

2017

Medical Science paper I

Time allowed – 3 Hours

Full Marks -200

Each question carries 40 marks

*If the questions attempted are in excess of the prescribed number, only the question attempted first up to the prescribed number shall be valued and the remaining ones ignored*

**Q1 Answer any four questions: -  $10 \times 4 = 40$**

- A) Briefly describe the origin, insertion, blood supply and nerve supply of Sartorius muscle.
- B) Enumerate the muscles of facial expression and briefly highlight their functions.
- C) Briefly describe myocardial blood supply
- D) Briefly describe the pathway of Saphenous nerve.
- E) Briefly describe the metabolic pathway for beta oxidation of fatty acids.
- F) Schematically describe reactions and intermediates of urea biosynthesis.

**Q2 Answer any four questions: -  $10 \times 4 = 40$**

- A) Briefly compare the contraction of smooth muscle with that of skeletal muscle.
- B) Describe in brief the factors that affect the rate of gas diffusion through the respiratory membrane.
- C) Describe in brief the function of cerebral cortex in hearing.
- D) Briefly describe the basic mechanism of hydrochloric acid secretion from the Oxyntic glands.
- E) Briefly describe biosynthesis and metabolism of melatonin.
- F) Enumerate the types of damage to DNA and briefly describe mechanisms of DNA repair

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**Q 3 Answer any four questions: -  $10 \times 4 = 40$**

- A) Enumerate five major pathogenic species of Rickettsia organisms with diseases caused, mode of transmission and name of the vector.
- B) Enumerate five major types of exotoxins with the names of the different bacteria producing them and highlight the in vivo effects of those exotoxins.
- C) Schematically describe in brief the pathways of coagulation mechanism.
- D) Briefly describe the factors influencing wound healing.
- E) Write down the distinguishing features of Crohn's disease and Ulcerative Colitis.
- F) Briefly describe the different types, incidence and etiopathogenesis of urinary calculi.

**Q 4 Answer any four questions: -  $10 \times 4 = 40$**

- A) Describe the therapeutic uses of  $H_2$  blockers.
- B) Briefly describe the effects of prostaglandin  $E_2$  on various organs of the body.
- C) Briefly describe the shared toxicities of amino glycoside group of drugs.
- D) Enumerate the choice of anti seizure drugs according to the types of seizures.
- E) Briefly distinguish immediate type and delayed type of hypersensitivity.
- F) What are the differential properties of Pneumococci and Viridans streptococci?

**Q 5 Answer any four questions: -  $10 \times 4 = 40$**

- A) Briefly discuss the external post mortem appearances in case of suicidal hanging.
- B) Briefly describe the signs and symptoms of lead poisoning.
- C) Describe difference between fresh water and sea water drowning.
- D) Describe the difference between artificial bruise and true bruise.
- E) Describe the physiological effects of alcohol at increasing blood alcohol concentration.
- F) Describe the difference between natural abortion and criminal abortion.