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UG/II/PHY/H/IV/17(Old)

2017

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

**Answer any two questions taking at least one
from each Subgroup**

Subgroup—A(a)

- 1. (a) Discuss the histological structure of Thyroid gland with neat diagram.**

(Turn Over)

- (b) How iodine is trapped by the follicular cell ?
- (c) Mention the genomic actions of Thyroxine. $(4 + 3) + 4 + 4$
2. (a) Discuss with diagram, the structure of a graafian follicle.
- (b) What are the non-sexual actions of testosterone ?
- (c) Enumerate the functions of Sertoli cell. $5 + 5 + 5$
3. (a) What is puberty ? Describe the hormonal control of puberty.
- (b) What is LH surge ? Describe its physiological significance.
- (c) What is galactokinesis ? $(2 + 5) + (1 + 5) + 2$

Subgroup—A(b)

4. (a) What are the characters of acquired immunity ?

- (b) Discuss the molecular structure of MHC-II.
- (c) "Humoral immunity depends on T-cell activity" – Justify. 5 + 6 + 4
5. (a) Discuss the neural basis of biological clock in human.
- (b) How secretion of LH and FSH are controlled rhythmically?
- (c) Describe the fate of ACTH biorhythm in case of night workers. 5 + 5 + 5
6. (a) Discuss the dietary management of marasmus and rickets.
- (b) Mention the composition and function of ORS.
- (c) What is nutritional anaemia? (3 + 3) + (3 + 3) + 3

GROUP – B

Answer any **five** questions taking at least **two** from each Subgroup

Subgroup B(a)

7. (a) Discuss the mechanism of action of JAK-STAT pathway.
- (b) Why aldosterone is essential for life ? 5 + 3
8. Describe the development of cardiovascular system in a fetus. 8
9. Briefly discuss the physiological actions of gastrin and oxytocin. 4 + 4
10. What is corpus luteum ? Draw a flowchart of spermatogenesis. 3 + 5
11. How blastula is formed during pregnancy ? Describe the uterine implantation of fertilized ovum. 2 + 6

Subgroup--B(b)

12. Write the name of four macrophages with their location. How does agglutination reaction occur in immunity ? 4 + 4
13. Describe the process of type I hypersensitivity with a suitable diagram. 8

14. Define autoimmunity with example. What are primary lymphoid organs? 5 + 3
15. Describe the causes and clinical features of Xerophthalmia. 3 + 5
16. Discuss the role of suprachiasmatic nuclei as a biological clock. What is jet lag? 6 + 2

GROUP - C

Answer any five questions taking at least two from each Subgroup

Subgroup--C(a)

17. Define Group I and Group II hormones. 2 + 2
18. Mention the mechanism of action of insulin. 4
19. What are meant by primary and secondary sex organs? Name them. 4
20. Mention the principles of Gravidex test. 4
21. What are functions of hCG and hCS? 2 + 2

(6)

Subgroup—C(b)

22. What are hapten and adjuvent ? 2 + 2
23. Classify lymphoid organs and write the functions of each. 4
24. What is attenuated vaccine ? Define anaphylaxis. 2 + 2
25. Mention two food pollutants and two food adulterants. 2 + 2
26. How overpopulation can be controlled chemically ? 4
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