

17/6/19

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Paper Code : BMIT-101

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B.Sc. (M.I.T.)

1st Year Examination

**RADIOGRAPHY, ANATOMY & PHYSIOLOGY APPLIED
TO RADIOGRAPHY & BASIC VIEWS**

Time : 3 Hours]

[Max. Marks : 75

Note: Attempt all questions.

1. Describe Gross Anatomy of Lung. [10]
2. Write short notes on external features of : [5x2=10]
 - (a) Heart
 - (b) Thyroid Gland
3. Enumerate : [1x5=5]
 - (a) Types of Bone
 - (b) Organs of Male Reproductive System
 - (c) Parts of small intestine
 - (d) Branches of arch of aorta
 - (e) Nerves supplying muscles of upper limb
4. Draw a well labeled diagram of sarcomere. Describe the mechanism of Skeletal Muscle contraction. [12]
5. Write short notes on: [5x2=10]
 - (a) Diffusion across the cell membrane
 - (b) Function of Kidney
6. Define only : [1.5x2=3]
 - (a) Blood Pressure
 - (b) Immunity

7. Describe the Radiography and its Radiological anatomy of [5x5=25]
the following :

- (a) A-P view of Shoulder Joint
- (b) Lateral View of Elbow Joint
- (c) X-Ray K.U.B.
- (d) X-Ray Scaphoid bone
- (e) X-Ray Wrist Joint, Lateral view

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B.Sc. (Medical Imaging Technology)

[Max. Marks : 70]

1st Year Examination**HUMAN ANATOMY & PHYSIOLOGY**

Time : 3 Hours]

(Marks 36)

Note: Attempt all questions. Draw well labeled diagram wherever necessary

(Section - A)

(HUMAN ANATOMY)

1. Attempt all MCQs. Select the correct choice [2x3=6]

a. Left lung has:-

(i) Two fissures

(ii) Three fissures

(iii) Four fissures

(iv) One fissure

b. Number of carpal bones in hand is:-

(i) 5

(ii) 6

(iii) 7

(iv) 8

c. Which of the following is not a part of female reproductive system?

(i) Uterus

(ii) testis

(iii) Vagina

(iv) Fallopian tube.

2. Fill in the blanks. Attempt all

[2x3=6]

(a) Sternum articulates with.....and.....bones.

(b) Cranial nerves arise from.....

(c) Ureter opens in.....bladder.

3. Write True or False. Attempt all

[2x2=4]

(a) Superior vena cava opens in right atrium.

(b) Humerus does not participate in shoulder joint.

4. Attempt any two of the following:

[5x2=10]

a. Discuss external features of heart.

b. Discuss types of bones and Cartilages.

c. Enumerate endocrine glands. Discuss gross anatomy of thyroid gland.

5. Attempt any One of the following:

[10x1=10]

a. Describe classification of joints.

b. Discuss external feature of stomach.

(Section – B)
(PHYSIOLOGY)

(Marks 34)

- 1. Attempt all MCQs. Select the correct choice** **[2x2=4]**
- (a) Kidney has not the following part:-
(i) Nephron (ii) Bowman capsule
(iii) Glomerulus (iv) Neuron
- (b) Function of pulmonary surfactant:-
(i) Reduce surface tension
(ii) Helps in excretion
(iii) Helps in respiration
(iv) Helps in vision.
- 2. Fill in the blanks. Attempt all** **[2x2=4]**
- (a) Thyroid gland enlargement leads to.....
(b) Full form of RFT is.....
- 3. Write True or False. Attempt three** **[2x3=6]**
- (a) Full form of PFT is pus formation test.
(b) T_3 & T_4 hormones are secreted from posterior Pituitary.
(c) Oedema occurs due to hypo proteinuria.
(d) Axon, Dendrite & cell body are part of neuron.
- 4. Attempt any two of the following:** **[5x2=10]**
- a. Describe the structure & function of kidney?
(b) Describe the clotting factors.
(c) Describe the process of Spermatogenesis.
(d) Enumerate the structures & function of stomach?
- 5. Attempt any One of the following:** **[10x1=10]**
- a. Describe the regulation of blood pressure.
b. Explain the function of platelets?

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B.Sc. (M.I.T.)

Ist Year Examination

MEDICAL BIOCHEMISTRY

Time : 3 Hours]

[Max. Marks : 70

Note: Draw well labeled diagram wherever necessary

1. Attempt any five MCQs. select the correct choice as [2x5=10] applicable

- a. What is the physiological pH in humans?
(i) 4.5 (ii) 7.0 (iii) 7.4 (iv) 8.5
- b. Via aerobic metabolism of glucose in brain, glycolysis generates:
(i) 2 ATP (ii) 3 ATP (iii) 5 ATP (iv) 7 ATP
- c. Which of the following fatty acids is not metabolized in mitochondria:
(i) Small chain fatty acids
(ii) Medium chain fatty acids
(iii) Long chain fatty acids
(iv) Very long chain fatty acids
- d. Which of the following amino acids is not aliphatic:
(i) Tyrosine (ii) Glycine (iii) Valine (iv) Isoleucine
- e. Which of the following components is the protein part of enzyme:
(i) Coenzyme (ii) Cofactor
(iii) Apoenzyme (iv) Prosthetic group
- f. The driving force for separation of molecules in electrophoresis is:
(i) mass (ii) charge
(iii) Charge to mass ratio (iv) Size

2. Fill in blanks. Attempt all

[2x5=10]

- (a) Pyruvate carboxylase enzyme belongs to..... class of enzymes.
- (b) Amino acids, which is the transport form of ammonia form tissues to liver is.....

- (c) Foam cells found in plaques in vessel wall are derived from
- (d) One round of Krebs' cycle produces $\text{NADH} + \text{H}^+$
- (e) Cell membrane is a bilayer

3. Write true or false. Attempt all

[2x5=10]

- (a) Best buffering action is seen when $\text{pKa} = \text{pH}$
- (b) TCA cycle is able to produce 10 ATP via substrate level phosphorylation in one cycle.
- (c) Fatty acid breakdown occurs in mitochondria and peroxisomes.
- (d) Amino acids can contain only one carboxylic group.
- (e) Both agarose and polyacrylamide gels can be used for separation of nucleic acids.

4. Attempt any four of the following

[5x4=20]

- (a) Write a brief note on describing classification of enzymes.
- (b) What are the different types of amino acids? Give examples.
- (c) Mention the investigations that need to be done for a patient of suspected atherosclerosis.
- (d) Discuss the importance of Pentose Phosphate Pathway.
- (e) Describe the buffers in the body. discuss any two..

5. Attempt any two of the following:

[10x2=20]

- (a) Describe the isomerism seen in carbohydrates, with examples. What is mutarotation?
- (b) Describe the composition of lipoproteins. Mention the various types of lipoproteins with short description of any two.
- (c) Discuss the principle of chromatography. What are the common types of chromatography? Write a short note on affinity chromatography and its applications.

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B.Sc. Medical Imaging Technology (M.IT.)

Ist Year Examination

BASICS RADIOGRAPHY AND RADIOGRAPHIC EQUIPMENTS

Time : 3 Hours]

[Max. Marks : 70

Note: Attempt all questions.

1. Attempt any Five multiple Choice Questions. Select the [2×5=10 correct choice as applicable

a. Advantage of rotating anode x-ray tube are:-

- (i) Quick dissipation of heat
- (ii) High output of x-ray tube
- (iii) Short exposure time
- (iv) All of the above

b. Energy required for pair production is:-

- (i) 1.05 Mev
- (ii) 1.02 Mev
- (iii) 1.02kev
- (iv) 60 kVp

c. Example of personnel monitoring device is:-

- (i) GM counter
- (ii) Proportional counter
- (iii) TLD
- (iv) Both i and ii

d. Sky line view is done for:-

- (i) Patella
- (ii) Proportional counter
- (iii) Sella turcika
- (iv) Femoral condyle

e. Mortis view is done for:-

- (i) Patella
- (ii) Pelvis
- (iii) Wrist joint
- (iv) Ankle joint

f. K-binding energy of tungsten is-

- (i) 39 keV
- (ii) 50.2 keV
- (iii) 69.5 keV
- (iv) 37.4 keV

2. Fill in the blanks Attempt all

[5×2=10]

- a. Anode is made up of.....
- b. Filament in x-ray tube emits electron by process known as.....
- c. Stryker's view is done for.....
- d. The name of developing solution is.....
- e. Emulsion is known as the.....of the radiographic film.

3. Write True or False. Attempt all

[2×5=10]

- a. During x-ray production 99% electron is converted into x-ray 1% is converted into heat.
- b. There are three disc in the TLD batch.
- c. Rmzing is omitted in the manual film processing.
- d. FFD in chest radiography is 285cm.
- e. Dark room should be away form the x-ray room.

4. Attempt any four of the following : Write short notes on:

[5×4=20]

- a. Coolidge tube.
- b. Cardinal principle (TDS concepts).
- c. Radiography of knee joint.
- d. Grid.
- e. Radiation protection devices.

5. Attempt any two of the following :

[10×2=20]

- a. Draw the labeled diagram of radiographic film and explain about it.
- b. Write the basic view of lumbar spine and explain about it.
- c. Explain about the x-ray room layout

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B.Sc.-MIT

(1st Year) EXAMINATION
COMMUNITY HEALTH CARE

Time : 3:00 Hours]

[Max. Marks : 70

Note:- All question are compulsory. Make diagrams wherever required.
Read the instructions carefully.

1. Attempt any five MCQs. Select the correct choice. [2×5=10

i) RNTCP is for:

a) AIDS

b) Malaria

c) TB

d) All

ii) Which of the following is not communicable disease:

a) Malaria

b) Diarrhea

c) Obesity

d) ARI

iii) Nosocomial infections is:

a) House acquired infection

b) Hospital acquired infection

c) School acquired infection

d) All

iv) Smoking causes:

a) Lung cancer

b) Liver cancer

c) Heart Cancer

d) Bladder cancer

v) CBR is

a) Culture birth relation

b) Cause breeding rate

c) Crude birth rate

d) Crude breeding rate

vi) Infant Mortality rate is:

a) Mortality indicator

b) Morbidity Indicator

c) Both

d) None

2. Fill in the blanks. Attempt all.

[2×5=10

i) Incidence is indicator.

ii) Programme for TB is.....

iii) AIDS is caused by..... virus

iv) Health is not merely an..... of disease

v) TB is caused by.....

[2] 0.

[2×5=10]

3. True or false. Attempt all.

- i) TB is caused by bacteria.
- ii) Smoking causes lung cancer.
- iii) CDR is mortality indicator.
- iv) Incidence is mortality indicator.
- v) Hypertension is communicable disease.

4. Attempt any four of the following.

[5×4=20]

- i) Nosocomial infection.
- ii) Causes of Hypertension.
- iii) Define health and its 2 determinants.
- iv) Hygiene
- v) Health team concept.

5. Attempt any two of the following.

[10×2=20]

- i) Discuss in detail the mortality indicators of health.
- ii) Features of rural community and its health hazards.
- iii) Disease that occur due to life style disorder.