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Paper Code : MMLT - 101

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MSc.-MLT
(1st Year 1st Sem.) EXAMINATION
GENERAL PATHOLOGY

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) Accumulation of blood in chest cavity is called:
 - a) Haemothorax
 - b) Haemoperitoneum
 - c) Ascitis
 - d) Hydrothorax
 - ii) Accumulated protein poor fluid is called as :
 - a) Transudate
 - b) Exudate
 - c) Hyperaemia
 - d) Congestion
 - iii) Which of the following is a cancer causing agent:
 - a) Alkylating agents
 - b) Mucor
 - c) Rhinospondium
 - d) Embolus
 - iv) Wound contraction is mediated by:
 - a) Collagen
 - b) Elastin
 - c) Myofibroblasts
 - d) Collagen tissue
 - v) Metastasis is a feature of
 - a) Inflammation
 - b) Benign tumors
 - c) Oedema
 - d) Malignant tumors
 - vi) Which of the following is responsible for pain in Ac. Inflammation
 - a) Leukotriene B4
 - b) Prostaglandin
 - c) Nitric acid
 - d) Kinin system

2. Fill in the blanks. Attempt all.

[2×5=10]

- i) are involved in septic shock.
- ii) Spread of malignant tumours to distant organs is called.....
- iii) Accumulation of fluid in tissue spaces is called.....
- iv) AIDS is caused by
- v) stain is used to stain M leprae bacteria.

3. True or false. Attempt all.

[2×5=10]

- i) Exudate is a protein rich fluid.
- ii) Typhoid is caused by Candida albicans.
- iii) Leiomyoma is a benign tumour of Smooth muscles.
- iv) Coagulative necrosis is seen in ischaemia.
- v) HIV causes immunocompromised stat in the host.

4. Attempt any four of the following.

[5×4=20]

- i) Characteristics of malignant tumours.
- ii) Embolism.
- iii) Types of Necrosis.
- iv) Healing by First Intention
- v) Cardinal sigs of Ac Inflammation.

5. Attempt any two of the following.

[10×2=20]

- i) Write in brief about pathogenesis of tuberculosis.
- ii) Write in brief about stages of Shock.
- iii) Write in brief about Chronic Inflammation.

II. Fill in the blanks: Attempt all:

[2×5=10]

- a) Bacteria has maximum cell size in _____ phase
- b) Cocci arranged in clusters are known as _____
- c) _____ is the common enriched media.
- d) _____ discovered *Mycobacterium tuberculosis*.
- e) Temperature _____ and time period _____ required for autoclaving.

III True or False. Attempt all.

[2×5=10]

- a) Anaerobes can grow in the presence of oxygen.
- b) Bacteria is a eukaryote.
- c) Pili is composed of pilin protein.
- d) Filtration is used to sterilize antibiotic solutions.
- e) Chemical nature of exotoxin is carbohydrate.

IV. Write short notes on any four:

[5×4=20]

- a) Contributions of Louis Pasteur
- b) Streak culture method
- c) Flagella
- d) Spore
- e) Viable bacterial count

V. Write long notes on any two:

[10×2=20]

- a) Define sterilization. Describe sterilization by moist heat.
- b) Define culture media. Discuss the classification of culture media with examples.
- c) Define virulence. Discuss the determinants of virulence.

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MSc.-MLT
(1st Year) EXAMINATION
GENERAL BIOCHEMISTRY

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) Glycolysis occurs in
 - a) Cytoplasm
 - b) Mitochondria
 - c) Ribosome
 - d) Golgi body
- ii) Non-Reducing sugar is
 - a) Maltose
 - b) Lactose
 - c) Sucrose
 - d) All of them
- iii) Activation of fatty acid occurs in
 - a) Mitochondria
 - b) Cytoplasm
 - c) Nucleus
 - d) None
- iv) Sulphur containing essential amino acid is
 - a) Methionine
 - b) Cysteine
 - c) Cytine
 - d) All of them
- v) The proteins part of enzyme is:
 - a) Co-enzyme
 - b) Apoenzyme
 - c) Co-factor
 - d) All of them
- vi) The diameter of Watson & crick DNA model is:
 - a) 34 Å
 - b) 3.4 Å
 - c) 20 Å
 - d) 2 Å

2. Fill in the blanks. Attempt all.

[2×5=10]

- i) Products of HMP shunt are.....and.....
- ii) Fatty acid synthase enzyme used in the formation of.....
- iii) DNA and RNA contain pentose sugar is..... and
- iv) Physical agents of protein denaturation are.....
- v) Synthesis of HDL occurs in.....

3. True or false. Attempt all.

[2×5=10]

- i) DNA Ligase enzyme used in Replication.
- ii) β -Hydroxy butyrate is a True Ketone bodies.
- iii) Urea cycle completed in Kidney.
- iv) In Transamination reaction Transfer of carboxylic group occurs.
- v) Glycogen phosphorylase enzyme involve in Glycogenolysis.

4. Attempt any four of the following.

[5×4=20]

- i) Describe the DNA replication.
- ii) Describe urea cycle & its regulation.
- iii) What is Lipoprotein? Define classification of Lipoprotein.
- iv) Write about Watson & crick model of DNA.
- v) Describe Glycolysis and its regulation.

5. Attempt any two of the following.

[10×2=20]

- i) Describe classification of Enzymes and factor affecting enzyme activity.
- ii) Describe β -oxidation of fatty acids and it's energetic.
- iii) Define classification of carbohydrate and also describe Gluconeogenesis.

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MSc.-MLT

**(Ist Year Ist Sem.) EXAMINATION
ANATOMY & PHYSIOLOGY**

Time : 3:00 Hours]

[Max. Marks : 70

**Note:- All question are compulsory. Make diagrams wherever required.
Read the instructions carefully. Separate sheet for Separate section.**

(Section A - ANATOMY) (36)

1. Attempt all. Select the correct choice.

[2×3=6]

i) Inferior vena cara opens in

- | | |
|--------------------|-------------------|
| a) right atrium | b) left atrium |
| c) right ventricle | d) left ventricle |

ii) Right lung has

- | | |
|------------|------------|
| a) 2 lobes | b) 3 lobes |
| c) 4 lobes | d) 5 lobes |

iii) Diaphragm is a

- | | |
|-----------|----------|
| a) muscle | b) bone |
| c) artery | d) nerve |

2. Fill in the blanks. Attempt all.

[2×3=6]

i) Stomach has body, pyloric and parts.

ii) Number of cerebral hemispheres is.....

iii) Pulmonary vein has..... blood.

3. True or false. Attempt all.

[2×2=4]

i) Ovary is not a female genital organ.

ii) Duodenum is the part of small intestine.

4. Attempt any two of the following.

[5×2=10]

i) Discuss borders, surfaces and relations of lungs.

ii) Discuss gross anatomy of heart with its applied.

iii) Discuss external features of spleen.

5. Attempt any one of the following.

[10×1=10]

- i) Describe parts, borders, surfaces and relations of stomach.
- ii) Describe gross anatomy of liver.

(Section B - PHYSIOLOGY) (34)

1. Attempt all. Select the correct choice.

[2×2=4]

- i) Human heart consists of
 - a) One atria and one ventricle
 - b) Two atria and one ventricle
 - c) One atria and two ventricle
 - d) Two atria and two ventricle
- ii) Ovulation coincides with
 - a) Increased progesterone
 - b) GnRH
 - c) LH Surge
 - d) Decrease oestrogen

2. Fill in the blanks. Attempt all.

[2×2=4]

- i) Increased blood sugar is known as.....
- ii) Enlargement of thyroid gland is known as.....

3. True or false. Attempt all.

[3×2=6]

- i) Hemoglobin is important for stoppage of bleeding.
- ii) Insulin causes increase in blood sugar levels.
- iii) Mitral valve is a tricuspid valve.

4. Attempt any two of the following.

[5×2=10]

- i) Test of ovulation.
- ii) Write short note on mitochondria.
- iii) Write short note on prolactin.

5. Attempt any one of the following.

[10×1=10]

- i) Define blood pressure. Describe the regulation of blood pressure.
- ii) Draw the diagram of sarcomere. Explain briefly the mechanism of skeletal muscle contraction.

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MSc.-MLT

(1st Year 1st Sem.) EXAMINATION
COMPUTATIONAL SKILLS & BIOSTATICS

Time : 3:00 Hours]

[Max. Marks : 70

*Note:- All question are compulsory. Make diagrams wherever required.
Read the instructions carefully. Separate sheet for Separate section.*

(Section A - Computational Skills) (34)

1. Attempt all. Select the correct choice.

[2×2=4

- i) Which of the following are word processing software?
 - a) Word Perfect
 - b) Word pad
 - c) MS. Word
 - d) All of the above
- ii) Second generation computer are mode of
 - a) Vacuum tube
 - b) Transistors
 - c) LSI
 - d) VLSI

2. Fill in the blanks. Attempt all.

[2×2=4

- i) A..... is a set of instruction that tells the computer How to perform a specific task.
- ii) Computers use the..... language to process data.

3. True or false. Attempt all.

[3×2=6

- i) The language that the computer can understand is called machine language.
- ii) Dot-matrix, Desk jet, ink jet and laser are all types of printers
- iii) Worms and Trojan horses are easily, detached and eliminated b antivirus software.

4. Attempt any two of the following,

[5×2=10

- i) Write down the five input & output devices. Also explain.
- ii) Convert the following
 - (a) $(1792)_{10} = ()_2$
 - (b) $(112)_{10} = ()_2$
- iii) Write do you mean by algorithm? Write down the characteristics of algorithm.

5. Attempt any one of the following.

[10×1=10]

- i) What do you mean by computer? Explain generation of computer.
- ii) Write down the short note on following:
(a) e-mail (b) Search engine

(Section B - Biostatistics) (36)

1. Attempt all. Select the correct choice.

[2×3=6]

i) Positive predictive value is defined as

- | | |
|-------------------|-------------------|
| a) $TN / FN + TN$ | b) $TP / TP + FP$ |
| c) $TP / TP + FN$ | d) $TN / TN + FP$ |

ii) Type I error (α) is defined as

- | | |
|---|---|
| a) Probability of rejecting a true H_0 | b) Probability of accepting a false H_0 |
| c) Probability of rejecting a false H_0 | d) Probability of accepting a true H_0 |

iii) Which of these tests are distribution free tests?

- | | |
|---------------|-------------------|
| a) Parametric | b) Non Parametric |
| c) Both | d) None |

2. Fill in the blanks. Attempt all.

[2×3=6]

- i) Specificity is the of true healthy people who are so identified by screening test.
- ii) In a paired 't' Test degree of freedom is.....
- iii) To study association between two qualitative variables the appropriate statistical test is.....

3. True or false. Attempt all.

[2×2=4]

- i) Standard deviation is the square root of variance.
- ii) Characteristics of persons or things, which can assume different values, are called variables.

4. Attempt any two of the following.

[5×2=10]

- i) What is χ^2 -test? Write limitations of χ^2 -test.
- ii) What is mean, median and mode? Write merits and demerits of mode.
- iii) What are different sampling methods?

5. Attempt any one of the following.

[10×1=10]

- i) A group of 15 normal children in a study had a mean serum iron level of 148 mcg% and SD of 44.03. Another group of 15 children with infantile cirrhosis of liver had mean serum iron level of 151 mcg % and SD of 49.04 if the difference between the two serums means statistically significant? ($t_{28,0.05}=2.05$)

ii) Find the average age (in years) at the time of death in city A

Age Interval	No. of deaths
0-10	16
10-20	9
20-30	20
30-40	11
40-50	7
50-60	12