

2016

PHYSIOLOGY

[Honours]

PAPER – IV

Full Marks : 90

Time : 4 hours

*The figures in the right hand margin indicate marks
Candidates are required to give their answers in their
own words as far as practicable*

Illustrate the answers wherever necessary

[OLD SYLLABUS]

GROUP – A

Subgroup – A(a)

- 1. (a) Discuss the histological structure of adrenal cortex of an adult human.**

(Turn Over)

(2)

(b) Briefly discuss the role of PTH and calcitriol in maintenance of calcium homeostasis.

(c) Mention the physiological functions of cholecystokinin. $4+(4+3)+4$

2. (a) Discuss the uterine changes found during monthly cycle of an adult female. What are the causes of menstrual bleeding ?

(b) What do you mean by 'Spermeogenesis' and capacitation ? $(5+4)+(3+3)$

3. (a) Mention the characteristics features of cleavage of human zygote.

(b) What are the changes in the foetus after birth ?

(c) What is Cushing's syndrome ? $6+6+3$

GROUP – A(b)

4. (a) How B-cell and T-cell act cooperatively to combat with foreign substance ?

(3)

- (b) Discuss the alternative pathway of complement activation.
- (c) Differentiate between primary and secondary immune responses. 5+5+5
5. (a) Discuss the role of pineal gland in relation to controlling circadian rhythm.
- (b) Describe the circadian pulsatile secretion of cortisol.
- (c) Describe the relation of Zeitgebers with the circadian clock. 5+5+5
6. (a) Enumerate the effects of adulteration in food.
- (b) What are the common nutritional deficiency occur during pregnancy of Indian mothers.
- (c) Mention the mode of action of HIV. 5+6+4

GROUP – B

Subgroup – B(a)

7. Mention the causes and symptoms of Type-I diabetes mellitus. 8

8. (a) Explain the role of insulin and glucagons in blood sugar regulation.
- (b) What is adrenal virilism? 4 + 4
9. Discuss in brief the physiological functions of vasopression. 8
10. (a) What is precocius puberty?
- (b) Describe the structure of placenta with a labelled diagram. 3+5
11. (a) Discuss the process of urogenital system development in foetus.
- (b) Why Foetus is not rejected from mother's body? 5+3

Subgroup – B(b)

12. (a) Classify T-cells with their unique features.
- (b) Describe the ELISA and its application. 4 + 4
13. Describe the molecular structure of a manomeric antibody in relation to their functions. 8

14. Discuss briefly the biorhythm of ACTH and prolactin. 4 + 4
15. Describe the effects of nicotine and alcohol addiction in our body. 4 + 4
16. What do you know about cause, pathogenesis and prevention of malaria ? 6 + 2

GROUP – C

Subgroup – C(a)

17. Define phacochromocytoma and diabetic coma. 2+2
18. Mention the role of Thyroxine on fat metabolism and foetal development. 2+2
19. What is Hashimoto disease ? Define LATS. 3+1
20. Write a note on foetal haemoglobin. 4
21. Define amnion and allantois. 4

Subgroup – C(b)

22. What is infradian and ultradian biorhythm ? 4
23. Write a note on cytokines. 4
24. What is edible vaccine ? Mention its mechanism of action. 2+2
25. What do you mean by balanced nutrition for under five Indian Children ? 4
26. What are the common pathogenesis of Cholera infection ? 4
-