

Bankura Christian College

Department of Physiology

3rd YEAR: SEMESTER-V (Academic Session: 2023-24)

Course Code: SH/PHY/504/DSE-2

Course ID: 52517

Credit- 04; Full Marks: 35

Classes: 10(Lecture) +02(Class test/Revision)

Course Title: Microbiology and Immunology, Dr Rajkumar Maiti

Course Learning Outcomes:

1. Students will improve their knowledge about cell mediated and humoral immunity.
2. Learner will get information on universal protocol of immunization against communicable diseases

Topics allotted

1. Cytokines, lymphokines, inflammation and hypersensitivity and its types.
2. Activation of complement system - Pathways (brief concept of classical and alternative pathway). Brief idea on MAC complex.
3. Vaccination – Principles, Universal protocol on Immunization-brief idea, primary and secondary reaction of vaccination, health reaction due to vaccination, memory cell formation due to vaccination and importance of immunization and concept on booster dose.
4. Basic principles of immunological techniques and their application - RIA and ELISA.
5. Immunopathology - Basic principles of autoimmune disease (Hashimoto disease, SLE, Myasthenia gravis and Graves' disease).
6. AIDS- Causative virus, mode of transmission, effects on human body, preventive measures.

| MONTH/YEAR | WEEK | PORTIONS |
|----------------|------|---|
| August 2023 | 5 | Basic ideas on cytokines, lymphokines and inflammation along with their role in immunity |
| MONTH/YEAR | WEEK | PORTIONS |
| September 2023 | 1 | Hypersensitivity and its types |
| | 2 | Activation of complement system - Pathways (Brief concept of classical pathway). (Class-1) |
| | 3 | Complement system (Alternative pathway) and Brief idea on MAC complex (Class-2) |
| | 4 | Vaccination – Principles, Universal protocol on Immunization (Class-1) |
| MONTH/YEAR | WEEK | PORTIONS |
| October 2023 | 1 | Primary and secondary reaction of vaccination and health reaction due to vaccination (Class-2) |
| | 2 | Memory cell formation due to vaccination and importance of immunization and concept on booster dose (Class-3). |
| MONTH/YEAR | WEEK | PORTIONS |
| November 2023 | 1 | Class test on above mentioned topics |
| | 2 | Basic principles of immunological techniques and their application: RIA and ELISA |
| | 3 | Basic principles of autoimmune disease (Hashimoto disease, SLE, Myasthenia gravis and Graves' disease). (Class-1) |
| | 4 | AIDS- Causative virus, mode of transmission, effects on human body, preventive measures. |
| MONTH/YEAR | WEEK | PORTIONS |
| December 2023 | 1 | Class test on Immunological techniques, autoimmune disease and AIDS |

Suggested Books: 1. Punt J. Stranford S. Jones P. Owen J.A.(2018) Kuby Immunology. Eight Edition. WH Freeman Publisher.

2. Mahapatra, A.B.S.M. (2014). Essentials of Medical Physiology. Fourth Edition. Current Books International.

3. Sembulingam K. and Sembulingam, P. (2016). Essentials of Medical Physiology 7th Edition. Jaypee.

4. Sharma P. and Kumar P. (2021) Basis of Immunology. 1st Edition. IP Innovative Publication Pvt. Ltd.

Rajkumar Maiti