

This question paper contains 3 printed pages]

**HPAS (Main)—2016**

**MEDICAL SCIENCES**

**Paper I**

*Time : 3 Hours*

*Maximum Marks : 100*

*Note :— Answer five questions including Question No.1 which is compulsory.*

1. What are the functions and biochemical effects of vitamin 'D' and its metabolites ? Enumerate its dietary sources and discuss in detail the causes of its deficiency and the clinical manifestations resulting thereof. What are the recommended requirements in children, adults, during pregnancy and lactation and for persons above 60 years of age ? 20
  
2. Give a detailed account of the development, structure, blood & nerve supply and lymphatic drainage of mammary gland with suitable illustrations. How would you educate women on 'self-examination of breasts' ? 20

**P.T.O.**

3. Discuss briefly :

(a) Transport of substances between the mother and the foetus.

(b) Taste pathways, factors influencing taste sensation and abnormalities of taste sensation.  $10 \times 2 = 20$

4. Discuss in brief about the following :

(a) Chemistry, functions and mechanism of action of anterior pituitary hormones.

(b) Abnormalities of body temperature regulation.  $10 \times 2 = 20$

5. Give brief accounts of the following :

(a) Differences between natural and criminal abortion and evidence of abortion in the living and the dead.

(b) Mental disorder and civil responsibility.  $10 \times 2 = 20$

6. Discuss in brief about :

(a) Principle, procedure and application of commonly used staining techniques in bacteriology.

- (b) Immunological tolerance, factors affecting its induction, degree and duration.  $10 \times 2 = 20$

7. Discuss in brief about :

- (a) Mechanism and Phases, complications and factors influencing bone fracture healing.

- (b) Categories and risk factors of gallstones and pathogenesis of their formation.  $10 \times 2 = 20$

8. Discuss about the following :

- (a) Routes of drug administration and factors governing choice of route.

- (b) Compelling indications, suitability and cautions in selection of first line anti-hypertensive drugs and the combinations to be avoided.  $10 \times 2 = 20$