

MBBS Second Year Microbiology Paper-I (General Microbiology, immunology, Systematic Bacteriology) Important Question Bank

Essay Questions:

1. Define and classify sterilization. Write about sterilization by moist heat.
2. Mention the bacterial agents causing meningitis. Discuss the pathogenesis and laboratory diagnosis of acute pyogenic meningitis caused by any one of them.
3. Describe the morphology of the bacterial cell with the help of a neat diagram and mention the function of various appendages.
4. Name the bacteria causing sexually transmitted disease. Discuss the laboratory diagnosis of syphilis.
5. Define and classify sterilization. Write in detail about chemical methods of sterilization.
6. Name the bacterial agents causing pyrexia of unknown origin. Write the pathogenesis and lab diagnosis of enteric fever.
7. Define and classify hypersensitivity reactions. Describe type I hypersensitivity.
8. Describe the pathogenesis, laboratory diagnosis and prophylaxis of cholera.
9. Enumerate sexually transmitted bacteria. Discuss Pathogenesis and laboratory diagnosis of Syphilis.
10. Define and classify Antigen Antibody reactions. Discuss Agglutination tests with clinical examples.
11. Enumerate the bacteria causing diarrhoea. Discuss the morphology, cultural characteristics, pathogenecity and laboratory diagnosis of Vibrio cholera.
12. Define sterilization and disinfection. Discuss the methods of sterilization by moist heat with suitable examples.
13. Discuss in detail about the etiology, pathogenesis, Lab diagnosis of Bordetella pertussis.
14. Enumerate Hypersensitivity reactions and discuss in detail about Type 4 Hyper sensitivity reaction and add a note on Shwartzman reaction.
15. Define and classify hypersensitivity. Discuss the mechanisms of anaphylaxis
16. Name the bacterial agents causing pyrexia of unknown origin. Write the pathogenesis and laboratory diagnosis of acute pyogenic meningitis caused by any one of them.

17. Classify Enterobacteriaceae. Write the pathogenesis, diseases caused and the lab diagnosis of *Salmonella typhi* infections.
18. Define and describe the properties of an Ideal Disinfectant. Enumerate the various Disinfecting agents and their applications.
19. Name the bacterial agents causing sexually transmitted diseases. Write the pathogenesis and laboratory diagnosis of syphilis.
20. Write in detail about the physiology of bacteria.
21. Discuss briefly on Immunofluorescence.
22. Describe the Laboratory diagnosis of Pulmonary Tuberculosis
23. Describe the Laboratory diagnosis of Enteric fever.
24. Define anaphylaxis. Describe the mediators and pathogenesis of anaphylaxis.
25. Discuss the Laboratory diagnosis of Syphilis
26. Define Sterilization. Discuss the methods of sterilization by Heat.
27. Classify *Leptospira*. Write in detail about laboratory diagnosis and Leptospirosis.
28. Describe the epidemiology, pathogenesis, laboratory diagnosis and prevention of cholera.
29. Define Complement. Write about alternative C pathway and add a note on biological effects of complement and genetic deficiencies of complement components.
30. Classify Rickettsiaceae. Write in detail about morphology, cultivation, antigenic structure, pathogenesis and lab diagnosis of typhus fever
31. Classify streptococci. Describe in detail the epidemiology, pathogenesis, diagnosis and management of rheumatic fever.
32. Classify sterilisation process. Describe the principle, mechanism and uses of autoclave.
33. Enumerate the methods of gene transfer and discuss the mechanisms of drug resistance in bacteria.
34. Classify anaerobes. Describe the aetiology, pathogenesis, lab diagnosis and prophylaxis of tetanus.
35. A 15 year old boy presents with history of fever with headache, malaise and coated tongue of 8 days duration. On examinations boy was found to have step ladder pyrexia, bradycardia and soft palpable spleen. What is the probable diagnosis? Write the mode of infection, pathogenesis, lab diagnosis and treatment. Add a note on its prophylaxis.
36. A 25 year old female admitted with history of watery diarrhoea resembling rice water of 24 hrs duration along with copious vomiting. What is your diagnosis? Write the pathogenesis, sample collections, lab diagnosis and treatment of the above clinical condition. Add a note prophylaxis.

37. Classify Rickettsia. Write in detail about pathogenesis and lab diagnosis of typhus fever and write about Brill Zinsser disease.
38. Define Culture Media, write in detail about, different types of Culture Media. Add a note on Anaerobic Culture Methods.

Short Answer Questions:

1. Hot air oven
2. Nocardia
3. Non-sporing Anaerobic infection
4. Passive immunity
5. Mycoplasma (lab diagnosis)
6. Louis pasteur
7. Active immunity
8. E – Tor vibrios
9. Graft versus host reactions
10. Helicobacter pylori
11. Negative staining
12. Give two examples for transport media
13. Arthus phenomenon
14. Nagler's reaction
15. Cold sterilization
16. Two uses of HLA Typing
17. Oxidase test
18. Name the three special species of Brucella
19. Mantoux test
20. X and V factors
21. Atypical mycobacteria
22. Tests for toxin production of coryne bacterium diphtheria

23. Bacterial Virulence
24. Gonorrhoea
25. Immunoglobulin G
26. Biological functions of complement
27. Bacterial Capsule
28. Widal test
29. Type III Hypersensitivity
30. Non suppurative complications of streptococci
31. Name four pigments produced Bacteria
32. Diagram of Immunoglobulin M
33. Give four examples of enriched media
34. Name two zoonotic bacterial diseases
35. Tube coagulase test
36. Name four specific serologic tests for syphilis
37. Four differences between exotoxin and endotoxin
38. Two liquid media to grow Mycobacteria
39. Sattelitism
40. Urease test
41. Pasteurisation
42. Koch's postulates
43. Name four selective media
44. Plasmids
45. Name four mechanisms of auto immunity
46. Neufeld quelling phenomenon
47. M⁺ fadyean's reaction
48. Name four clostridia causing gas gangrene
49. Stalactite growth
50. Runyons classification of atypical mycobacteria
51. Flagella
52. Transduction
53. Acquired immunity
54. Monoclonal antibodies
55. Coagulase test
56. Elek's gel precipitation test
57. VDRL test
58. Autoclave
59. Lepromin test

60. Weil felix test
61. Halophilic vibrio
62. Bacterial capsule
63. Hot air oven
64. Conjugation
65. Malignant pustule
66. IgE
67. Adjuvant
68. Bacterial growth curve
69. Tric agent
70. Widal test
71. Satellitism
72. Milk ring test
73. Enriched media
74. Nagler's reaction
75. Classification of atypical mycobacteria
76. Hapten
77. Name four methods of dry heat sterilization
78. Name three anaerobic media
79. Mention three properties of exotoxin
80. Four organisms causing nosocomial infection
81. Capsule
82. T cells and B cells
83. Mutation
84. Extra chromosomal genetic elements
85. Mechanism of Autoimmunity
86. Nosocomal infections
87. Type IV Hypersensitivity
88. Laboratory diagnosis of pulmonary tuberculosis
89. Toxigenicity tests for coryne bacterium diphtheria
90. Differences between Alpha haemolytic streptococci and pneumococci
91. Name four bacteria causing food poison
92. Inspissation
93. Super Antigens
94. Name four Anaerobic methods of cultivation
95. C – Reactive protein
96. Hot Air Oven

97. Sterilization of operation theatre
98. Graft versus host reaction
99. Name four live bacterial vaccines
100. Uses of Gram stain
101. Fimbriae
102. Immuno fluorescence methods
103. Sources of human infection
104. Cytokines
105. Distinguishing factors of T and B lymphocytes
106. Biochemical tests to identify mycobacterium
107. Human Leukocyte Antigen (HLA)
108. Toxins and virulence factors of streptococci
109. Enterotoxigenic Escherichia Coli (ETEC)
110. Listeria monocytogens
111. Name four anaerobic bacteria
112. Name four chemical methods of sterilization
113. Enrichment media
114. Features of transferable drug resistance
115. Diagram of Immunoglobulin
116. Name four combined (T & B cell) immunodeficiency disorders
117. Name four non-organ specific auto immune disorders
118. Louis Pasteur
119. Etiology of non-gonococcal (non-specific) urethritis
120. Mention the various types of hypersensitivity reactions
121. Major Histocompatibility complex
122. Toxins of Clostridium perfringens
123. Scrub typhus fever
124. Abnormal Immunoglobulins
125. Electron Microscopy
126. Immunological tolerance
127. Hemolytic disease of the New born
128. Relapsing fever
129. Transposable genetic elements
130. Anaerobic culture methods
131. Stalactite growth
132. Name four Disorders of Phagocytosis
133. Name two Adjuvants

134. Name four determinants of Antigenicity
135. Name four types of Mutation
136. Name four different types of diarrheagenic Escherichia coli
137. Satellitism
138. Voges-Proskauer test
139. Anaerobic culture methods
140. Staphylococcal virulence factors
141. Malignant pustule
142. Bacterial flagella
143. Polymerase chain reaction
144. Bacterial growth curve
145. ElTor vibrios
146. Rickettsiae
147. Helicobacter pylori
148. Gaseous disinfectants
149. Name two transport media
150. Mention two uses of darkground microscope
151. Give two examples for agglutination tests
152. Give one example for passive artificial immunity
153. List two pathogenic Clostridial species
154. Name the serological tests for diagnosing enteric fever
155. Name the bacterium which causes malignant pustule
156. Name two specific tests for confirming the diagnosis of syphilis
157. Name the transmitting agent for plague
158. Name the animal model used for the growth of Mycobacterium leprae
159. Name two selective media for V cholera
160. Mention the virulence factors of N meningitidis
161. Dosage schedule of Diphtheria vaccine
162. Mention the bacterial spore used in biological warfare
163. Name two Gram Negative Anaerobic bacilli
164. IMVIC test
165. Mention three stages of Plague
166. Name four non Cholera Vibrios
167. Mention the components of Pentavalent Vaccine
168. Name the HACEK group of bacteria
169. Bacterial growth curve
170. Mutations

171. Nucleic acid probes
172. Mechanisms of antibiotic resistance
173. Innate immunity
174. Immunoglobulin M
175. T lymphocytes
176. Erythroblastosis fetalis
177. Non suppurative Streptococcal diseases
178. Lab diagnosis of Leptospirosis
179. Monoclonal antibodies
180. Passive agglutination test
181. Tumour antigens
182. Western blot test
183. Herd immunity
184. Group B streptococci
185. Anaerobic vaginosis
186. Melioidosis
187. Non agglutinating vibrios
188. Legionellosis
189. Name two selective media
190. Give two examples for precipitation tests
191. Name two bacterial live attenuated vaccines
192. Name two bacteria having peritrichate flagella
193. Name two bacteria producing exotoxins
194. Name two bacteria transmitted through rodents
195. Name two specimens from sterile sites
196. Define plasmids
197. Metchnikoff
198. Name two tests to assess the function of phagocyte
199. Negative staining – principle & uses
200. Moist heat sterilisation
201. Transduction – Mechanism & types
202. Monoclonal antibodies – principle, technique and applications
203. Special characters of Staphylococcus aureus
204. Differences between Pneumococcus & Streptococcus viridans
205. Differences between classical and elTor vibrios
206. Weils disease – Laboratory diagnosis
207. Type III Hypersensitivity

208. Immunosurveillance – possible mechanisms
209. Name the three steps in Polymerase chain reaction
210. Name two activators of alternate complement pathway
211. What is isograft?
212. Name two coagulase negative Staphylococci infecting man
213. Name two primary agents causing purulent bacterial meningitis
214. Name two toxins produced by Clostridium tetani
215. Name the Indole negative Proteus species
216. Name the popular selective medium for Vibrio cholerae
217. Name two bacteria exhibiting pleomorphism
218. Name the blocking antibodies in chronic Brucellosis
219. Quellung reaction – technique and uses
220. Anaerobic culture methods
221. Bacterial zoonotic diseases
222. Systemic autoimmune diseases
223. Unique characters of Enterococcus
224. McFadyean's reaction
225. Photochromogens and Scotochromogens
226. Lyme disease – clinical features & Lab diagnosis
227. Weil felix test
228. Theories of Immune response
229. Name two capsulated bacteria
230. Name two enriched media
231. Name two enzymes used in ELISA test
232. Name the types of Coagulase test
233. Name the selective medium for Gonococcus
234. What is pseudohemoptysis?
235. Name the exotoxin producing Shigella species
236. Name any two pigments produced by Pseudomonas
237. Name the clinical forms of Actinomycosis in man
238. Name the Immunoglobulin crossing the placenta
239. What is milk ring test? Give the use of this test
240. Name four bacterial zoonotic infections
241. Name four bacteria that cause food poisoning
242. Name four autoimmune disorders
243. What are the cells involved in phagocytosis?
244. What is Bile solubility test? Describe its principle

245. Mantoux test
246. What is the causative agent of relapsing fever? What are the two types?
247. What are the diseases caused by mycoplasma?
248. Describe Neill-Mooser reaction
249. Bacterial Growth curve
250. Transport Media
251. Plasmids
252. Active immunity
253. Coombs test
254. Allograft Rejection
255. Agglutination reaction
256. Mechanisms of autoimmunity
257. Bacillary dysentery
258. Satellitism
259. Laboratory diagnosis of Tetanus
260. Types of Flagella
261. Electron Microscope
262. Sterilization by Radiation
263. Selective Media
264. PCR
265. Laboratory diagnosis of Infection caused by Streptococcus pyogens
266. Non - Gonococcal Urethritis (NGU)
267. Louis Pasteur
268. Define agglutination and precipitation
269. Immunoglobulins that are able to fix complement
270. Characteristics of the secondary immune response
271. Biological controls for assessing dry heat and moist heat sterilization
272. Morphology of B anthracis
273. Conjugation
274. RNTCP
275. Types of diarrheagenic Escherichia coli
276. Tumor antigens
277. Robert Koch
278. Methods of Anaerobic culture
279. Haptens
280. Enriched Media
281. DNA Probes

282. Various mechanisms by which Escherichia Coli produce Diarrhea
283. Fluorescent Microscope – Uses and Principles
284. Sterilization by Filtration methods
285. Difference between Cell wall of Gram Positive and Gram Negative bacteria
286. Chemical disinfectants
287. Structure and function of B cells
288. Type IV hypersensitivity
289. Virulence factors of staphylococcus aureus
290. Graft versus host reaction
291. Bacterial growth curve
292. Satellitism
293. Enrichment media
294. PCR
295. CD + T cells
296. High level disinfection in hospitals
297. Virulence determinants of bacteria
298. IgM detection in infectious diseases
299. Metchnikoff
300. Western blot
301. Synergism
302. Laboratory diagnosis of primary syphilis
303. Botulism
304. Name two bacteria with capsule
305. Graft versus host reaction
306. Louis Pasteur
307. Mention four toxins of streptococcus pyogenes
308. Name four zoonotic disease caused by bacteria
309. Chocolate agar
310. Passive immunity
311. Laboratory diagnosis of leptospirosis
312. Gonococci
313. Recombinant DNA technology in vaccine production
314. Auto immunity
315. Enterococci
316. Exotoxins
317. Gaseous sterilization

318. Bordetella pertussis
319. MALT
320. Clostridium difficile
321. Satellitism
322. Widal test
323. Chancre
324. BCG
325. Mutations
326. Complement deficiency diseases
327. HLA typing
328. Enterohemorrhagic escherichia coli
329. Lab diagnosis of cholera
330. Heat sterilization
331. Affinity and avidity
332. Name any two enriched culture media
333. Name the animal models used for cultivation of mycobacterium leprae
334. C – reactive protein
335. Commensals
336. Non-venereal treponemes
337. Toxins of streptococcus pyogenes
338. Immunoglobulin G (IgG)
339. Botulism
340. Lymphogranuloma venereum
341. Tuberculin testing
342. Actinomycosis
343. Transposons
344. Cold sterilization
345. Composite media
346. El Tor vibrios
347. White graft response
348. Enumerate four complement deficiency diseases
349. Enumerate Koch's postulates
350. Dark ground microscopy
351. Enumerate the primary mediators of anaphylaxis
352. HLA
353. Causative agent of actinomycosis
354. Coombs test

- 355. Toxic shock syndrome
- 356. Immunoglobulin M (IgM)
- 357. Gas gangrene
- 358. PCR
- 359. Soft sore
- 360. Pasteurization
- 361. Radiation sterilization and gas sterilization
- 362. Identification of bacteria
- 363. Pseudomonas infections
- 364. Bacillus anthrax
- 365. ELISA
- 366. Mycetoma
- 367. Fluorescent microscopy
- 368. Plasmids
- 369. Indirect Coombs test
- 370. Significant bacteriuria
- 371. Vincent's angina
- 372. X D R tuberculosis
- 373. Mechanisms of Drug resistance
- 374. Natural Killer cells
- 375. Immunoglobulin G
- 376. Modified AFB and uses
- 377. Flagellar stain
- 378. Escherichia coli- virulence factors
- 379. Louis Pasteur
- 380. Growth curve
- 381. Ponder's stain
- 382. Slime layer
- 383. Serotyping of vibrio cholerae
- 384. Bacteriocins
