



- Notes : 1. All questions are compulsory.
2. Discuss the reaction, mechanism wherever necessary.

1. Multiple Choice Questions: **20x1 =20**
- i) Substitution of electron withdrawing group in α position of benzylpenicillin -
 - a) Make it alkali resistant
 - b) Show poor oral absorption
 - c) Stabilized against acid hydrolysis
 - d) Makes the molecule β -lactamase resistant
 - ii) Which one of following is not the penicillanic acid sulphone-
 - a) Tezobactam
 - b) Sulbactam
 - c) Clavulanate
 - d) None
 - iii) Chloramphenicol sodium succinate is the salt of hemisuccinate ester and is preferred for -

a) Pediatric use	b) Intravenous use
c) Oral use	d) All of these
 - iv) Which one of the following is antimalarial with antimicrobial and antipneumocystic?

a) Artemether	b) Artesunate
c) Atovaquone	d) Proguanil
 - v) Following is the drug when used in combination with sulphadiazine it treats toxoplasmosis -

a) Pyrimethamine	b) Proguanil
c) Atovaquone	d) Artemether
 - vi) Which of the following protease inhibitors was developed by a hybridisation strategy?

a) Ritonavir	b) Indinavir
c) Saquinavir	d) Amprenavir
 - vii) Following is the precursor of synthesis of acyclovir.

a) Adenine	b) Thymine
c) Guanine	d) Cytosine
 - viii) Metronidazole is synthesized from ammonia, acetaldehyde and -----

a) Glycerol	b) Glyoxal
c) Glycolic acid	d) Glyoxamine
 - ix) Which one of the following is the antiprotozoal agent having furan ring system in it?

a) Iodoquinol	b) Pentamidine
c) Eflornithin	d) Diloxanide

- x) Piperazine nucleus containing anthelmintics is-
- | | |
|-----------------------|----------------|
| a) Oxamniquine | b) Niclosamide |
| c) Diethylcarbamazine | d) Mebendazole |
- xi) Which of the following cephalosporin containing N-methyl-5-thiotetrazole moiety at the 3rd position?
- | | |
|-----------------|---------------------|
| a) Cefoperazone | b) Cefmetazole |
| c) Cefamandole | d) All of the above |
- xii) Aztreonam-
- | |
|--|
| a) Is only active against gram +ve bacteria |
| b) Is only active against gram -ve bacteria |
| c) Is only active against gram +ve anaerobes |
| d) Is active against both gram -ve and gram +ve bacteria |
- xiii) Stable chelate complexes are formed by the tetracyclines with metal like
- | | |
|------------|-----------------|
| a) Calcium | b) Magnesium |
| c) Iron | d) All of these |
- xiv) Quinoline moiety is synthesized from-
- | |
|--|
| a) 3-Chloroaniline & Ethylacetoacetate |
| b) P-Chloroaniline & Ethylacetoacetate |
| c) 4-Chloroacetate & Ethyloxaloacetate |
| d) 3-Chloroaniline & Ethyloxaloacetate |
- xv) Malaria is caused by?
- | | |
|---------------|------------------|
| a) Mycoplasma | b) Dermatophytes |
| c) Protozoa | d) Spirochaetes |
- xvi) Select example of compound having C₁ and C₂ ring form in quinolone derivatives.
- | | |
|-------------------|-----------------|
| a) Nalidixic acid | b) Norfloxacin |
| c) Prulifloxacin | d) Gatifloxacin |
- xvii) 2, 4, 5-trifluoro benzoic acid is the primary precursor of synthesis of-
- | | |
|-------------------|------------------|
| a) Nitrofurantoin | b) Ciprofloxacin |
| c) Hexamine | d) Ofloxacin |
- xviii) Which one of the following is the inhibitor of enzyme, Arabinosyl transferase?
- | | |
|---------------|-----------------|
| a) Isoniazid | b) Ethionamide |
| c) Ethambutol | d) Pyrazinamide |
- xix) In Ivermectin, mixture of B_{1a} and B_{1b} should be in ratio of-
- | | |
|----------|----------|
| a) 20:80 | b) 80:20 |
| c) 60:40 | d) 40:60 |
- xx) In sulphonamide, any substitution at C2, C3, C5 and C6 results in-
- | | |
|--------------------------|----------------------|
| a) Most active compound | b) Inactive compound |
| c) No effect on activity | d) Toxic compound |

2. Solve **any two**: **2x10**
=20
- i) Describe antiviral agents, give mechanism of action of each class with examples and draw the synthesis of acyclovir.
 - ii) Classify penicillin antibiotics with two examples of each class. Write chemical degradation of penicillin and give synthesis of oxacillin.
 - iii) Classify antifungal agents and give mechanism of action of each class with examples. Draw the synthesis of Miconazole.
3. Solve **any seven**: **7x5**
=35
- i) Write note on UTI. Draw the synthesis of ciprofloxacin.
 - ii) Discuss about antiprotozoal agents. Draw the synthesis of metronidazole.
 - iii) Write note on anthelmintics. Draw the synthesis of mebendazole.
 - iv) Write about Chemistry of Aminoglycosides and give two examples.
 - v) Describe etiology of malaria and draw the synthesis of Pamaquine.
 - vi) Discuss the SAR of Cephalosporins.
 - vii) Write note on antiviral agents. Draw the synthesis of acyclovir.
 - viii) Write about folate reductase inhibitors. Draw the synthesis of trimethoprim.
 - ix) Short note on antitubercular agents. Draw the synthesis of isoniazid.
