

**Master of Science (M.Sc.) Semester-IV (CBCS) (Microbiology) Examination
CORE (SUBJECT CENTRIC) VACCINES AND DELIVERY SYSTEM (VD)**

Optional Paper-4

Paper-IV

Time : Three Hours]

[Maximum Marks : 80

N.B. :— All questions are compulsory and carry equal marks.

1. Give a general account on DNA vaccines with suitable examples. 16

OR

Write notes on :

(a) Sub unit vaccines. 8

(b) Passive prophylactic measures. 8

2. Discuss contents and immunization of DPT vaccine. 16

OR

Write notes on :

(a) Inactivated polio vaccine. 8

(b) BCG vaccine. 8

3. Discuss various approaches for the development of HIV vaccine. 16

OR

Write notes on :

(a) Herpes simplex virus vaccine. 8

(b) Malaria vaccine. 8

4. Discuss in detail drug delivery systems. 16

OR

Write notes on :

(a) Antibiotic assay in body fluids. 8

(b) Vaccine delivery system. 8

5. Write short notes on :

(a) Discovery of vaccines. 4

(b) Immunization schedule. 4

(c) Vaccines in development. 4

(d) Drug designing. 4

NKT/KS/17/5746

Master of Science (M.Sc.) (Microbiology) Semester—IV (C.B.S.) Examination

DRUGS, VACCINES AND DELIVERY SYSTEMS (DVD)

Compulsory Paper—3

Time : Three Hours]

[Maximum Marks : 100

Note :— ALL questions are compulsory and carry equal marks.

1. Enlist Anti-infective agents and discuss their mode of action in detail. 20

OR

Write notes on :

- (a) Griseofulvin and Clotrimazole 10
(b) Bio-precursors Prodrugs. 10

2. Enlist Anti-materials agents and discuss the mode of action of any two in detail. 20

OR

Write notes on :

- (a) Metronidazole and 8-hydroxy quinoline. 10
(b) Ranitidine and Omeprazole. 10

3. Discuss new generation viral vaccines and their administration. 20

OR

Write notes on :

- (a) Edible Vaccines 10
(b) Antisera. 10

4. Enlist non-automated in-vitro drug susceptibility testing methods and describe any one in detail. 20

OR

Write notes on :

- (a) Rapid tests for susceptibility test 10
(b) Antibiotic assay in body fluids. 10

5. Write notes on :

- (a) Rifamycin 5
(b) Prostaglandins 5
(c) BCG Vaccines 5
(d) Principle of Drug Designing. 5

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**Master of Science (M.Sc.) (Microbiology) Semester-IV (CBCS) Examination
CORE (Subject Centric) VACCINES AND DELIVERY SYSTEM (VD)**

Paper—IV (Optional)

Time : Three Hours]

[Maximum Marks : 80

N.B. :— All questions are compulsory and carry equal marks.

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|--|----|
| 1. Discuss active and passive prophylactic measures with appropriate examples, | 16 |
| OR | |
| Describe the following : | |
| (a) Subunit vaccines | 8 |
| (b) Adjuvants and its role in vaccines. | 8 |
| 2. Describe the contents of Inactivated and Attenuated Polio vaccine. Add a note on its immunization schedule. | 16 |
| OR | |
| Write on the following : | |
| (a) MMR vaccine | 8 |
| (b) Contents of DPT vaccine. | 8 |
| 3. Discuss various approaches for development of Malaria vaccines. | 16 |
| OR | |
| Write on the following : | |
| (a) CMV vaccine development | 8 |
| (b) Herpes Simplex virus vaccine. | 8 |
| 4. Describe Kirby-Bauer method of drug susceptibility testing. | 16 |
| OR | |
| Write on the following : | |
| (a) Rapid tests for susceptibility testing | 8 |
| (b) Drugs delivery system. | 8 |
| 5. Write short notes : | |
| (a) DNA vaccine | 4 |
| (b) Influenza vaccine | 4 |
| (c) Epstein Barr virus vaccine | 4 |
| (d) Vaccine delivery system. | 4 |

Master of Science (M.Sc.) (Microbiology) Semester—IV (C.B.C.S.) Examination
 CORE [SUBJECT CENTRIC] : VACCINES AND DELIVERY SYSTEM (VD)

Paper—IV (Optional)

Time : Three Hours]

[Maximum Marks : 80

Note :— ALL questions are compulsory and carry equal marks.

- ✓ 1. What is attenuated vaccine ? How it is developed and administered ? Give examples. 16

OR

Write notes on :

- (a) Active prophylactic measures 8
 (b) Role of adjuvants in vaccines. 8
 2. Discuss the contents and immunization of MMR vaccine. 16

OR

Write notes on :

- (a) Influenza vaccine 8
 (b) DPT vaccine. 8
 3. Discuss various approaches for CMV vaccine development. 16

OR

Write notes on :

- (a) HIV vaccine 8
 (b) Epstein-Barr vaccine. 8
 4. Describe agar dilution method to determine MIC of an antibiotic. 16

OR

Write notes on :

- (a) Conventional drug delivery system 8
 (b) Broth dilution method for MIC testing. 8
 5. Write short notes on : 8
 (a) Discovery of vaccines 4
 (b) BCG vaccine 4
 (c) Malaria vaccines 4
 (d) Rapid test for susceptibility testing. 4

Master of Science (M.Sc.) Semester—IV (Choice Based Credit System) (CBCS)
(Microbiology) Examination

CORE (SUBJECT CENTRIC) VACCINES AND DELIVERY SYSTEM (VD)

Optional Paper-4

Paper-IV

Time : Three Hours]

[Maximum Marks : 80

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagram wherever necessary

1. Explain in detail various techniques used for exhalation and attenuation of microorganisms. 16

OR

✓ Give a detail account on DNA vaccines. 16

✓ Discuss contents and immunization of polio vaccine. 16

OR

✓ Describe contents and immunization of BCG and hepatitis vaccine. 16

3. Discuss various approaches used for development of malaria vaccines. 16

OR

✓ Explain various approaches and limitations in the development of HIV vaccine 16

4. Give detail account on drug designing. 16

OR

✓ Describe various vaccine delivery systems with examples. 16

5. (a) Explain subunit vaccines. 4

✓ (b) Write a note on DPT vaccine. 4

✓ (c) Give brief account of herpes simplex vaccine. 4

✓ (d) Describe in brief assay of antibiotic in body fluid. 4