

HAS (Mains) - 2021

(This question paper contains 3 printed pages]

ASME-21-MEDS-(I)
MEDICAL SCIENCE (PAPER-I)

Roll Number

Time Allowed : 3 Hours]

[Maximum Marks : 100

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

1. There are **EIGHT** questions printed in English.
2. Candidate has to attempt **FIVE** questions in all.
3. Question No. 1 is compulsory. Out of the remaining **SEVEN** questions, **FOUR** are to be attempted.
4. *All* questions carry equal marks. The number of marks carried by a question/ part is indicated against it.
5. Write answers in legible handwriting. Each part of the question must be answered in sequence in the same continuation.
6. Illustrate your answers with suitable sketches and diagrams, wherever considered necessary. Colored pencils may be used for the purpose.
7. Attempts of all questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in answer book must be clearly struck off.
8. Re-evaluation/Re-checking of answer book of the candidate is not allowed.

1. (a) How is pain classified ? Describe nerve fibers mediating pain transmission and the process of modulation of pain transmission. 10
- (b) Describe the segmental anatomy of the liver and its clinical applications. 10
2. (a) Describe the pharmacological characteristics, mechanism of action, spectrum of anti-fungal activity and available Echinocandins. 10
- (b) Define metastasis and describe various pathways for metastasis. Discuss in detail the metastatic cascade. 10
3. (a) Describe imaging techniques for post-mortem forensic radiology. Discuss their advantages as well as limitations. 10
- (b) Discuss immunodiagnostic and molecular diagnostic approaches for diagnosis of various parasitic infections. 10
4. (a) Discuss various types of COVID 19 vaccines currently available and their mechanism of action. 10
- (b) Discuss various steps of post-mortem examination of bullet wounds. 10
5. (a) Define Bioenergetics. Discuss how high energy phosphates play an important role in energy capture and transfer. 10
- (b) Discuss the mechanism of action of various inhibitors of the renin-angiotensin system and their therapeutic uses. 10
6. (a) Describe how xenobiotics can have toxic, immunological, and carcinogenic effects. 10
- (b) Discuss neural and chemical control of breathing. 10

7. (a) Describe causes of macrocytic anemia and discuss its diagnostic evaluation. 10
- (b) Discuss the mechanisms of glomerular injury and disease. 10
8. (a) Discuss the microstructure, vascular supply and innervations of human retina. 10
- (b) Discuss immune check point inhibitors and their role in cancer treatment. 10

