name the particular type of respiration found in this condition?

13. A 25 year old male complained back pain, gynaecomastia and lactation. On examination his hands and feet appeared to be enlarged he also has hirsutism and bi-temporal hemianopia.

- a) What is the condition known as?
- b) Which is the gland involved?

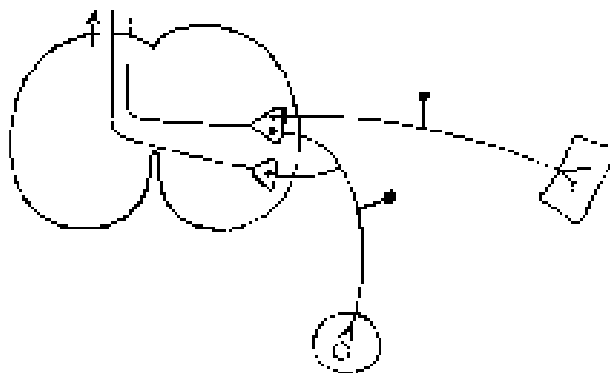
14. A middle aged man approached the doctor with complaints of difficulty in walking, tremor of hands and a tendency to fall on to the left side. On examination the doctor noticed that he had drunken gait and intention tremor.

- a) What is the diagnosis?
- b) Mention a condition in which resting tremor is obtained?

15. A middle aged lean man was admitted to the hospital with complains of tiredness and pigmentation of skin, face and mucous membrane of the mouth of recent onset.

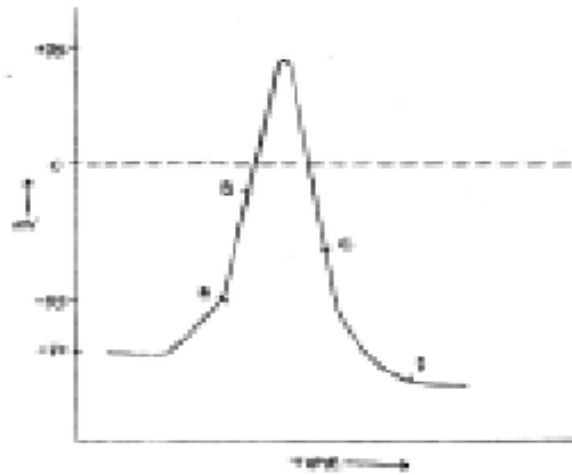
- a) What is the diagnosis?
- b) What are the caused of hyper pigmentation?

16)



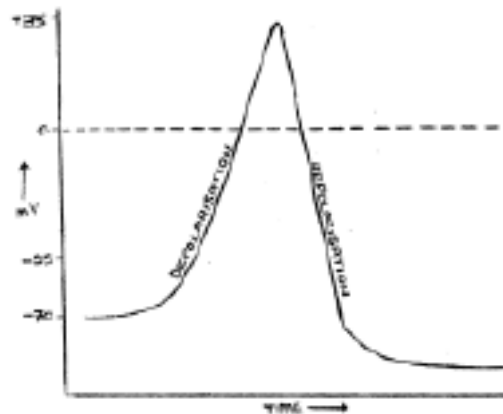
- a) Name the theory of referred pain represented by this diagram.
- b) Give 2 examples of referred pain.

17)



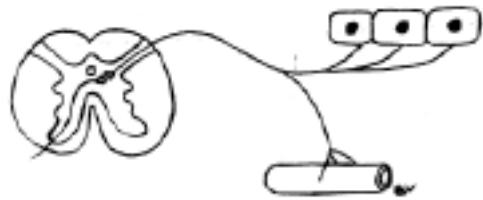
- a) Identify the diagram.
b) Name the phases B and D.

18.



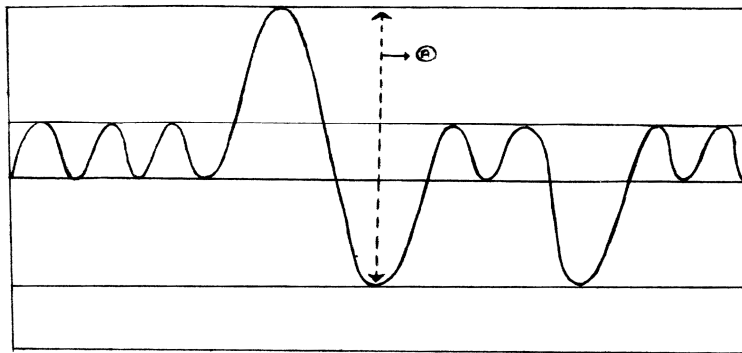
What is the cause for depolarisation and repolarisation?

19.



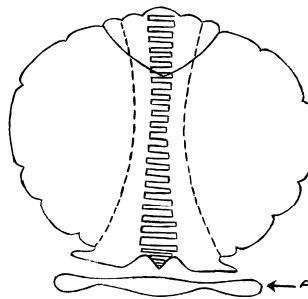
- a) What type of conduction is shown here?
 b) What is axon reflex?
20. a) What is the normal duration of PR interval?
 b) Name a condition where PR interval is prolonged.
21. EEG
 a) Identify the recording.
 b) Which occurs in children?

22.



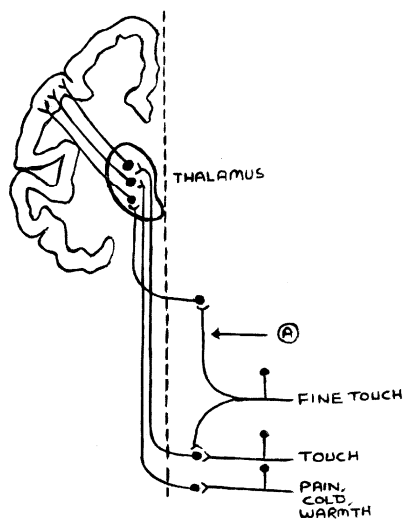
- a) What does A represent?

23.



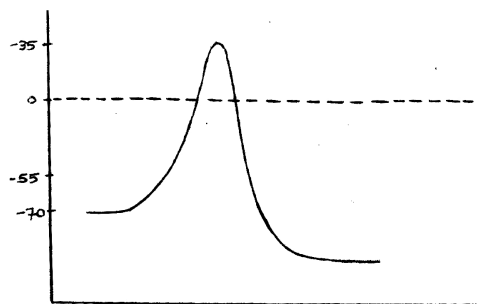
- a) Identify the structure.
 b) What does A denote and mention its function?

24.



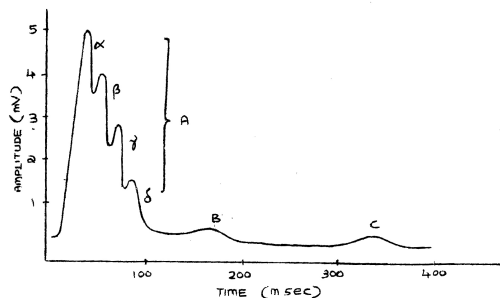
- Identify the tract A.
- Mention 2 other sensations carried by the tract A.

25.



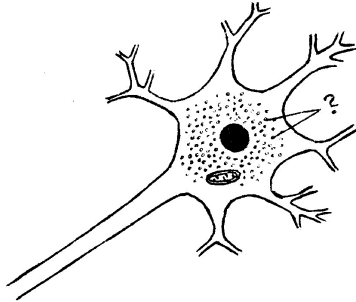
- Identify the diagram.
- Name 2 tissues in which this is seen.

26.



- Name the fibre that carries pain sensation.
- Which fibre has minimum conduction velocity?

27.



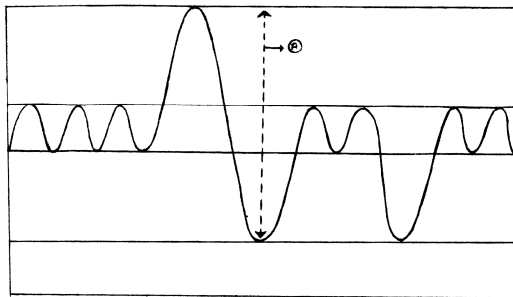
- a) Identify the structure marked.
- b) Give its function.

28. heart with conducting system

- a) Identify A(AVN)
- b) Which part has more conduction velocity?

- 29.
 - a) How much is EDV?
 - b) What is its significance?

30.

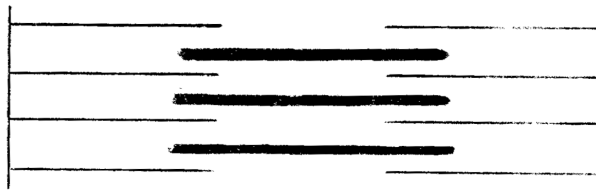


- a) What does A represent?
- b) Give its normal value.

- 31.
 - a) Identify the clinical condition.
 - b) What is the cause for this condition?

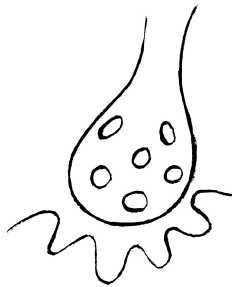
32. Smooth muscle – name 2 special characteristics of smooth muscle.

33.



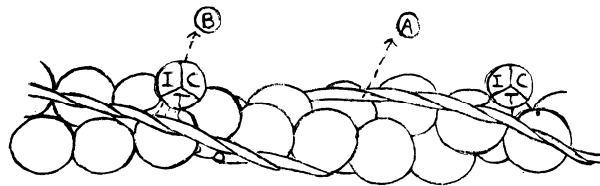
- a) Identify.
 b) What happens to width of A band and I band during contraction?

34.



- a) Identify.
 b) Name the type of cholinergic receptors.

35.

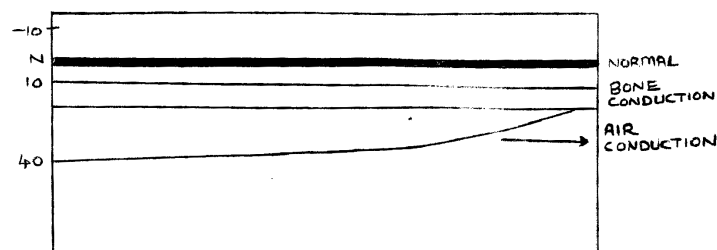


- a) Identify A and B.
 b) Why are they relaxing proteins?

36. NMJ – 2 differences between EPP and AP.

37. Location of sarcotubular system in skeletal muscle.

38.



- a) Identify the graph.

- b) Name a test to differentiate between air conduction and bone conduction.
39. a) How much is the maximum pressure in right ventricle during systole?
b) What is orthopnoea?
40. a) Name the enzyme involved in activating the neurotransmitter.
b) Identify.
41. Myxedema – Cause of edema in myxedema.
42. a) Maximum pressure in left ventricle during systole.
b) What is pheochromocytoma?
43. a) In which chest lead, maximum amplitude of R wave is seen?
b) Name the unipolar lead.
44. a) Name 2 diseases affecting NMJ.
b) Name 2 NM blocking drugs.
45. Sarcomere
a) Identify.
b) Resting length of sarcomere.
46. Cushing's syndrome
a) Identify the clinical syndrome
b) Mention the cause of edema
47. Exophthalmos
a) Identify the clinical condition
b) Mention the BP changes that occurs in this condition
48. A 55year old man came to doctor and complained of headache and difficulty in driving the car as he is not able to see the vehicles on the right and left side. On examination the doctor noticed that his palms were rather large
a) What can be the probable diagnosis?
b) Which organ is at fault?
49. A young lady belongs to AB Rh –ve blood group. She needs a blood transfusion after a car accident.
a) What are the types of donors who might be considered for blood transfusion for her?
50. ECG
a) What is the normal duration of PR interval?
b) Name the condition in which PR interval is increased.

51. NMJ

- a) Identify the diagram
- b) Name the type of cholinergic fibres

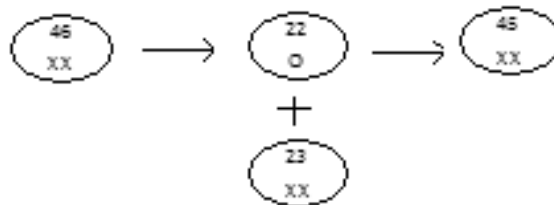
52. ODC

- a) What is P_{50} ?
- b) Give the normal value of P_{50} .

53. heart with conducting system

- a) Identify A(SAN)
- b) Give the duration of nodal delay.

54.



- a) What is the chromosomal abnormality?
- b) What are the salient features?

55. Tract for fine touch

- a) Identify the tract
- b) Mention 2 sensations carried by the tract

56. Spike potential

- a) Identify
- b) Phases
- c) Name 2 tissues where it is seen

57. Compound action potential

**First Professional MBBS Degree Examination,
September-2011**

PHYSIOLOGY –PAPER I

Time: 3 hrs

Max marks:50

Long essay

1. A 55 year old obese man complained of headache, giddiness, irritability for the last two months. On examination by a doctor, his BP was found to be 130/100 mm Hg by auscultatory method. Three days later he visited another doctor. According to him, his BP was found to be 170/100 mm Hg after using both palpatory and auscultatory methods.
2. What is the correct BP in the patient and why
3. What is the cause for this difference in the recording
4. Define mean arterial pressure & pulse pressure giving their values
5. Describe the possible renal mechanism causing hypertension
6. Mention the physiologic basis for management of hypertension
(2+2+2+2+2=10)

Short essay

(2x5=10)

7. Describe the role of chemo-receptors in regulation of respiration
8. Describe the functions and regulations of pancreatic juice secretion

Write Briefly on

(5x3=15)

9. Special features of coronary circulation
10. Vital capacity and timed vital capacity as lung function tests
11. Role of lymphocytes in immune functions
12. Intrinsic mechanism of coagulation
13. Renal plasma clearance values for inulin, PAH and glucose giving their significance

Draw and label

14. Right ventricular pressure curve during a normal cardiac cycle
15. Figure showing counter current multiplier & exchange system in renal tubules

**Explain the physiological basis of the following
(5x2=10)**

16. Anaemia following partial gastrectomy
17. Post prandial alkaline tide
18. Filling and emptying of urinary bladder
19. Caisson disease or decompression sickness
20. Purpura and Hemophilia

**First Professional MBBS Degree Examinations, Sept 2011
PHYSIOLOGY –PAPER II****Time:3 hrs****Max marks:50****Long essay**

1. A 50 year old male comes with the history of difficulty to walk. On examination there is rigidity and resting tremors. His gait is abnormal
 - What is your diagnosis
 - How do you describe this rigidity and the resting tremor and explain their physiological basis
 - Name the parts of brain involved
 - Describe the important functional connections**(1+3+2+4=10)**

Short essay**(2x5=10)**

2. Describe the endometrial changes during a normal menstrual cycle and their hormonal regulation
3. List any four functions of hypothalamus and explain any one

Write briefly on**(5x3=15)**

4. Milk ejection reflex
5. Disynaptic reflex
6. Mechanism of action of steroid hormones
7. Decerebrate rigidity
8. Functions of vestibular apparatus

Draw and label**(2x2 1/2=5)**

9. Cortico spinal tract
10. Auditory pathway

Explain the physiological basis of the following

(5x2=10)

11. Exophthalmos is a clinical feature of thyroid dysfunction
12. Sertoli cells are important in spermatogenesis
13. Calcium plays a major role in skeletal muscle relaxation
14. Near point of vision recedes rapidly with advancing age
15. Parathyroidectomy leads to signs of neuromuscular hyperexcitability

MODEL QUESTION PAPER

First Professional MBBS Degree Examination

Paper - I PHYSIOLOGY

Time: 3 hrs

Max marks: 50

Long essay

1. A 40 years old obese women complained of repeated attacks of right hypochondrial pain and yellow coloration of eyes. Her serum bilirubin -15mg/dl Vanderberg test was direct positive and serum alkaline phosphatase was 50 IU.
 - Give the most appropriate name of this clinical condition.
 - What is the life span of RBC and how do you measure it?
 - List the steps of breakdown of Haemoglobin

(1+3+6=10 marks)

Short Essay:

2. Discuss the factors affecting Glomerular Filtration Rate. Mention one abnormal condition when GFR is decreased

(4+1=5 marks)

3. Explain the transport of Carbondioxide in blood **(5 marks)**

Write briefly on:

4. Function of Large intestine
5. Gastric emptying
6. Formation and functions of Lymph
7. Micturition Reflex

8. Role of Hypothalamus in Temperature regulation

(5x3=15 marks)

Draw and label:

9. Normal E C G in Lead II
10. Juxtaglomerular apparatus

(2x2½ =5 marks)

Explain the physiological basis of the following:

11. Post prandial alkaline tide
12. Clotting of blood does not occur In-vivo normally
13. Coronary arteries are perfused during diastole
14. Hypersmolarity of renal medullary interstium
15. Lung alveoli are kept dry normally

(5x2 = 10)

MODEL QUESTION PAPER

First Professional MBBS Degree Examination

Paper - I PHYSIOLOGY

Time: 3 hrs

Max marks: 50

Long essay

1. A 60 year old man was brought to the casualty with the complaints of sudden onset of inability to move his right upper limb and lower limb. He gave a history of treatment for hypertension since 10 years. On examination he presented with Hemiplegia with UMN facial nerve palsy of the right side
- Name the tract affected in this patient
 - Mention the most probable site of lesion
 - Trace the affected pathway with the help of a diagram
 - State the differentiating features of Upper Motor Neurons and Lower Motor Neuron lesions
 - Comment on the tone of the muscles of the affected side

(1+1+4+2+2=10 marks)

Short Essay:

2. Give an account of visual pathway. What is the effect of a lesion of right optic tract?
3. Discuss the hormonal regulation of blood calcium level

(2x5=10 marks)

Write briefly on:

4. Pathway of pain from the face
5. Theories of hearing
6. Role of nigrostriatal pathway in regulating cortical activity

7. Hormonal control of lactation
8. Second Messengers

(5x3=15 marks)

Draw and label:

9. Organ of Corti
10. Hormonal changes during normal menstrual cycle.

(2x2½ =5 marks)

Write short notes on:

11. Actions of aldosterone
12. Impedence matching
13. Functions of sertoli cells
14. Sarcomere
15. Pre Synaptic Inhibition

(5x2=10 marks)

**First Professional MBBS Degree Supplementary Examinations,
March-2012**

PHYSIOLOGY –PAPER I

Time:3 hrs

Max marks:50

Long essay

1. A 50 year old male comes with the history of difficulty in breathing. Auscultation revealed rhonchi in all lung fields. Patients pulmonary function test revealed

FVC decreased

FEV1 = 60%

- What is FVC and FEV1
 - Give the normal values of FVC and FEV1
 - Describe the physiological basis for this change of FEV1
 - What is probable clinical condition
 - What is the significance of FEV1
- (2+1+2+2+3=10)**

Short essay

(2x5=10)

2. Describe the morphology, properties and functions of platelets.
3. Describe the function and regulation of Hydrochloric acid secretion.

Write briefly on

(5x3=15)

4. Right atrial pressure changes

5. Synthesis and functions of surfactant
6. Role of juxta glomerular apparatus in the regulation of ECF volume.
7. Rh factor and its clinical significance.
8. Phases of deglutition.

Draw and label**(2x2½=5)**

9. The effect of temperature and pH on oxygen dissociation curve.
10. Normal ECG

Explain the physiological basis of the following**(5x2=10)**

11. Atonic bladder
12. Megaloblastic anaemia in vitamin B12 deficiency
13. Acclimatization in high altitude.
14. Mouth to Mouth respiration is the best form of artificial respiration.
15. Steatorrhoea in acute pancreatitis

**First Professional MBBS Degree Supplementary Examinations
March-2012****PHYSIOLOGY –PAPER II****Time:3 hrs****Max marks:50****Long essay**

1. A 35 year old female visits a clinic with the complaints of weight gain, hoarseness of voice and irregular periods for the past 3 months. Her blood investigations showed decrease in the T3 and T4 levels and increase in TSH level.
 - What is the clinical diagnosis?
 - Describe the clinical features and their physiological basis.
 - Discuss the steps involved in the synthesis of the hormone.
 -

(2+5+3=10)**Short essay****(2x5=10)**

2. Role of aldosterone in maintaining ECF sodium concentration.
3. Tests for ovulation.

Answer briefly**(5x3=15)**

4. Functions of CSF.
5. Cushing's syndrome
6. Impedence matching
7. Adaptation of receptors.
8. Functions of oestrogen.

Draw and label**(2x2½=5)**

9. Visual pathway.
10. Stretch reflex and inverse stretch reflex.

Explain the physiological basis of the following**(5x2=10)**

11. Lactation amenorrhea.
12. Maximal visual acuity occurs at the fovea centralis.
13. Fever during infection.
14. Broad based gait in cerebellar lesion
15. Hearing is impaired during severe cold or sore throat.

First Professional MBBS Degree Examination, August 2012**PHYSIOLOGY –PAPER I****Time: 3 hrs****Max marks:50****Long essay**

1. A 60 year old man presented with acute retro sternal chest pain radiating to the inner aspect of left arm. The ECG showed ST segment elevation in some of the leads.
 - What is the most probable diagnosis
 - What are the other ECG changes that may occur in this condition
 - Explain the leads used in recording ECG
 - With the help of diagram describe the waves, intervals and segments of normal ECG recording in Lead I

(1+1+2+6=10)**Short essay****(2x5=10)**

2. Describe the mechanism of water reabsorption from the different parts of renal tubules

3. Explain the neural regulation of respiration

Write Briefly on**(5x3=15)**

4. Peptic ulcer
5. Rh blood grouping system
6. Micturition reflex
7. Hypoxia
8. Hypovolemic shock

Draw and label**(2x2 1/2=5)**

9. O₂-Hb dissociation curve
10. Pacemaker potential

Explain the physiological basis of the following (5x2=10)

11. Clotting occurs when blood is kept in a glass tube
12. Steatorrhoea occur after pancreatectomy
13. Alveoli do not collapse during expiration
14. Anemia is seen in patients with renal disease
15. Edema in hypoproteinemia

First Professional MBBS Degree Examinations, August 2012
PHYSIOLOGY –PAPER II

Time:3 hrs**Max marks:50****Long essay**

1. A 50 year old male comes with the history of difficulty to walk. On examination there is rigidity and resting tremors. His gait is abnormal
 - What is your diagnosis
 - How do you describe this rigidity and the resting tremor and explain their physiological basis
 - Name the parts of brain involved
 - Describe the important functional connections

(2+5+3=10)**Short essay****(2x5=10)**

2. Describe the endometrial changes during a normal menstrual cycle and their
3. hormonal regulation
4. List any four functions of hypothalamus and explain any one

Write briefly on

(5x3=15)

5. Milk ejection reflex
6. Disynaptic reflex
7. Mechanism of action of steroid hormones
8. Decerebrate rigidity
9. Functions of vestibular apparatus

Draw and label

(2x2 1/2=5)

10. Cortico spinal tract
11. Auditory pathway

Explain the physiological basis of the following

(5x2=10)

12. Exophthalmos is a clinical feature of thyroid dysfunction
13. Sertoli cells are important in spermatogenesis
14. Calcium plays a major role in skeletal muscle relaxation
15. Near point of vision recedes rapidly with advancing age
16. Parathyroidectomy leads to signs of neuromuscular hyperexcitability

BIOCHEMISTRY

TOPIC DIVISION

THEORY

PAPER I

INTRODUCTION
BIOMOLECULES
ENZYMOLGY
DIGESTION AND ABSORPTION OF NUTRIENTS
METABOLISM OF CARBOHYDRATE , PROTEIN
& LIPID
TCA CYCLE & ETC

PAPER II

HAEMOGLOBIN
VITAMINS & MINERALS
MAINTANENCE OF HAEMOSTASIS
PLASMA PROTEINS & IMMUNOGLOBULINS
XENOBIOTICS
NUCLEIC ACID & MOLECULAR BIOLOGY
BIOCHEMISTRY OF CANCER
CLINICAL BIOCHEMISTRY

PATTERN OF EXAM

- THEORY
2 PAPERS X 50 MARKS 100

- PRACTICALS
SPOTTING,QUALITATIVE, QUANTITATIVE, CHART,
RECORD 40

- INIERNAL ASSESMENT
THEORY 20
PRACTICALS 20

- VIVA VOCE 20

TOTAL FOR THE SUBJECT 200 MARKS

BIOCHEMISTRY THEORY

NB: PAGES INDICATED ARE FROM 'TEXTBOOK OF BIOCHEMISTRY' BY Dr. VASUDEVAN & Dr. SREEKUMARI - 6TH Edition

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BIOCHEMISTRY -CODES

- ESSENTIAL AMINO ACIDS

“MATT VILL PHLy

METHIONINE,
 TRYPTOPHAN, THREONINE, VALINE, ISOLEUCINE,
 LEUCINE, PHENYLALANINE, LYSINE,
 SEMI ESSENTIAL – ARGININE & HISTIDINE

➤ **CLASSIFICATION OF ENZYMES****“OTHLIL”**

OXIDOREDUCTASE
 TRANSFERASES
 HYDROLASES
 LYASES
 ISOMERASES
 LIGASES

➤ **GLYCOGEN STORAGE DISORDERS****“VP CAN ACCOMMODATE MORE HEAT THAN 89”**

VON GIERKES DISEASE
 POMPE DISEASE
 CORI DISEASE
 ANDERSONS DISEASE
 MC ARDLES DISEASE
 HERS DISEASE
 TARUIS DISEASE
 TYPE 8
 TYPE 9

ABCD

ANDERSON'S DISEASE – BRANCHING ENZYME
 CORI'S DISEASE – DEBRANCHING ENZYME

➤ **BETA OXYDATION OF FATTY ACID**

“FAST & FURIOUS ENZYME HYDROLISE KARBON FORMS ACID” ($\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}_2\text{CO}_3$ **CARBONIC ANHYDRASE**)

FATTY ACID
 FATTY ACYL CoA
 ENOYL CoA
 β -HYDROXY FATTY ACYL CoA
 β -KETO FATTY ACYL CoA
 ACETYL CoA

➤ **DE NOVO SYNTHESIS OF FATTY ACID**

“ANTONY & COMPANY MAKES ALL MAHE BEERS
 ACETYL CoA
 CO_2

MALONYL CoA
 ACYL-S-(CE) + MALONYL CoA
 ACETOACETYL ACP
 β -HYDROXY BUTYRYL ACP
 ENOYL ACP
 BUTYRYL ACP

➤ **β α β H_{AB}IGH SCHOOL**

GET FRIENDS & KIND TEACHER'S SHORT NOTES

β GLUCOSIDASE – GAUCHER'S
 α GALACTOSIDASE – FABRY'S
 β GALACTOSIDASE – KRABBE'S
 HEXOSAMINIDASE A – TAY SACHS
 HEXOSAMINIDASE A&B – SANDHOFF'S
 SPHINGOMYELINASE – NEIMANN-PICK

➤ **GARROD'S TETRAD**

A CAP

ALKAPTONURIA
 CYSTINURIA
 ALBINISM
 PENTOSURIA

➤ **CITRIC ACID CYCLE**

"CRICKET COUNCIL OF INDIA OFTEN APPOINTS SMART STENOS FOR MAIN OFFICE"

CITRATE
 CIS ACONITATE
 ISO CITRATE
 OXALO SUCCINATE
 ALPHA KETO GLUTATARATE
 SUCCINYL CO A
 SUCCINATE
 FUMARATE
 MALATE
 OXALOACETATE

➤ **PORPHYRIAS**

ACUTE PORPHYRIA HEREDITARLY PROGRESS IN HEALTHY PERSONS

ACUTE INTERMITTENT PORPHYRIA
 CONGENITAL ERYTHROPOIETIC PORPHYRIA
 PORPHYRIA CUTANEA TARDA
 HEREDITARY PORPHYRIA

PORPHYRIA VARIEGATA
HEREDITARY PROTOPORPHYRIA

- ACUTE PHASE PROTEINS
CRPC ACT 1/AT

C-REACTIVE PROTEIN
CERULOPLASMIN
ALPHA-1-ANTI-TRYPSIN

- FUNCTIONS OF VITAMIN C

“Hai Try To Illustrate Some Horrible Functional Properties of Ascorbicacid – C”

HYDROXYLATION OF PROLINE AND LYSINE
TRYPTOPHAN METABOLISM
TYROSINE METABOLISM
IRON METABOLISM
STEROID SYNTHESIS
HEMOGLOBIN
FOLIC ACID METABOLISM
PHAGOCYTOSIS
ANTI OXIDANT PROPERTY
CATARACT

- DEFICIENCY MANIFESTATIONS OF Vit C
SHOBA

SCURVY
HEMORRHAGIC TENDANCY&INTERNAL
HEMORRHEGE
ORAL CAVITY
BONES & BARLOW'S DISEASE
ANEMIA

- FUNCTIONS OF CALCIUM

“BILAL.T.M – A NSS VOLUNTEER OF CMC”

BONE AND TEETH
MUSCLES
ACTIVATION OF ENZYMES
NERVES
SECRETION OF HORMONES
SECOND MESSENGER
VASCULAR PERMIABILITY
COAGULATION
MYOCARDIUM
CALCIUM- CALMODULIN COMPLEX

- ASSEMBLY OF PURINE RING FROM VARIOUS SOURCES
“AS PER GLUING METHYL GROUPS IN CYCLE”
 - ARGINE GROUP OF ASPARTATE
 - FORMYL THFA
 - AMIDE N OF GLUTAMINE
 - METHENYL THFA
 - GLYCINE
 - RESPI RATORY CO₂
- INHIBITORS OF DNA REPLICATION
“CNN MADE FOR U”
 - CIPROFLOXACIN
 - NALIDIXIC ACID
 - NOVOBIOCIN
 - 6-MERCAPTOPURINE
 - ADRIAMYCIN
 - DOXORUBICINE
 - ETOPOSIDE
 - 5-FLUORO URACIL
- INHIBITORS OF RNA SYNTHESIS
“RAMA”
 - RIFAMPICIN
 - ACTINOMYCIN
 - MITOMYCIN
 - ALPHA AMANITIN & 3'DEOXY ADENOSINE
- TUMOR MARKERS
“PARENT TOUGHT CHILD ABC”
 - PROSTATE SPECIFIC ANTIGEN
 - TISSUE POLYPEPTIDE ANTIGEN
 - CANCER ANTIGEN 125
 - ALPHA FETOPROTEIN
 - BETA-HCG
 - CARCINOEMBRYONIC ANTIGEN
- BLOTTING
 - NORTH – ROTTI** - RNA
 - SOUTH – DOSA** - DNA
 - WESTERN – PIZZA** - PROTEIN

SPOTTERS

1. ESBACHS ALBUMINOMETER – ALBUMIN IF PRESENT
PRECIPITATE AT THE BOTTAM
2. URINOMETER – FOR DETERMINING SPECIFIC GRAVITY OF
URINE
3. pH METER – USE AND ITS PARTS
4. LOVIBOND pH COMPARATOR
5. FOLIN WU TUBE
6. COLOURIMETER USES, PARTS, PRINCIPLE & PROCEDURE
7. RYLES TUBE – INDICATIONS, MARKINGS & COMPLICATIONS
8. VERTICAL&HORIZONTAL ELECTROPHORETIC TANK
9. CLINISTIX REAGENT STRIPS – IDENTIFICATION OF GLUCOSE
SAMPLE IN URINE, PRINCIPLE
10. ELECTROPHORETOGRAM-MULTIPLE MYELOMA
11. PAPER CHROMATOGRAPHY
12. STRUCTURES OF HEMIN,CHOLESTEROL&OSAZONES
13. COMMENT ON GTT,MINI GTT &FRACTIONAL TEST MEAL
14. REAGENTS {INGREDIENTS,USE&PROCEDURE}
 - ❖ BENEDICTS REAGENT - BLUE
 - ❖ BARFOEDS REAGENT – BLUISH GREEN
 - ❖ EHRLICH'S REAGENT - COLOURLESS
 - ❖ BENEDICTS URIC ACID REAGENT
 - ❖ MOLISCH REAGENT
 - ❖ FOUCHETS REAGENT
 - ❖ BENZEDINE REAGENT
 - ❖ SELIWANOFFS REAGENT
15. TESTS[PRINCIPLE,PROCEDURE&USE]
 - ❖ ALL RING TESTS (MOLISCH, ALDEHYDE,
ROTHERA'S)
 - ❖ SPECIFIC UREASE TEST
 - ❖ HAY'S TEST
 - ❖ MODIFIED FOUCHETS TEST
 - ❖ SCHIFFS TEST
 - ❖ BENEDICTS URIC ACID TEST
 - ❖ BARFOEDS TEST
 - ❖ XANTHOPROTIC TEST
 - ❖ MODIFIED NEUMANN'S TEST
 - ❖ MILLON'S TEST
 - ❖ BIURET TEST
16. SPECTROSCOPY (IDENTIFY BASED ON COLOUR)
 - ❖ OXY Hb
 - ❖ DEOXY Hb
 - ❖ MET Hb

- ❖ GLOBIN HAEMOCHROMOGEN
- 17. INDICATORS[USE,PH RANGE,COLOUR]
 - ❖ PHENOL RED
 - ❖ CHLOROPHENOL RED
 - ❖ THYMOL BLUE
 - ❖ PHENOLPHTHALEIN
 - ❖ BROMOCRESOL GREEN
 - ❖ TOPFERS REAGENT
- 18. NUTRITION [BIOLOGICAL VALUE]
 - ❖ MILK 84
 - ❖ EGG 90
 - ❖ WHEAT 58
 - ❖ BENGAL GRAM 58
 - ❖ HORSE GRAM
 - ❖ RICE 64

CHART DISCUSSION

CHART NO:1

An adult male came to a hospital with symptoms of flushing and frequent diarrhoea.on analysis,urine showed the level of 5HIAA as 480mg/day.

- a. what is your dignosis
- b. give the normal daily excretion of 5HIAA
- c. give the precursor aminoacid of 5HIAA and its site of production
- d. mention the biochemical defect
- e. name a biochemical defect usually seen with this syndrome
- f. give the names of some MAO inhibitors

CHART NO:2

A child of 5 year old was brought to the hospital with enlarged abdomen.on examination,findings were enlarged liver,hypoglycemia,increased level of serum uric acid and hyperlipidemia.no change in glucose level was noted after the administration of glucagon.

- a. give the probable diagnosis
- b. name the enzyme deficient in this condition
- c. which is chacteristic finding in this condition.why?
- d. how will you treat the patient?
- e. mention two complications

CHART NO:3

These are the finding of a patient after hunger strike.
blood sugar level-56mg
pHh of blood-7.2

benedict's test –negative

rothera's test-positive

- a. what is probable diagnosis
- b. give reasons for your diagnosis
- c. mention the conditions caused by the accumulated product in this body

CHART NO:4

A 10 year old child was brought to the op with complaints of retarded growth, delayed milestones and cataract. urine was negative with benedict's test but not with glucose oxidase method.

- a. give probable diagnosis
- b. which is the enzyme deficient in this child
- c. give the reasons for development of cataract.
- d. how will you confirm the diagnosis

CHART NO:5

A patient was admitted with acute abdominal pain. serum examination showed elevated levels of amylase and lipase. urinary amylase was also elevated.

- a. give the probable diagnosis
- b. mention the hormones produced by the organ affected and their actions
- c. name the enzymes present in its secretions

CHART NO:6

A mother sought medical care for her child with the complaints that the diapers used for the child stained dark. on analysis, benedict's test was positive, glucose oxidase test was negative and ferric chloride test positive

- a. give the diagnosis
- b. mention the biochemical defect
- c. what is reason for blackening of urine. why is it accelerated in sun light
- d. how will you treat the patient
- e. name another relevant positive test in this case

CHART NO:7

A fat chubby boy with mental retardation was brought to the hospital. blood examinations showed increased level of serum phenyl alanine, phenyl pyruvate and phenyl acetate

- a. what is your diagnosis
- b. name the enzyme deficient in condition
- c. which is the test used to detect phenyl ketones in blood

- d. name the rapid screening test in this condition
- e. how will you treat the patient

CHART NO:8

The following are findings on analysis-serum ldh and sgot elevated. but liver function tests are normal

- a. identify the condition
- b. which are the enzymes used to detect this condition. give their normal serum level
- c. which is the most specific laboratory finding in this condition

CHART NO : 9

Identify the acid –base status of patient

blood pH	- 7.55
pCO ₂	-40mm of hg
plasma HCO ₃	-38meq/l
H ₂ CO ₃	-1.35meq/l

- a. give your diagnosis?
- b. mention two conditions where such a situation is seen

CHART NO : 10

Identify the acid base status of the patient

Blood pH	-7.2
pCO ₂	-80 mm of Hg
plasma HCO ₃	-27 meq/l
H ₂ CO ₃	-2.7 meq/l

- a. give reasons for your diagnosis
- b. mention two condition where such a situation is seen

CHART NO:11

Identify the acid-base status of patient

BLOODpH	- 7.4
pCO ₂	-40mm of Hg
HCO ₃ -	-27meq/l
H ₂ CO ₃	-1.35meq/l

- a. give reasons for your answer

CHART NO:12

Identify the acid-base status of patient

Blood pH	-7.55
pCO ₂	-20mm of Hg
plasma HCO ₃	-27 meq/l
H ₂ CO ₃	-0.68meq/l

- a. give reasons for.your diagnosis

- b. give the normal values
- c. mention two situation in which this condition is seen

CHART NO:13

A patient was found to excrete high amount of creatine. serum creatine kinase is also elevated

- a. what is your interpretation
- b. what does a fall in cpk in this patient indicate
- c. name a disorder affecting the same organ in which cpk level will be normal

CHART NO:14

These are the findings in a patient.

blood urea	-190 mg%
creatinine	-6.4mg%
uric acid	-8.8 mg%
inorganic phosphates	-6.2mg%

- a. what is the probable diagnosis? give reasons

CHART NO:15

A patient presented with the following findings.

blood urea	-30mg%
serum creatinine	- 1.8mg%
serum cholesterol	-560mg%
total plasma protein	-4.5g%
albumin	-1g%
globulin	-3.5 g%
urine protein content	-10g/l

- a. what is the probable diagnosis?give reasons.

CHART NO:16

Following are the findings in a person.

serum bilirubin	-0.8 mg%
conjugated bilirubin	-0.2 mg%
unconjugated bilirubin	-0.6 mg%
SERUM ALP	-8 KAU
SGOT	-20 IU/L
SGPT	-16IU/L
urinary findings	
bile salts-	-ve
bile pigments -	-ve
urobilinogen	-traces

colour of faeces -normal

a. what is your diagnosis?

CHART NO:17

Following are the findings in a person.

serum bilirubin	-10 mg%
conjugated bilirubin	-0.5 mg%
unconjugated bilirubin	-9.5 mg%
SERUM ALP	-8 KAU/100ml
SGOT	-30 IU/L
SGPT	-26IU/L
urinary findings	
bile salts-	-ve
bile pigments	-ve
urobilinogen-	+ + +
faeces stercobilinogen-	+ + +

a. what is your diagnosis?

CHART NO:18

Following are the findings in a patient.

serum bilirubin	-10 mg%
conjugated bilirubin	-5.5 mg%
unconjugated bilirubin	-4.5 mg%
serum ALP	-20KAU/100ml
SGOT	-260 IU/L-in early phase
SGPT	-290IU/L
urinary findings	
bile salts	- + +
bile pigments	- 10mg
urobilinogen	- +
colour of faeces	-normal

a. what is your diagnosis?

CHART NO:19

following are the findings in a person.

serum bilirubin	-10 mg%
conjugated bilirubin	-8.5 mg%
unconjugated bilirubin	-1.5 mg%
serum ALP	-40 kAU/100 ml
SGOT	-80 IU/L
SGPT	-90IU/L
urinary findings	

bile salts	-	++
urobilinogen-	-ve	
faeces-stercobilinogen	-ve	

a. what is your diagnosis?

CHART NO: 20

Patient was brought to casualty in coma

- Blood sugar 260mg%
- Serum HCO_3 315mEq/L
- Plasma pH 7.25
- Rothera's test +ve

CHART NO: 21

Study of the following data & give the probable diagnosis

- Unconjugated BR 0.4mg%
- Conjugated BR 0.1mg%
- SGOT 20IU/L
- SGPT 25IU/L
- ALP 10KAU/100ml
- Urine urobilinogen +ve
- Bile salts -ve
- Bile pigments -ve

CHART NO: 22

Study the following laboratory data, give your diagnosis

- Blood pH 7.32
- pCO_2 30mmHg
- Plasma HCO_3 18mmol/l

CHART NO: 23

The deficiency of the enzyme catalyzing the reaction indicated in the pathway results in inborn error of metabolism



- Name the condition
- Name the enzyme deficient
- Clinical features
- Why does glycogen get accumulated in the liver in this condition
- Management
- Fructose atherogenic except in diabetics. Why?
- 2 Causes of neonatal hypoglycemia

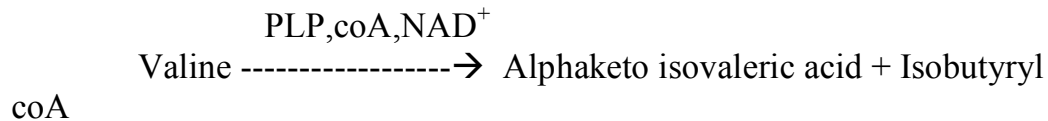
CHART NO: 24

A 40 year old woman was brought with history of right hypochondrial pain and generalized itching. O/E she is Jaundiced. Stools are clay coloured & cannot be flushed of easily. Blood examination shows the following biochemical values. What is the probable diagnosis

- BR total 6mg%
- BR direct 5.3mg%
- ALT 32 IU/L
- AST 30 IU/L
- ALP 500 IU/L

CHART NO: 25

Name the metabolic disorder associated with the deficiency of the enzyme for the reaction



- Name the enzyme
- Name the clinical conditions
- Clinical features
- Why the disease named so?
- Methods of diagnosis
- Biochemical basis of management

CHART NO: 26

Give the probable diagnosis after reading the laboratory data

- Total serum BR 6mg%
- Conjugated BR 4mg%
- Unconjugated BR 2mg%
- Serum ALP 120 IU/L
- Serum ALT 680 U/L
- Serum AST 520 U/L
- Total protein 6.8g%
- Serum albumin 3.8g%

CHART NO: 27

Norepinephrine → Epinephrine → Metanephrine → end product

- What is the normal end product
- Normal level of VMA in urine
- Name 2 conditions where VMA excretion is increased

CHART NO: 28

Give the probable diagnosis after reading the laboratory data

- Blood urea 285 mg/dl
- Serum creatinine 2 mg/dl
- Serum uric acid 8mg/dl
- Serum sodium 125 mmol/L
- Serum inorganic phosphorus 6 mmol/L
- Serum potassium 6.4 mmol/L
- Serum chloride 102 mmol/L
- Serum bicarbonate 18 mmol/L

CHART NO: 29

A 40 year man brought to the OP with pain at the joint. The history suggested that he was an alcoholic and the pain first appeared at the first metatarsophalangeal joint. On examination serum uric acid level was found to be high.

- a. What is the probable diagnosis
- b. Give the reason for the cause of the condition
- c. Clinical features
- d. Biochemical basis of management

CHART NO: 30

Comment on the graph

- Competitive inhibition
- Noncompetitive inhibition
- OGTT
- Elevation of enzymes in MI

CHART NO: 31

These are the values of glucose tolerance test for an 55 year old person are as follows

time(hrs)	blood glucose(mg%)	urine benedict's test
0(fasting)	85	blue
0.5	170	blue
1.0	225	red
1.5	160	blue
2.0	100	blue

- a. What is the diagnosis?
- b. Reason
- c. Conditions

CHART NO : 32

The following are the values of a gtt

time (hr)	glucose con.mg%	urine
0	85	blue
0.5	130	blue
1	150	blue
1.5	125	blue
2	87	blue

- a. give your diagnosis with reasons

CHART NO : 33

These are the values of tolerance test performed by an individual.

time(hrs)	blood glucose(mg%)	urine sugar
o(fasting)	80	blue
0.5	130	blue
1.0	160	blue
1.5	142	blue
2.0	120	blue

- a. what is your interpretation

CHART NO : 34

The following are the values of oral glucose tolerance test..

time(hrs)	blood glucose(mg%)	urine sugar
o(fasting)	140	blue
0.5	200	yellow-green
1.0	240	orange
1.5	220	yellow
2.0	106	green-yellow

- a. what is your interpretation.

CHART NO : 35

xylitol dehydrogenase

L-XYLULOSE -----→ XYLITOL

- which is the condition caused by the deficiency of this enzyme?
- name two relevant test is positive in this defect
- name a drug which induces this pathway.

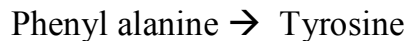
CHART NO : 36

A patient with mental retardation was admitted for self mutilating behaviour. on examination spasticity was present. blood examination showed increased serum uric acid. crystalloid was also present

- give the probable diagnosis
- name the enzyme deficient in this condition
- what does the neurological manifestations suggest?

CHART NO: 37

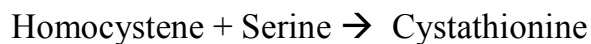
The deficiency of the enzyme catalysing the reaction below results in inborn error of metabolism



- Name the enzyme
- What is the metabolic error
- Give the clinical manifestations
- Name the compounds excreted in the urine
- Reason for mousy odour
- Biochemical basis of management
- Method of diagnosis
- Mode of inheritance

CHART NO: 38

The deficiency of the enzyme catalyzing the reaction indicated in the pathway results in inborn error of metabolism



- What is the metabolic error?
- Name the enzyme
- Clinical features
- Name the compound excreted in the urine
- Biochemical basis of management
- Method of diagnosis
- Name any other enzyme whose deficiency leads to same conditions

ANSWERS**Chart no.1**

- Carcinoid syndrome
- <5 mg/day
- Tryptophan, site – Argentaffin cells of GIT

- d. GI Tumors (Argentaffinomas)
- e. Niacin deficiency
- f. iproniazid

Chart no.2

- a. Von Gierke's disease
- b. Glucose-6-phosphatase
- c. Fasting hypoglycemia that not respond to stimulation by adrenaline
- d. Small quantity of food at frequent intervals
- e. Cirrhosis

Chart no.3

- a. Starvation ketoacidosis
- b. Blood sugar less than normal
pH less than normal
Rothera's test +ve - ketone bodies
- c. Ketonemia, ketonuria, smell of acetone in breath

Chart no.4

- a. Galactosemia
- b. Galactose-1-phosphate uridyl transferase
- c. Formation of dulcitol which accumulate in the lens
- d. Mucic acid test +ve

Chart no.5

- a. Acute pancreatitis
- b. Glucagon, Insulin, Somatostatin
Glucagon – increase glucose level in blood
Insulin - increase glucose level in blood
Somatostatin – Inhibit the release of other pancreatic hormones
- c. Amylase, Lipase, Proelastase, Trypsin, Chymotrypsin, Carboxy peptidase etc...

Chart no.6

- a. Alkaptonuria
- b. Homogentisic acid oxidase deficiency
- c. Homogentisate → Benzoquinone acetate → Polymerised to alkapton bodies
- d. No specific treatment required. But minimal protein intake with phenylalanine less than 500mg/day recommended
- e. Ferric chloride test, Benedict's test

Chart no.7

- a. Phenyl ketonuria
- b. Phenyl alanine hydroxylase
- c. Chromatography, Tandem Mass Spectroscopy
- d. Guthrie test
- e. Early detection & low phenylalanine diet (tapioca)

Chart no.8

- a. Myocardial infarction
- b. Creatine kinase MB, cardiac troponin I, LDH, AST
CK 15 – 100 U/L
LDH 100 – 200 U/L
AST 8 – 20 U/L
- c. Creatine kinase MB

Chart no.9

- a. Metabolic acidosis
- b. Cushing syndrome
Severe vomiting

Chart no.10

- a. Respiratory acidosis
- b. Pneumonia, Bronchitis

Chart no.11

- a. Normal

Chart no.12

- a. Respiratory alkalosis
- b. $p\text{CO}_2$ – 40 mmHg
- c. High altitude, Hyperventilation

Chart no.13

- a. Muscular dystrophy
- b. Sudden fall indicate the worsening of condition, as it shows destruction of muscle mass

Chart no.14

- a. Renal tubular failure

Chart no.15

- a. Nephritic syndrome

Chart no.16

- a. Normal

Chart no.17

- a. Hemolytic Jaundice

Chart no.18

- a. Hepatocellular Jaundice

Chart no.19

- a. Obstructive Jaundice

Chart no.20

- a. Diabetic ketoacidosis
- b. Insulin & Glucose, Admin of HCO_3^- & fluid
- c.

Chart no.21

- a. Normal

Chart no.22

- a. Partially compensated acidosis

Chart no.23

- a. Fructose intolerance
- b. Aldolase B
- c. Hepatomegaly, Jaundice
- d. Fructose – 1- PO_4 inhibits glycogen phosphorylase
- e. Fructose withdrawal from diet
- f. Fructose metabolism is easy since it escape PFK step which is rate limiting
- g. Von Gierke's disease, Galactosemia

Chart no.24

- a. Bile salts ++, Bile pigment ++, Urobilinogen absent
- b. Presence of bile salts in blood

Chart no.25

- a. Acute hepatitis

Chart no.26

- a. VMA
- b. 2-6 mg/24hours
- c. Pheochromocytoma, Nueroblastoma

Chart no.27

- a. Bile salts ++, Bile pigment ++, Urobilinogen absent

Chart no.28

- a. Renal failure

Chart no.29

- a. Gout
- b.
- c. Arthritis, Tophi
- d. Allopurinol, Probenecid, Colchicine

Chart no.31

- a. Alimentary glycosuria
- b. Increased rate of absorption of glucose from intestine
- c. After gastrectomy, In hyperthyroidism

Chart no.32

- a. Normal

Chart no.33

- a. Normal

Chart no.34

- a. Diabetic mellitus

Chart no.35

- a. Essential pentosuria
- b. Benedict's test, Bial's test
- c. Barbiturates, aminopyrene
- d. Composition of Bial's test – Orcinol in HCl
- e. Defective pathway – Glucuronic acid pathway

Chart no.36

- a. Lesch Nyhan syndrome
- b. HGPRTase deficiency
- c. Suggests that the brain is dependent on the salvage pathway for requirements of IMP & GMP

Chart no.37

- a. Phenylalanine hydroxylase
- b. Phenylketonuria
- c.
- d. Phenyl ketone, Phenyl lactate, Phenylacetate, Phenyl acetyl glutamate
- e. Phenyl lactate
- f. Low phenylalanine diet
- g. Guthrie's test
- h. Autosomal recessive

Chart no.38

- a. Homocystinuria
- b. Cystathionine Beta Synthase
- c. Mental retardation, Growth failure, Flat foot, Charlie chaplin gait
- d. Homocysteine, Methionine, Alpha ketobutyrate
- e. Low methionine & rich cysteine diet
- f. Cyanide – Nitroprusside test
- g.

DO YOU KNOW.....**KEY ENZYMES/RATE LIMITING STEPS**

- GLYCOLYSIS-
HEXOKINASE,PHOSPHOFRUCTOKINASE& PYRUVATE KINASE
- GLUCONEOGENESIS-PYRUVATE
CARBOXYLASE,PEPCK,FRUCTOSE-1,6-
BIPHOSPHATASE,GLUCOSE-6-PHOSPHATASE
- GLYCOGENESIS-GLYCOGEN SYNTHASE
- GLYCOGENOLYSIS-PHOSPHORYLASE
- HMP PATHWAY-G6PD
- GALACTOSE METABOLISM-GALACTOSE-1-PHOSPHATE
URIDYL TRANSFERASE
- BETA OXIDATION OF FATTY ACIDS-
- DE NOVO SYNTHESIS OF FATTY ACIDS-ACETYL COA
CARBOXYLASE
- CHOLESTROL SYNTHESIS-HMG COA REDUCTASE
- UREA CYCLE-CARBAMOYL PHOSPHATE SYNTHETASE-
1(CPS-1)
- HEME SYNTHESIS-ALA SYNTHASE
- PYRIMIDINE SYNTHESIS-ASPARTYL
TRANSCARBAMOYLASE(ATC)

NORMAL VALUES

1. Hb (male)	14-16 gm/dl
(female)	13-15 gm/dl
2. Glucose(fasting)	70-110 mg/dl
3. Bilirubin total:	0.2-0.8 mg/dl
unconjugated	0.2-0.6 mg/dl
conjugated	0-0.2 mg/dl
4. Total plasma lipid	400-600 mg/dl
5. Total Cholesterol	140-200 mg/dl
6. HDL male	30-60 mg/dl
7. HDL female	35-75 mg/dl
8. LDL	80 – 139mg/dl
9. Triglycerides male	50-150 mg/dl
10. Triglycerides female	40-150 mg/dl

11. Uric acid	3.5-7 mg/dl
12. Creatinine	0.7-1.4 mg/dl
13. Urea	20-40 mg/dl
14. pCO ₂	35-45 mmHg
15. pO ₂	90-100 mmHg
16. Proteins total	6-8 gm/dl
17. Albumin	3.5-5 gm/dl
18. Sodium	135-145 meq/l
19. Chloride	96-106meq/dl
20. Calcium	9-11 mg/dl
21. Creatine kinase	(male) 15-100 U/L (female) 10 – 80 U/L
22. Serum amylase	50-120 IU/L
23. LDH	100-200IU/L
24. ALP	40 – 125 U/L
25. ALT(SGPT)	(male) 13-35 U/L (female)10-30 U/L
26. AST(SGOT)	8-20 U/L

First Professional MBBS Degree Examination – September 2011
BIOCHEMISTRY - Paper - I

Time: 3 hrs

Max marks: 50

Long essay

1. Define β -oxidation. Explain the reactions of β -oxidation of palmitic acid. Add a note on its energetic. **(2+5+3=10 marks)**

Discuss the following: (2x5 =10 marks)

2. Define and classify enzymes. Give one example for each class and mention the reaction catalysed.
3. Define urea cycle and describe the reactions of urea cycle.

Write short notes on: (5x3 =15 marks)

4. Phenylketonurea.
5. Classify the lipoproteins and mention the function of each
6. Define substrate phosphorylation and mention two examples.

7. Define transamination and give two examples.
8. Define HMP shunt pathway and mention its significance

Write briefly: (5x2 =10 marks)

9. Name two plasma transport proteins and mention their role.
10. Mention two glycogen storage diseases with their deficient enzymes
11. Write the clinical significance of glycated haemoglobin estimation
12. Name the bile salts and mention its functional significance
13. What is Gaucher's disease. Mention two clinical features.

Give precise answers: (5x1 =5 marks)

14. Linkage present in sucrose.
15. Name the sulphur containing aminoacids
16. Mention the enzyme deficient in Galactosemia
17. Mention the chemical name of lecithin
18. Define K_m value.

First Professional MBBS Degree Examination – September 2011
BIOCHEMISTRY - Paper II

Time: 3 hrs

Max marks: 50

Long essay

1. Describe how protein is synthesized in body. Name any two inhibitors of protein biosynthesis. Add a note on post translational modifications (2+5+3=10 marks)

Discuss the following: (2x5 =10 marks)

2. Outline the degradation of heme. Add a note on the fate of conjugated bilirubin in intestine
3. Write briefly on storage and absorption of iron from intestine.

Write short notes on: (5x3 =15 marks)

4. What is gout. Mention the cause of primary gout.
5. What is the role of kidney in acid base regulation.
6. What is restriction endonuclease. What are their uses.
7. Write principle and application of polymerase chain reaction.
8. Write the structure of IgG molecule and indicate its function.

Write briefly: (5x2 =10 marks)

9. Name the coenzyme forms of niacin and write important functions for each one of them
10. Wilson's disease
11. What is metabolic acidosis. Give one example of a disease associated with it.
12. Give two examples of detoxification by conjugation.
13. What is post hepatic jaundice. How is it diagnosed biochemically

Give precise answers: (5x1 =5 marks)

14. What is provitamin. Give one example
15. Clinical features of rickets.
16. Give one example for point mutation.
17. What is the enzyme commonly used in ELISA Technique.
18. Xeroderma pigmentosum is due to deficiency of what process.

MODEL QUESTION PAPER

First Professional MBBS Degree Examination

Paper - I BIOCHEMISTRY

Time: 3 hrs

Max marks: 50

Long essay

1. Name the sulphur containing amino acid. Discuss metabolism of the essential amino acid of this group and add a note on associated inborn errors. (1+5+4=10 marks)

Discuss the following: (2x5 =10 marks)

2. Complication of Diabetes mellitus
3. Components and sequence of reactions occur in Electron transport chain

Write short notes on: (5x3 =15 marks)

4. Structure of human insulin.
5. Structure of bio membrane.
6. Fatty acid synthase enzyme complex.
7. Glycation of haemoglobin and its significances.
8. What is the Normal serum cholesterol? Why HDL & LDL Cholesterol are known as good
9. and bad cholesterol respectively?

Write briefly: (5x2 =10 marks)

10. Key enzymes of gluconeogenesis.
11. Energy expenditure in Urea cycle.

12. Importance of Carnitine in lipid metabolism
13. Deficient enzyme and clinical features in galactosemia.
14. What is the biochemical basis of fatty liver in alcoholism?

Give precise answers: (5x1 =5 marks)

15. What is the basis of curdling of milk?
16. Mention any four fate of acetyl CoA.
17. Mention any two functions of phospholipids.
18. Mention any two enzymes used as therapeutic agents
19. Why sample for glucose estimation is collected in a fluoride bottle?

MODEL QUESTION PAPER

First Professional MBBS Degree Examination

Paper - II BIOCHEMISTRY

Time: 3 hrs

Max marks: 50

Long essay

1. What is translation? Discuss the process of translation and add a note on post translational modifications. **(1+6+3=10 marks)**

Discuss the following: (2x5 =10 marks)

2. Porphyrias.
3. Renal mechanism of regulation of blood pH

Write short notes on: (5x3 =15 marks)

4. Telomerase
5. Orotic aciduria.
6. Cytochrome P450.
7. Diseases related to copper metabolism
8. Role of one carbon compounds in purine & pyrimidine formation.

Write briefly: (5x2 =10 marks)

9. Creatinine clearance
10. Metabolic role of vitamin C.
11. Factors affecting electrophoresis.
12. Effects of radiation on normal tissue
13. Deficient enzyme and clinical features in Lesch – Nyhan syndrome.

Give precise answers: (5x1 =5 marks)

14. Nucleosomes
15. Klenow fragment

16. Name two selenium containing enzymes.
17. Mention any two oncosuppressor gene.
18. Name the most important extra cellular caution and write its normal serum level.

**First Professional MBBS Degree Supplementary Examination –
March 2012**

BIOCHEMISTRY - Paper - I

Time: 3 hrs

Max marks: 50

Long essay

1. Define $\square\square$ Kreb's cycle. Describe the reactions of Kreb's cycle. Add a note on its energetic and significance.

(1+6+1+2=10 marks)

Discuss the following: (2x5 =10 marks)

2. Describe the reactions of ketogenesis and its regulation.
3. Define secondary structure of proteins and mention its type . Describe about α helix.

Write short notes on: (5x3 =15 marks)

4. Define mucopolysaccharides and give two examples.
5. Describe the functions of mitochondria.
6. Define phospholipids and how are they classified.
7. Define feedback inhibition and give two examples.
8. What are uncouplers? Give two examples.

Write briefly: (5x2 =10 marks)

9. Define epimers and give two examples.
10. Define optimum pH and give one example.
11. What are isomerases and give an example indicating the reaction catalyzed.
12. What is Cori's disease and mention the enzyme defect in it.
13. Mention the four functions of albumin.

Give precise answers: (5x1 =5 marks)

14. Name the defective enzyme in galactosemia.
15. Name two polyunsaturated fatty acids.
16. Define active site of an enzyme.
17. Name two conditions causing increased urea level.
18. Name the enzyme defect in maple syrup urine disease.

**First Professional MBBS Degree Supplementary Examination –
March 2012**

BIOCHEMISTRY - Paper - II

Time: 3 hrs

Max marks: 50

Long essay

1. Describe about sources, RDA, biochemical functions and deficiency manifestations of vitamin A.

(1+1+6+2=10 marks)

Discuss the following: (2x5 =10 marks)

2. Define protein energy. Malnutrition and compare marasmus and kwashiorkor
3. Describe the salvage pathway of purine nucleotide synthesis with its significance. Describe the disorder associated with it

Write short notes on: (5x3 =15 marks)

4. Describe any four functions of calcium.
5. Structure of DNA.
6. Define metabolic acidosis. Mention the causes and biochemical findings in metabolic acidosis.
7. Define transcription and mention its significance.
8. Name the tests to measure GFR and define creatinine clearance.

Write briefly: (5x2 =10 marks)

9. Mention few unusual bases and mention where it is present.
10. Name the buffer systems in the body.
11. Mention the cause and clinical features of Pellagra.
12. What is Gout and mention few clinical features of gout.
13. Mention two diagnostic uses of radioactive isotopes.

Give precise answers: (5x1 =5 marks)

14. Name the hormones causing increased cyclic AMP production.
15. Enzyme used as tumor marker.
16. Mention the normal level of serum creatinine.
17. Mention the enzyme deficient in severe combined immunodeficiency disorder.
18. What type of mutation occurs in sickle cell anemia and what is the biochemical defect in sickle cell anemia.

First Professional MBBS Degree Examination – August 2012**BIOCHEMISTRY - Paper - I****Time: 3 hrs****Max marks: 50****Long essay**

1. Mention the reactions by which glycine is synthesized and catabolised. Add a note on the specialized products formed and mention the disorders associated with glycine metabolism

(2+6+2=10 marks)**Discuss the following:****(2x5 =10 marks)**

1. Fatty acid synthesis complex
2. Describe the reactions of urea cycle. discuss the interrelationship between urea cycle and citric acid cycle

Write short notes on:**(5x3 =15 marks)**

3. Mention three examples for transmethylation reaction
4. Ketosis
5. Secondary structures of protein
6. Importance of glutamine
7. Covalent modification

Write briefly:**(5x2 =10 marks)**

8. Hartnup's disease
9. Classification of glycolipids
10. Uncouplers of oxidative phosphorylation
11. Functions of cholesterol
12. Significance of HMP shunt

Give precise answers:**(5x1 =5 marks)**

13. Enzyme defect in maple syrup urine disease
14. Epimer of glucose
15. Normal level of serum albumin
16. Name the biochemical test for phenylketonuria
17. Important product of Rapaport Luebering cycle in RBC

First Professional MBBS Degree Examination – August 2012**BIOCHEMISTRY - Paper II****Time: 3 hrs****Max marks: 50****Long essay**

1. Describe the sources, RDA, Biochemical functions and deficiency manifestations of vitamin D **(2+1+5+2=10 marks)**

Discuss the following: (2x5 =10 marks)

2. Describe the salvage pathway of purine synthesis with its significance. describe the disease associated with it
3. Describe the structure and functions of tRNA

Write short notes on: (5x3 =15 marks)

4. Define metabolic acidosis. Mention the causes and biochemical findings in metabolic acidosis
5. Define replication and mention four inhibitors of replication
6. Marasmus
7. Mention the functions of zinc
8. Cause and clinical features of acute intermittent porphyria

Write briefly: (5x2 =10 marks)

9. Define nucleotide. Name two adenosine nucleotide derivatives
10. Point mutation
11. Name the liver function tests
12. Functions of biotin
13. Define thalassemia and mention the different types of thalassemia

Give precise answers: (5x1 =5 marks)

14. Name the two tumor suppressor genes
15. Define genetic code
16. Name the two hormones causing increased levels of cyclic AMP
17. Name the coenzyme required for transamination reactions
18. Mention the normal serum calcium level