نماذج أسئلة لقسم الفارما كولوجى واجابة أسئلة MCQ

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رئيس قسم الفارما كولوجى للفرقة الثالثة

Model questions in pharmacology

1-Chemotherapy

I-Explain the following statements on pharmacological basis:

- Resistance is developed after long term use of isoniazide.
- Ceprofloxacin is contraindicated in children.
- Clavulonic acid is combined with amoxicillin upper respiratory tract infections.
- Clistatin is combined with imipenium anaerobic infections.
- Trimethoprim is combined with sulfamethoxazole in the treatment of urinary tract infections.
- Tetracyline is contraindicated in children.
- Vitamin B6 is combined with isoniazide treatment.
- Resistance may develop after administration of gentamicin.
- Three methods and three delivery systems of gene therapy.
- Resistance may develop after long term therapy with refampicin.

II- Mention the chemotherapeutic agents used in the treatment of the following diseases , mention the mechanism of action and 3 side effects of each of them:

- **Pulmonary tuberculosis**
- **Helicobacter pylori(mention 3 chemotherapeutic agents).**
- **Urinary tract infections(mention 3 chemotherapeutic agents).**
- **Syphilis(mention 3 chemotherapeutic agents0.**
- **Gonorrhea(mention 3 chemotherapeutic agents).**
- **Chronic prostatitis(mention 3 chemotherapeutic agents).**
- **Typhoid fever(mention 3 chemotherapeutic agents)..**
- **Meningiococcal meningitis(mention 3 chemotherapeutic agents)..**
- **Penicillinase producing staphylococcal infections(mention 3 chemotherapeutic agents)..**
- **Anaerobic infections(mention 3 chemotherapeutic agents).**
- **Hepatitis virus C(mention 3 chemotherapeutic agents)..**
- **Systemic fungal infections(mention 3 chemotherapeutic agents)..**

- **Severe intestinal amoebiasis**
- **Hepatic amoebiasis**
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III- Enumerate:

- **Two broad spectrum anihelmenthic drugs.**
- **Two broad spectrum bacteriostatic chemotherapeutic agents**
- **3 antipsudomonas chemotherapeutic agents with different chemical groups.**
- **Two Nephrotoxic chemotherapeutic agents of different chemical groups . Mention the mechanism of action , and 2 therapeutic uses of each of them.**
- **Two hepatotoxic chemotherapeutic agents . Mention the mechanism of action , and 2 therapeutic uses of each of them.**
- **Three chemotherapeutic agents that produce peripheral neuritis mention the mechanism of action and 2 side effects of each of them.**
- **Three drugs that produce bone marrow suppression . mention the mechanism of action ,2therapeutic uses.**
- **Two broad spectrum antimicrobial agents that inhibit cell wall synthesis.**
- **Three chemotherapeutic agents effective against mycobacterium and gram –ve bacilli.Mention the mechanism of action ,2 therapeutic uses and 2 side effects of each of them.**
- Three methods and three delivery systems of gene therapy.

Answer

1- Mbendazole, levamizole
2- -Tetracline , chloramphicol.
3- Antipsudomonas penicillin eg carbincillin and aminoglycosides eg gentamicin, imipenium
4- Aminoglycosides and cephalosporins.
5- Erythromycin , tetracycline
6- Ethambtol , isoniazide, aminoglycosides.
7- Chloramphicol , refampicin , alkylating agents
8-ampicillin , quinolones
9- Refampicin ,ceprofloxacin, aminoglycosides

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs

- **Ampicillin.**

- **Amoxacillin**
- **Benzathine penicillin**
- **Cotromixazole**
- **Oxytetracycline**
- **Doxicycline**
- **Gentamicin**
- **Amikacin**
- **Vancomycin**
- **Cefalexin**
- **Cefatrioxine**
- **Ofloxacin**
- **Ceprofloxacin.**
- **Azterionam.**
- **Refampicin**
- **Isoniazide.**
- **Ethambtol**
- **Amphotrecin B**
- **Flucytosine**
- **Fluconazole**
- **Interferone alfa**
- **Rebaverine**
- **Braziquantil**
- **Mebendazole**
- **Livamisole**
- **Chloroquine**
- **Artimethionate**
- **Quinine**
- **Metronidazole**

Compare between

- **Ampicillin , cotromiazole , oxytetracycline , amikacin , ofloxacin , cefatroxine,ciprofloxacin, mitonidazole as regards mechanism of action , antimicrobial spectrum , side effects.**
- **Refampicin , isoniazide , ethambutol as regards mechanism of action , side effects and spectrum of antimicrobial effect**

- **Amphotricin B ,fluconazole and flucytocin as regards to mechainism of action and side effects**
- **Chloroquine , quinine , artimethionate as regards mechanism of action ,side effects**
- **Braziquantil and mebendazole as regards to mechanism of action , therapeutic uses and side effects**

Choose the correct answer:

1- Gentamicin is effective against which of the following infections except :

a- Brrucella .
b- Klepsella.
c- Hemophyllus influenza d
d- Bacteroid fragilis.

2- Which of the following is not chemically related to aminoglycosides:

a- Kannamicin.
b- Tobrammycin.
c- Amikacin d
d- Clindaycin.

3- Which one of the following antibiotics is bacteriostatic :

a- Erythromycin.
b- Gentamicin.
c- Cefradin. a
d- Ampicillin.

4- Which one of the following antibiotics is effective in treatment of typhoid fever:

a- Penicillin G
b- Kefaclor.
c- Demicocycline. d
d- Ceprofloxacin.

5- Which of the following is a broad spectrum bactericidal antibiotic that inhibit bacterial protein synthesis:

a- Bencxacin penicillin.
b- Ampicillin. d
c- Chloramphicol.
d- Ofloxacin

6- Narrow spectrum chemotherapeutic agent that inhibits DNA gyrase enzyme is :

a- Nalidixic acid.
b- Ofloxacin. a
c- Spectinomycin
d- Non of above

7- Bone marrow depression is a side effect of all of the following drugs except:

a- Chloramphicol.
b- Cyclosporin. d
c- Interferone A.
d- Penicillin G

8- Fanconi syndrome is a side effect of which one of the following chemotherapeutic agents:

a- Refampicin.
b- Neomycin. c
c- Demicocycline.
d- Clindamycin

9- Cotromizole is a combination of :

a- Sulfadiaxine + trimethoprim
b- Sulfamethoxazole+ trimethoprim b
c- Sulfamdioxine + dapsone.
d- Sulfadioxine + pyrimethamine.

10- All of the following antimicrobial agents are used in the treatment of chronic prostatitis except:

a- Cotromixazole.
b- Ceprofloxacin. c
c- Amikacin.
d- Non of above.

11- All of the following statements are correct about ethambtol except:

a- It kills mycobacteria . a
b- It is active against tuberculous meningitis.
c- It causes optic neuropathy.
d- It inhibits cell wall synthesis of mycobatria.

12- Which of the following is effective against peudomembranous colitis:

a- Spiramycin.
b- Clindamycin.
c- Vancomycin. c
d- Erythromycin.

13- All of the following is correct about amphotricin B except:

a- It is long acting antifungal agent.
b- It inhibits fungal cell wall synthesis. b
c- It is poorly absorbed from gastrointestinal tract .
d- It is highly nephrotoxic.

14- Which one of the following has the longest duration of action:

a- Oxytetracycline.
b- Demicocyline.
c- Minocycline c
d- Chlortetracycline

15- Which one of the following is second generation cephalosporin

a- Cephradine.
b- Cefoperazone
c- Cefotaxine d
d- Cefoxitine

16- Which one of the following has the longest duration of action:

a- Benyl penicillin.
b- Benzacine penicillin b
c- Procaine penicilline
d- Amoxacillin.

17- Which one of the following drugs passes blood brain barrier

a- Cephalexin.

b- Cefaclor
c- Cefatriaxone c
d- Cephradine.

18- **Which one of the following is more active against gram –ve bacilli**
a- Dicloxacilline.
b- Erythromycin.
c- Cephalexine. d
d- Micillinam

19- **Febrile reaction after penicillin injection in syphilitic patient is:**
a- Jarisch –Hexheimer reaction a
b- Fanconi syndrome.
c- Gray baby syndrome
d- Non of above

20- **Which one of the following has the least possibility to develop drug resistance**:
a- Benzyl penicillin.
b- Benzacine penicillin c
c- Cloxacillin.
d- Amoxacillin

21- Which one of the following has the highest oral bioavailability:
a- Amikacin
b- Amoxacilliln b
c- Vancomycin.
d- Amphotricin .

22- All of the following chemotherapeutic agents are effective in treatment of anaerobic infections except:
a-Metronidazole
b- Imipenium. b
c- Vancomycin.
d- Cefoxitin.

23- **Pyrentel pamoate is effective in treatment of all of the following except:**
a- Ascaris .
b- Ancylostoma
c- Entrobius
d- Tinea solium d

24- The drug that kills secondary tissue phase of plasmodium vivax is;
a- Chloroquine.
b- Quiine.
c- Primaquine c
d- Tetracycline

25- The drug that kills gametocytes of plasmodium falciparum is;
a- Tetracycline
b- Quinine
c- sulfadioxine + pyrimethamine d
d- Primaquine

26- All of the following statements are correct about metronidazole except:
a- It is equally effective against luminal and tissue amoebiasis.
b- It is effective against trichomonas vaginalis. a
c- It has potent antimicrobial action against anerobic organisms.

d- It can be administrated both orally and parentrally.

27- Which one of the following has the least myelodepressive effect.

a- Mustin.
b- Procarbazine. c
c- Vincrestine.
d- Doxorubicin.

28- All of the following are cell cycle non specific anticancer agents except:

a- Nitrosurea.
b- Cisplatinum. d
c- Cyclophosphamide
d- Bleomycin.

29- Which one of the following drugs produces hemorrhagic cystitis:

a- Nitrosurea.
b- Cisplatinum.
c- Cyclophosphamide c
d- Bleomycin.

30- Which of the following types of interferone is used in the treatment of hepatitis c virus:

a- Interferone α a
b-Interferone β
c- Interferone γ
d- Non of above

Self assessment

1-Which of the following is vascular endothelial growth factor blocker:

a-Irinotecan
b- Bevacizumab b
c- Cetuximab
d-Paclitoxel

2-Which of the following is M phase specific anticancer drug

a-Cludrabine
b-Paclitoxel b
c-Cituximab
d-Dacarbazine

3-Whitch of the following is tyrosine kinase inhibitor:

a- Sorafenib
b- Panitumumab
c- Imatinib c
d- Lomastin

4-Which of the following is cell cycle non specific anticancer drug:

a- Asparagenase
b- Vincristine
c- Mitomycin c
d- Mithotroxate

5-Cardiotoxicity is a common side effect of which of the following drugs:

a- Doxorubicin a
b- Capecitabine
b- Bleomycin
c- Busulphane

6-Hemorrhagic cystitis is a common side effect of which of the following drugs:

a- Cyclophosphamide a
b- Procabazine.
c- Paclitoxel
d- Cytarabine

1- : A drug effective in the treatment of pox virus , meningiococcal , mycobacteria TB infections is

a- Isoniszide
b- Refampicin b
c- Famciclovir
d- Tetracycline

8- A drug used in treatment of Plasmodium falciparum and shistosoma mansoni is

a- Oxaminoquine
b- Commiphora molmol
c- Artimethionate c
d- Mefloquine

9-Which of the following is fourth generation cephalosporin is :

a- Cefotriaxone
b- Cefluprenam b
c- Cefoprozole
d- Cefoxitine

10-Which of the following drugs is safe during pregnancy:

a- Demicocycline
b- Ofluxacine
c- Isoniazide c
d- Amikacine.

11-Which of the following drugs is active against methicillin resistant staphylococci:

a- Carbincellin.
b- Metronidazole
c- Ceprofluxacin
d- Vancomycin d

12-Which of the following drugs inhibit cell membrane synthesis:

a- Polymexin a
b- Telithromycin
c- Grseofulvin
d- Telithromycin

13- Which of the following is neuramedase inhibitor:

a- Zanamivan a
b- Palivizumab
d- Enfuvirtide
e- Maraviroc

14- Exclusively topically active drug used in the treatment of herpes zoster keratitis:

a- Acyclovir
b- Famcyclovir
c- Foscarnet
d- Idoxuridine d

15- Nephrotoxic reverse transcriptase inhibitor used in treatment of hepatitis B virus infection:

a- Abacavir
b- Diadosine
c- Lumivudine c
d- Tenofovir

16-Enzyme inducer used in the treatment of AIDS

a- Acyclovir
b- Zidufudin
c- Retinovir c
d- Foscarnet

17-Mebendazole is used in treatment of all of the following except

a- Ascais lumbercoids.
b- Ancylostoma dudenale.
c- Tricuris tricuris
d- Strongloids stercoralis d

18- A drug that kills primary tissue phase of plasmodium vivax is :

a- Chloroquine
b- Mefloquine
c- Primaquine c
d- Amodiaquine

19-A drug regimen which is given to travellers to malaria endemic areas to prevent infection is called:

a- Radical cure
b- Causal prophylactic
c- Suppressant c
d- Terminal prophylactic

20-Cardiotoxic drug specific against entamoeba histolytica is :

a-Chloroquine
b-Emetine b
c-Metronidazole
d-Diloxinide fuorate

2-Endocrine pharmacology

I-Enumerate:

- Two drugs used in the treatment of non complicated maturity onset diabetes (type II).Mention 3 side effects of each drug
- Two drug groups used in treatment of hyperthyroidism .Mention their mechanism of action and 2 side effects of each of them.
- Two drugs that increase calcium deposition in bones .Mention the mechanism of action and 2 side effects of each of them.
- Two drug groups used in treatment of type I diabetes mellitus .Mention the mechanism of action and 3 side effects of each of them.
-.Three indications and three side effects of insulin therapy. Mention one example of short , intermediate and long acting insulin preparations
- Two drugs that inhibit conversion of T4 to T3. Mention 3 side effects and 3 indications of each drug.
- Two preparations ,2 indications of estrogen antagonists.
- 3 indications and 3 side effects of estrogen . mention one preparation of conjugated estrogen and another preparation of non steroid estrogen preparation.
- 3 preparations ,3 indications and 3 side effects of anabolic steroids.
- Two drug groups used in the treatment of osteoporosis .Mention the mechanism of action and 2 side effects of each them.
- 3 indications and 3 side effects of corticosteroid therapy. Mention 2 synthetic long acting preparations and short acting one .
- 3 Therapeutic contraceptive measures . Mention 2 advantages and 2 disadvantages of each of them.
- 2 drug groups used in the treatment of female infertility .Mention the mechanism of action , 2 side effects of each drug you mention.
- 2 drug groups used in the treatment of thyroid storm .Mention the mechanism of action , 2 side effects of each drug you mention.
-Mechanism of action 4 indications , 4 side effects and 4 precautions of use of dexamethasone
- The mechanism of action and 2 therapeutic uses of vasopressin.
- 3 drugs used in the treatment of osteoporosis .Mention the mechanism of action ,2 effects and 2 side effects of each of them.
    - The mechanism of action 3 therapeutic uses and 3 side effects of bromocriptine..

II-Compare between:

- Lysproinsulin and NPH insulin as regards the onset , peak and duration and therapeutic uses.
- Prednisolone and NPH insulin as regards their effects on blood glucose , lipid and protein metabolism. Mention 2 indications and 2 side effects of each drug.
- Metformin , soluble insulin and glipizid as regards their mechanism of action, side effects and indications
- Ethenylestradiol and norethisterone as regards their effects on blood pressure, blood vessels , uterus , ovary , CNS and blood glucose .Mention 2 therapeutic indications of each drug.
- Calcitonin and calcitiol as regards their effect on kidney , bones and serum calcium. Mention t2 indications of each of them
- Calcitriol and cholecalceferol as regards the onset and mode of action

- Cortisol and dexamethsone as regards its source , onset and duration of action , the effect on inflammation and sodium and water homeostasis.
- Cosantrin and prednisolone as regards its mechanism of action ,rout of adminsitration, effect on protein metabolism and melanosytes .
- Diethylstilbosterol and nandrolone as regards the mechanism of action , indications and side effects.
- Propylthiouracil and carbimazole as regards the mechanism of action , side effects .
- Calcitonin and calcitriol as regards the mechanism of action , effect on calcium, phosphate in blood and bones . Mention 2 therapeutic uses of each drug.

III-Explain the following statements on pharmacological basis

- Triamicolone induced hypertension
- Cortisol is used in treatment of anaphylactic shock
- Dexamethasone should not be stopped suddenly.
- Bromocriptine is used in the treatment of female infertility**..**
- Etodronate is used in the treatment of osteoporosis
- Vasoprssin tannate is used in the treatment of esophageal varices
- Protamine zinc insulin is not used in treatment of hyperglycemic coma
- Pioglutazzone is not used in treatment of type I diabetes.
- Tamoxifin is used in treatment of cancer uterus
- -Propranolol is used in treatment of thyrotoxic crisis.
- Radioactive iodine is contraindicated in treatment of young patients with hyperthyroidism
- Iodine is used before surgical treatment of thyrotoxicosis
- Iodine is not used in long term medical treatment of thyrotoxicosais
- Pridnisolone is used in treatment of rheumatoid arthritis
- Cyperterone acetate is used in treatment of hirsutism
- Flutamide is used in treatment of cancer prostate

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- **Octeritide**
- **Leutinizing hormone**
- **Bromocriptine.**
- **Vasopressin**
- **Dexamethasone**
- **Predinsolone**
- **Triamcinolone**
- **L- thyroxine**
- **Actrapid insulin**
- **Glebenclamide**
- **Metformin**
- **Glipizide**
- **Gliclazide**

- **Pioglutazone**
- **Acarbose**
- **Mestranol.**
- **Hydroxyprogesterone caproate**
- **Nandrolone**

Choose the correct answer

1-Which of the following is thiouracil derivative:
a-Propylthiouracil.
b- Methimazole.
c- Carbimazole.
d- All of the above. d

2-Which of the following is used in treatment of thyrotoxicosis:
a-Radioactive iodine (I^{131}). a
b-Radioactive iodine (I^{123}).
c-Radioactive iodine (I^{25}).
d-Radioactive iodine (I^{126}).

3- The antithyroid effect of propylthiouracil is due to:
a- Inhibition of conversion of T_4 to T_3.
b- Inhibition of synthesis of thyroxine.
c- All of above. c
d- Non of above.

4- Logule s iodine is a combination of:
a- Iodine + sodium iodide. a
b- Iodine + potassium iodine.
c- Iodine + lithium iodine.
d- Non of above.

5- All of the following drugs are used in the treatment of thyroid storm except:
a- Propylthioruacil.
b- hydrocortisone semisccinate.
c- Metoprolol. c
d- Iodine.

6- Which one of the following has the most potent mineralocorticoid like action?
a- Hydrocortisone .
b- Cortisone.
c- Desoxycorticosterone acetate. c
d- Dexamethasone.

7- Which of the following has the most potent anti-inflammatory action?
a- Hydrocortisone .
b- Prednisolone.
c- Desoxycorticosterone acetate.
d- Dexamethasone. d

8- Which of the following has the most potent anabolic action?
a- Dehydroepiandrosterone sulfate.
b- Testosterone propionate.
c- Nandrolone decanuate. c
d- Betamethasone.

9- Which of the following has the most potent estrogenic action?
a- Estradiole
b- Mestrenol
c- Diethylstilbosterol.
d- Ethenyl estradiole. d

10- Which one of the following is adrenocorticoid antagonist?
a- Ketoconazole.
b- Metyrapone.
c- Mitotane.
d- All of above. d

11- Which of the following has the longest duration of action?
a- Chlorpropamide. a
b- Acetazolamide.
c- Tolbutamide
d- Glipizide.

12- Hypoglycemia is a side effect of all of the following except:
a- Glebenclamide .
b- Lente insulin.
c- Metformin. c
d- Glyclazide.

13- The following agents stimulate the secretion of insulin except:
a- Glucose.
b- Amino acids
c- Salbutamol.
d- Clonidine d

14- The following drugs are used in the treatment of diabetic ketoacedosis except:
a- Glucose 5%.
b- Saline.
c- Soluble insulin.
d- Protamine zinc insulin d

15- The following drugs are steroid derivative except:
a- Diethylstelbosterol. a
b- Mestranol.
c- Triamethinolone.
d- Norethisterone.

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17- Octeritide inhibits the secretion of the following hormones except:
a- Growth hormone.
b- Gastrin
c- Antidiuretic hormone c
d- Thyroid stimulating hormone.

18- Methimazole inhibits:
a- Uptake of iodine by thyroid gland.
b- Coupling enzyme. b
c- Release of thyroxine.
d- Tissue activation of thyroid hormone.

19- Fluprednisolone has the following actions except:
a- Increase blood glucose concentration.
b- Increase blood pressure.
c- Increase intraocular pressure.
d- Decrease RBC count. d

20- Which one of the following has the most potent anabolic action?
a- Nandrolone decanuate. a
b- Diethylstilbosterol.
c- Methyltestosterone
d- Epiandrosterone sulfate

21- Which one of the following drugs inhibits conversion of T4 to T3:
a- Propylthiouracil a
b- Methimazole
c- Sodium iodide
d- Sodium thiocynate

22-Which one of the following inhibits uptake of iodine in thyroid gland
a- Propylthiouracil
b- Methimazole
c- Propranolol
d- Sodium thiocynate d

23- Human menopausal gonadotrophin contains
a- High FSH and low LH. a
b- High LH and low LH.
c- LH only
d- FFSH only

24-All of the following increase prolactin secretion except:
a-phenothiazine.
b- Methyl dopa. b
c- Reserpine.
d- Non of above

25- All of the following increase release of antidiuretic hormone except:
a- Ethanol. A d

b- Morphine.
c- Nicotine.
d- Adrenaline

Self assessment

1-5 alpha reductase enzyme is inhibited by:

a-Fenastride. a
b-flutamide
c-Spiranolactone.
d-Cyproterone

2-Which of the following drug has more anabolic action

a-Methyltestosterone
b-testosterone cypionate
c-Fluxymestrone
d-Nandrolne decanuate d

3-Fluoxymesterone increase all of the following except:

a-Erythropiotin
b-HDl b
c-Prothrombin
d-Sebaceous secretion

4-Which of the following drugs is used by sublingual rout:

a-Testosterone propionate
b-Methyltestosterone. b
c-Norethinrolone.
d-cyproterone

5-Which of the following is steroid derivative

a-Exemestane. a
b-Anastrozole
c-Letrozole
d-Fadrozole

6-Aromatase enzyme is inhibited by:

a-Gossypol
b-Letrozole b
c-Fenastride
d-Danazole

7-Dipeptidyl peptidase is inhibited by:

a-Pramilintide a
b-Exenatide
c-Sitagliptine
d-Pioglutazone

8-Which type of insulin preparations has the most rapid and shortest duration of action:

a-Lispro insulin
b-Glulysine insulin
c-Aspar insulin c
d-Glargine insulin

9-Which of the following insulin preparations has the longest duration of action:

a-Velosulin
b-NPH insulin
c-Soluble insulin
d-Ditmir insulin d

10-Whch of the following preparation is likely to produce hypoglycemia:

a-Glipizide
b-Aspar insulin b
c-Rapaglinide
d-Metformin

11-11 hyseoxysteroid dehydrogenase is inhibited by:

a-Metyrapone a
b-Mitotane.
c-Ketoconazole
d-trilostane.

12-Weight gain is a common side effect of all of the following except:

a-Protamine zinc insulin
b-Pioglutazone
c-Metformin c
d-Chlorpropamide

13-Which of the following has the most potent antiinflammatory effect:

a-Hydrocortisone
b-Pridnosolone
c-Dexamethasone c
d-Methylprednosolone

14-Which of the following has the most salt and water retaining effect:

a-Fludrocortisone a
b-Buclomethasone
c-Hydrocortisone
d-Progesterone

15-Osteoporosis is a common side effect of all of the following except:

a-Tamoxifen
b-Raloxafien b

c-Clomafin .
d-Cyproterone

16-Lactation is increased by all of the following except:

a-L dopa.
b-Bromocriptine b
c-chlorpromazine
d-Resrpine

17-Which of the following has the most potent antidiuretic hormone effect:

a-Vasopressin tannate
b-Lyopressin.
c-Desmopressin. c
d-Fellyprssin

18-Which of the following iodine radioactive isotope is used in diagnosis of thyroid disorders:

a-I^{131}
b-I^{132}
c-I^{126}
d-I^{123} **a**

19-All of the following increase calcium deposition in bones except:

a-Sodium fluoride.
b-Gallium nitrate.
c-Stanchiom ranelate.
d-Sodium bicarbonate d

20-Which of the following drugs is less likely to produce gastric irritation:

a-Palendromate
b-Etidronate b
c -pamidronate,
d- alendronate .

Model questions on cardiovascular pharmacology

I-Mention three drug group used in the treatment of the following conditions. Mention their mechanism of action , 2 side effects of each drug group:

- Emergency hypertension
- Unstable angina pectoris.
- Myocardial infarction.

- Vasospastic angina.
- Malignant hypertension.
- Mild hypertension.
- Atrial fibrillation.
- Supraventricular tachycardia.
- Ventricular tachycardia.
- Heart failure .
- Acute pulmonary edema
- Digoxin toxicity
- Anaphylactic shock

II-Compare between:

- Digoxin &digotoxin and ouabain as regards , duration of action , pharmacokinetics and rout of administration
- Quinidine , digoxine and procaindamide as regards their effects on heart rate , ventricular contraction , AV nodal conduction and autonomic nervous system . Mention 2 therapeutic uses and 2side effects of each drug.
- Verpamil and nifedipine as regards heart rate and blood vessels.
- Propanolol and minoxidil as regards their effects on heart rate , blood vessels and bronchi . Mention 2 side effects of each drug.
- Enalipril and verapamil as regards the mechanism of action , their effects on heart rate , myocardial contraction and bronchi. Mention 2 therapeutic uses and 2 side effects of each drug .
- Hydralazine and clonidine as regards their mechanisms of action, effects on CNS and cardiovascular system. Mention 2 therapeutic uses and 2 side effects of each drug.

III-Mention:

- **Two drug groups which produce positive inotropic effect . Mention their mechanism of action , 2 side effects and 2 therapeutic uses of each of them.**
- **2Advantages and 2disadvantages of diuretics in treatment of hypertension.**
- **2 benefits of B blockers in treatment of heart failure.**
- **2 arteriolar vasodilators , Enumerate 2 effects and 2 side effects of each of them.**
- **One preparation of class Ia and other of class 3 antiarrhythmic drugs .Enumerate 2 therapeutic uses and 2 side effects of each of them.**
- **2 factors that increase and 2 factors that decrease toxicity of cardiac glycosides .**

- **2 preparations ,2 advantages and 2 disadvantages of alpha adrenergic blockers in treatment of hypertension.**
- **One predominant arteriolar vasodilator and other predominant venodilator . Mention their mechanism of action , 2 therapeutic uses and 2 side effects of each of them.**
- Centrally acting antihypertensive drug used in emergency hypertension.Enumerate 2 of its side effects.
- Diuretic drug used in long term management of hypertension. Enumerate 2 of its side effects.
- Diuretic drug that cause hypokalemia. Enumerate 2 of its side effects..
- Antihypertensive drug that cause parkinsonism as a side effect. Mention the mechanism of its action.
- Drug used in treatment of congestive heart failure that produces bradycardia.
- Antihypertensive drug that produces tachycardia .Mention the mechanism of action and 2 of its side effects.
- Antihypertensive drug that produces bradycardia .Mention the mechanism of action and 2 of its side effects.
- Antihypertensive that produce bronchoconstriction and vasoconstriction.
- 2 antihypertensive drugs that produces hyperkalemia.
- Diuretic used in the treatment of emergency hypertension.
- A drug used in the treatment of both hypertension and psychosis.
- A local anesthetic drug used in the treatment of ventricular arrhythmia.
- 2 sedating antihypertensive drugs .Mention the mechanism of action and 2 side effects.
- A drug used in the treatment of both ventricular arrhythmia and generalized epilepsy.
- Antiarrythmic drug administrated by IV drip. Mention the mechanism of action and 2 of its side effects.
- Antihypertensive drug administrated by bolus IV injection.

IV-Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following:

- Dysopyramide.
- Sodium nitoprusside.
- Menoxidil
- Clonidine.
- Guanfacine.

- Isosorbide dinitrate.
- Lidocaine.
- Amodiarone.
- Adenosine.
- Nifedipine
- Verapamil.
- Deltiazem
- Nicorandil
- Isosorbide mononitrate.
- Nitroglycerine.
- Losartan
- Captopril
- Enalipril
- Minoxidil
- Hydralazine
- Bretylium
- Flecanide
- Ouinidine
- Digoxine

V- Explain the following statements on pharmacological basis:

- Digoxin is contraindiced in ventricular arrhythmia.
- Atenolol is contraindicated in vasospastic angina.
- Digoxine induced bradycardia.
- Tolerance may develop after long term use of nitrates.
- Malrinone is used in the treatment of heart failure.
- Bretylium induced postural hypotension.
- Metoprolol is used in the treatment of hypertension.
- Adenosine is used in the treatment of acute supraventricular tachycardia.
- It is better to give digocxine before administration of quinidine in the treatment of atrial fibrillation.
- Quinidine is contraindicated in patients with congestive heart failure.
- Quinidine may produce paradoxical tachycardia in patients with atrial fibrillation.
- Congestive heart failure may occur, if dysopyramide in patients with cardiac dysfunction.
- Theophilline is the proper antidote for acute adenosine toxicity.
- Lidocaine is administrated by IV infusion in the treatment of ventricular arrhythmia.
- Terazocin produces vasodilation without tachycardia.

- Acebutalol produces less bronchospasm than propranolol.
- Guanthedine is contraindicated in patient with pheochromocytoma.
- Long term use of hydralazine may precipitate angina pectoris.
- Atenolol is combined with hydralazine in the treatment of moderate and severe hypertension.
- It is contraindicated to give aldosterone and prindopril.
- Lisinopril induced hyperkalemia.
- Fosinopril is contraindicated in patient with bilateral renal artery stenosis.
- Nicorandil induced coronary vasodilatation.
- Isosorbide dinitrate induced headache.
- Nitrates are used in the treatment of cyanide poisoning.
- Cyanosis may occur after long term use of nitrates.
- Nitrate induced coronary dilatation.
- Verapamil and isosorbide mononitrate is a good combination in the treatment of stable angina.
- It is contraindicated to give quinidine in the treatment of digitalis induced tachycardia.
- Furosimide may aggravate digitalis toxicity.
- It is contraindicated to combine digoxine and verapamil in patient with congestive heart failure.
- It is contraindicated to give adrenaline in patient on digitalis therapy.
- Captopil may be used in the treatment of heart failure.
- Tachycardia and bradycardia may occur in cases of digitalis toxicity.
- Digitalis is contraindicated in treatment of wolf parkinsonian white syndrome.

VI- Choose the correct answer

1-Broad spectrum antiarrythmic drug that blocks sodium ,potassium and calcium channels is:

a- Quinidine.
b-Propranolol.
c-Amodiarone. c
d-Amidopine.

2- The drug of choice in treatment of acute supraventircular tachycardia is:

a-Atenolol.
b- Adenosine .b
c- Amilodipine.
d- Non of above.

3- All of the following are drugs are potent cardiodepressant except:
a-Lidocaine. a
b-Procainamide
c-Desopyramide
d- Verapamil.

4-All of the following drugs can be used in the treatment of Wolf Parkinsonian White syndrome except:
a- Digoxine. a
b- Flecanide.
c- Bretelium .
d- Procainamide.

5- The drug of choice in the treatment of digitalis induced ventricular arrhythmia is:
a-Lidocaine. a
b-Procainamide
c-Desopyramide
d- Verapamil.

6- All of the following manifestations may be side effects of digitalis induced arrhythmia except:
a- Heart block.
b- Ventricular tachycardia.
c- Atrial fibrillation.
d- Non of above. d

7- All of the following drugs can be used in the treatment of digitalis induced supraventricular tachycardia except:
a- Quinidine. a
b- Metoprolol.
c- Deltiazem.
d- Non of above.

8- All of the following drugs have parasympathomimetic effect except:
a- Ouabain.
b- Bretelium .
c- α methyl dopa.
d- Non of above. d

9- All of the following drugs have atropine like action except:

a- Meclizine
b- Quitapen.
c- Dysopyramide.
d- Mexilitine. d

10- Ultrashort acting parentraly administrated antiarrythmic drug used in the treatment of ventricular tachycardia :
a-Lidocaine.a
b-Procainamide
c-Desopyramide
d- Verapamil.

11- Ultashort acting parentraly administrated drug used in the treatment of supraventricular tachycardia is:
a-Atenolol.
b- Adenosine.b
c- Amilodipine.
d- Non of above.

12- Digoxine produces all of the following effects except:
a- Diuretic action.
b- +ve inotropic action.
c- Atropine like action. c
d- Non of above.

13- A drug that increases heart rate and myocardial contraction is:
a- Digotoxin.
b- Atropine.b
c- Adrenaline.
d- Doputamine

14- A drug that decreases heart rate and increases myocardial contraction is:
a- Digotoxin.a
b- Malrenone.
c- Theophilline .
d- Doputamine.

15- **A drug that decreases heart rate and decreases myocardial contraction is:**
a- Veapamil. a
b- Nifedipine.
c- Norepinephrine .

d- Non of above .

16- **A drug that decreases heart rate and increases myocardial contraction is:**
a- Veapamil
b- Nifedipine.
c- Norepinephrine .c
d- Non of above

17- Antianginal drug that produces coronary vasoconstriction is:
1- Nitroglycerine.
2- Deliazem
c- Atenolol.c
d- Nicorandil

18- Antianginal drug that may increase cardiac work is:
a- Verapamil
b- Isosorbide dinitrate.c
c- Metoprolol.
d- Non of above.

19- All of the following drug combinations are valid in the treatment of stable angina except:
a- Deliazem + Atenolol.a
b- Nifedipine + verapamil.
c- Isosorbide mononitrate+ verapamil
d- Isosorbide dinitrate + Metoprolol.

20- All of the following drugs may be used in the treatment of hypertensive encephalopathy except:
a- Clonidine.a
b- Catopril.
c- Nitroglycerine
d- Sodium nitroprusside.

21- All of the following drugs can be administrated by sublingual rout except:
a- Captopril.
b- Nifedipine.
c- Nitroglycerine
d- Sodium nitroprusside.d

22- The drug most likely to be used in patient with high renin hypertension is:
a- Prindopril. a
b- hydrochlorthiazide.
c- Nicardipine.
d- Non of above.

23- The drug most likely to be used in hypertensive patient with chronic obstructive air way disease is:
a- Pindolol.
b- Enalipril.
c- Deltiazem. c
d- reserpine.

24- The drug most likely to be used in hypertensive , diabetic patient is:
a- Timolol .
b- Bumetinide.
c- Minoxidil
d- Valsartan.d

25- The drug most likely to be used in hypertensive patient with supraventricular tachycardia is:
a- Nadolol.a
b- Chlorthalidone.
c- Nicarpine.
d- Hydralazine.

26- Postural hypotension is a side effect of all of the following drugs except:
a- Guanthidine.
b- Trimetaphane.
c- Isosorbide dinitrate.
d- labetalol.d

27- Which of the following is predominantly venous vasodilator
a- Hydralazine
b- Minoxidil
c- sodium nitroprusside
d- Nitroglycerine.d

28- Which of the following is thiazide non diuretic drug
a- Polythiazide.

b- Chlorthalidone
c- Diazoxide. c
d- Hydrochlorthiazide.

29- All of the following drugs has diuretic action except:
a- Digoxine.
b- Theophilline
c- Diazoxide. c
d- Dopamine

30-Salt and water retention is side of effect of which of the following drugs:
a- Reserine.a
b- Theophylline
c- Indipamide
d- Non of above

31- Which of the following is potassium channel opener:
a- Glebenclamide.
b- Nicorandil. b
c- Quinidine
d- All of the following

32- Malrinone is an example of:
a- Phosphodiesterase I inhibitor.
b- Phosphodiesterase II inhibitor
c- Phosphodiesterase IIIinhibitor. c
d- Phosphodiesterase IV inhibitor

33- Which of the following is vasodilator B blocker ;
a- Atenolol.
b- labetalol b
c- Acebutalol
d- Non of above

34- All of the following drugs can be used in the treatment of paroxysmal supraventricular tachycardia except
a- Atenolol
b- Lidocaine . b
c- Adenosine
d- Verapamil

35- All of the following increase digitalis toxicity except:
a-Hyperkalemia

b-Hypercalcemia
c-Concomitant administration with furosimide.
d- Concomitant administration with spironolactone. d

36-Which of the following is potassium channel opener and calcium channel blocker:
a- Amilodipine
b- Nicorandil
c- indipamide
d- Hydralazine

37- The hypotensive effect of fosinopril is augmented by all of the following except:
a- Chlorpromazine
b- Labetalol
c- Hydrochlorthiazide
d- Ibuprofin

38- The following drug combination is valid in the treatment of moderate hypertension except:
a- Prindopril+ Chlorthalidone.
b- Quitapril + Amelioride.
c- Amilodipine + atenolol
d- Atenolol + hydrochlorthiazide.

39- Which of the following drug combinations is most likely to be used in the treatment of vasospastic angina:
a- Deliazem + Atenolol.
b- Nifedipine + Sotalol.
c- Isosorbide mononitrate+ verapamil. c
d- Isosorbide dinitrate + Metoprolol.

40- A drug that increases cGMP and open potassium channels is:
a- Nitroglycerine
b- Nicorandil. b
c- hydralazine
e- Minoxidil

Pharmacology of blood

Mention
-Two factors that increase and two factors that decrease the effect of oral anticoagulants.

-One parentral anticoagulant , one oral anticoagulant and one thrombolytic agent .Mention their mechanism of action , 2 side effects of each of them.
- Two therapeutic uses , two side effects , two drugs that increase and two drugs that decrease iron absorption .
-3 drugs that used in treatment of hypercholestolemia , mention their mechanism of action , 2 side effects of each of them.
-Two preparations and 2 therapeutic uses of vitamin B12 .

-Compare between

- High and low molecular weight heparine as regards onset , duration of action ,efficacy and effect of lipid and platelet function.
-Heparine sodium , streptokinase and warfarine sodium as regards to mechanism of action , root of administration ,therapeutic uses and side effects.
-Gemfibrosil and atorvastatin as regards their mechanism of action , side effects and therapeutic uses .

Explain the following statements on pharmacological basis:

-Gemfibosil should not be combined with atorvastatin in treatment of hypercholestrolemia
-Ascorbic acid is combined with ferrous sulfate in treatment of iron deficiency anemia.
-Sodium bicarbonate is used in treatment of acute iron toxicity.
-Erythropiotin is administrated in patients with chronic renal failure
-Pentoxyphylline is used in treatment of peripheral vascular diseases.
-Clopidogril is used after vascular surgery.
-Urokinase is used in patients with acute myocardial infarction
-Desferoxamine is used in patients with hemocromatosis.
-Streptokinase therapy may produce hemorrhage.
-Cholestyramine is used in patients with obstructive jaundice.

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- Ferrous sulfate.
- Warfarine sodium
- Heparine sodium
- Erythropiotine
- Streptokinase
- Atorvastatin
- Simvastatin
- Cholestyramine
- Niacine
- gemfibrosil

Self assessment

1-Rhabdomyolysis is side effect of all of the following except:

a-Gemfibozil
b-Niacin b
c-Fenofibrate
d-Fenofibrate

2-Which of the following drugs increases serum HDL:

a-Gemfibozil
b-Niacin
c-Fenofibrate c
d-Omega 3.

3-All of the following drugs is hepatotoxic except:

a-Gemfibozil
b-Niacin
c-cholestyramine
d-Omega 3. d

4-All of the following is correct about ezetimibe except::

a-It reduces cholesterol and fatty acid absorption from GIT. a
b-It inhibits, NPC1L1 protein
c-It inhibits serum LDL more than VLDL concentration.
d-It can be combined with statins

5-All of the following drugs may be combined with statins except:

a-Clofibrate
b-Gemfibrozil b
c- ezetimibe
d-Colestibole.

6-Ancroid decreases

a-Factor X
b-Fibrin b
c-AntithrombinIII
d-Calcium.

7-The effect of warfarine is decreased by all of the following except:

a-Cholestyramine
b-Clofibrate
c-Phenobarbitone
d-Cefatrixone d

8-Iron absorption is enhanced by all of the following except:

a-Sodium citrate
b-Sodium succinate
c-Sodium phosphate c
d-Sodium ascorbate

9-Which of the following is antiplasmin:

a-Ancrod
b-Xamilagatran

c-Aminocaproic acid c
d-Menadione

10-Urokinase is contraindicated in all of the following conditions except:

a-Acute pancreatitis
b-Severe hypertension
c-One week after surgery
d-Unstable angina d

11-Vasodilator antiplatelet that increases cAMP is:

a-Pentoxyphylline a
b-Piraprost
c-Ketanserine
d-Clopidogril

12-Bleeding is a side effect of all of the following except:

a-Ceftrixone
b-Lipirudin
c-Trasylol c
d-Ibuprofen

13-Which of the following is lipoprotein lipase inhibitor

a-Niacin
b-Heparin b
c-Pentoxyphylline
d-Gemfibrozil

14-All of the following are administrated in combination with streptokinase in cases of myocardial infarction except:

a-Dexamethasone.
b-Captopril
c-Warfarine
d-Sodium bicarbonate d

16-Glycoprotein IIb is inhibited by:

a-Dipyridamol
b- Abciximab b
c-Clopidogril
d-Pentoxyphilline

Pharmacology of autachoids

Mention the mechanism of action , two therapeutic uses and two side effects of the following drugs

- Clistin

- Diphenhydramine
- Meclizine
- Brompheneramine
- Clemastin
- Loratidine
- Citirizine
- Cimetidine
- Ranitidine
- Famotidine

-

Compare between

-Citrizine and mechlizine as regards their mechanism of action , therapeutic uses ,side effects .

-Clemastin and cimetidine as regards the mechanism of action , therapeutic uses and side effects

-Cimetidine and ranitidine as tegards to their effect on central nervous system , endocrine system .

-First and second generation of H1 blockers as regards to therir effects on central nervous and autonomic nervous system therapeutic uses and side effects

- H1 & H2 receptor blockers as regards to their therapeutic and side effects.

-Angiotensin receptor blockers and angiotensin converting enzyme inhibitors as regards to their effect on blood vessels , heart and respiratory system ..Mention 2 side effects and 2 theapeutic uses of them.

-Captopril and losartan as regards to their mechanism of action ,side effects .Mention 3 common therapeutic use of both drugs.

-

Self assessment

Choose the correct answer

1 -Which of the following is vasodilator

a- Endothelin

b- Thromboxane A2

c- Bradykinin c

d- PGF2α

2 -Which of the following is phospholipase A inhibitor

a- Indomethacin
b- Hydrocortisone b
c- Zileutone
d- Refoxib

3 – All of the following are biological effects of PGE2 except:

a- Increase cell mediated immunity. a
b- Vasodilatation
c-Induce sleep
d- Decrease intraocular pressure

4 – Which of the following is the most potent vasoconstrictor:

a- Endothelin
b- Serotonin
c- Urotensin b
d- Angiotensin II

5-Which of the following is endothelin receptor antagonist

a- Montellokast.
b- sitaxsentan. b
c- Phsophoramidon
d- Trasylol

6- Which of the following is the most potent vasodilator

a- Bradykinin
b- Calcitonin gene related peptide b
c- Prostacycline
d- Nitrous oxide

7- Which of the following drugs inhibits the action of bradykinin

a- Lisinopril
b- Sumatrptane
c- Monellokast
d- Ularitide

8 – Which of the following drugs blocks $5HT_7$ receptors

a- Clozapine a
b- Bezotifen
c- Buspirone
d- Lanaprost

9 – Which of the following drugs has the least sedative effect:

a- Loratidine a
b- Meclizine
c- Ceproheptadine

d- Citazine

10 – Serotonin induced vasodilatation is mediated by:

a- Release of PGE1
b- Release of nitric oxide b
c- Direct effect on smooth muscles
d- Stimulation of 5HT1 receptors

11 – Histamine produces all of the following except:

a- Constricts the bronchi
b- Decreases gastric HCH secretion. B
c- Increase capillary permeability
d- Increase heart rate

12 – Which of the following is a co-transmitter with norepinephrin:

a- NeuropeptideY a
b- Neurotensin
c- Bradykinin
d- Ghalerin

13 – Which of the following autachoids increases cGMP:

a- Bradykinin
b- Nitric oxide.
c- Atrial naturetic peptide c
d- Angiotensin

14 – Renin is released in all of the following conditions except:

a- Excessive use of diuretics
b- Heart failure
c- Prolonged use of captopril
d- Hypernitremia d

15 –Cluster headache could be most effectively treated with:

a- Sumatriptane
b- Diphenhydramine b
c- Clonidine
d- Ondansetrone

16 – Lipooxygenase enzyme is selectively inhibited by:

a- Refoxib
b- Declofenac
c- Zilutone
d- Imepep

17- Omapatrilat,:increase the activity of

a- Angiotensin

b- Atrial naturetic peptide b
c- H_2 receptors.
d- H_1 receptors

18 – All of the following are common feature of histamine and serotonin except:

a- Both constrict the bronchi
b- Both dilate small blood vessels
c- Both are inhibited by cyproterone **c**
d- Both are metabolized by MAO A enzyme

19 – Which of the following receptors is stimulated by renzapride

a- 5TH1A
b- 5HT4 **b**
c- H2
d- 5HT1d

20 – All of the following has antiemetic effect except:

a- Ondansetrone
b- Loratidine **b**
c- Promethazine
d- Chlorpheneramine

Renal pharmacology

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- Thiazide diuretics
- Loop diuretics
- Potassium sparing diuretics.

Compare between furosimide , acetazolamide ,spironolactone and hydrochlorthiazide as regards their mechanism of action , their effects on serum calcium , potassium , uric acid . Mention 2 therapeutic uses and 2 side effects of each of them.

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- Furosimide
- Spironolactone
- Acetazolamide
- Hydrochlorthiazide
- Chlorthalidone.
- Metolazone

- Mannitol

Self assessment

1-All of the following drugs are loop diuretic except:

a-Ethacrinic acid.
b-Bumatanide
c-Chlorthalidone c
d-Endocrinone.

2-Which one of the following drugs can be used in treatment of renal failure

a-Dopamine a
b-Spironolactone
c-Hydrochlorthiazide
d-Acetazolamide

3-Loop diuretics increases urinary excretion of all of the following except:

a-Calcium
b-Sodium
c-Magnesium
d-Uric acid d

4-Which of the following drugs has the most effective as diuretic:

a-Benzrofuazide
b-Triametrine
c-Bumetanide c
d-Indepamide

5-Hypokalemia is a side effect of the following drugs except:

a-Indepamide
b-Acetazolamide
c-Hydrpchlorthazide
d-Mannetol d

6-Which one of the following drugs can be used in treatment of emergency hypertension:

a-Furosimide a
b-Ameloride
c-Indipmide
d-Chlorthalidone

7-Which one of the following combinations is therapeutically valuable in treatment of heart failure:

a-Furosimide + hydrochlorthiazide
b-Furosimide+ indomethacine
c-Furosimide+spironolactone c
d-Furosimide+Bumetanide

8-Which of the following drugs is used in treatment of diabetes indipidus

a-Furosimide
b-Ameloride
c-Indipmide
d-Chlorthalidone d

9-Alklyzation of urine increases the efficacy of the following drugs except:

a-Gentamicin.
b-Tetracycline b
c-Cotromixazole
d-erythromycin

10-Tubular necrosis is a common side effect of the which of the following drugs

a-Indomethancine
b-Nitilimicin
c-Captopril
d-Morphine d

11-The incidence of phosophate stones is increased after long term use of:

a-Indepamide
b-Acetazolamide b
c-Hydrpchlorthazide
d-Mannetol

12-The antidiuretic effect of morphine is due to:

a-Decrease metabolism of antidiuretic hormone
b-Decrease glomerular filtration rate
c-All of above
d-Non of above d

13-Acidification of urine is used in the treatment of the toxicity of

a-Amphetamine a
b-Acetylsalislic acid
c-Barbiturates
d-Indomethacine

14-Alkalosis is may occur after long term use of :

a-Ethacrinic acid
b-Hydrochlorthiazide b
c-Acetazolzmide
d-Isosorbide

15-The incidence of urinary stones is decreased after use of

a-Indepamide
b-Acetazolamide
c-Hydrpchlorthazide c

d-Mannetol

Skeletal muscle relaxants

Self assessment

1-**Which one of the following drugs is metabolized by Hofman s metabolism:**

a-Pepracuronium .
b-Atracuronium b
c-Fasidenium
d-Gallamine

2-**Which one of the following drugs is used in treatment of malignant hyperthermia:**

a-Dantoline. a
b-Succcenylcholine.
c-Alcuronium
d-Butulonium toxin

3-Which one of the following drugs is used in intratracheal intubation :

a-Gallamine
b-Alcuronium
c-Mevacuranium c
d-Vaecuronium

4-Which one of the following dugs has the longest duration of action

a-D-tbocurarine.
b-Atracuronium
c-Succenyl choline
d-Butulonium toxin d

5- **Which one of the following dugs whose action is prolonged by hyperkalemia:**

a-D-tbocurarine.
b-Atracuronium
c-Succenyl choline c
d-Butulonium toxin

6-The effect of gallamine is reversed by:

a-Neostigmine a
b-Potassium chloride
c-Calcium carbonate.
d-Dantoline

7-Which one of the following drugs can be used in treatment of convulsions caused by Cholestedium tetani:

a-Mevacuronium
b-Butulonium toxin

c-Gallamine c
d-Succenylcholine

8-Which of the following drugs can be used in the treatment of muscle spasm caused by rheumatoid arthritis

a-Fasidenium.
b-Seccenylchokine
c-Perracuronium
d-Charesoprodol d

9-Which of the following drugs may cause sedation

a-Mevacuronium
b-Butulonium toxin
c-Baclofen c
d-Succenylcholine

10-Which one of the following drugs act on Renshow cells

a-Mevacuronium
b-Butulonium toxin
c-Baclofen c
d-Succenylcholine

--Which one of the following drugs produce hypertesnion

a-D-tbocurarine.
b-Atracuronium
c-Succenyl choline c
d-Butulonium toxin

11--Which of the following drugs is more likely to produce causes bronchospasm

a-Mecurine. a
b-Fentiazac
c-Succenyl choline
d-Fasidenium

12-The hypotesnive effect of mecurine is due to:

a-Ganglion blockade
b-Histamine release
c-All of above c
d-Non of above

13-The following drugs are ganglion blockers except:

a-Mevacuronium
b-Butulonium toxin b
c-Baclofen
d-Succenylcholine

14-The effect of alcuronium is increased by :

a-Tetanic cxonraction
b-Potassium sulfate
c-Amikacin c

d-Succenylcholine

Gastrointestinal pharmacology

Enumerate

-Two drug groups used for treatment of peptic ulcer. Mention their mechanism of action , 2 therapeutic uses and 2 side effects.

-Two drug groups used for the treatment of motion sickness .Mention their mechanism of action ,2 therapeutic uses and 2 side effects.

-Two drug groups used for the treatment of Helicobacter pylori infections .Mention their mechanism of action , 2 therapeutic uses and 2 side effects of each of them.

-Two prokinetic agents ,Mention their mechanism of action , 2 therapeutic uses and 2 side effects of each of them.

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Compare between

-Sucralfate and omeprazole as regards their mechanism of action and side effects.

-Omeprazole and ranitidine as regards their mechanism of action and side effects.

-Bismuth subsalicylates and magnesium carbonate as regards their mechanism of action , therapeutic uses and side effects.

-Mitochlopramide and domperidone as regards their mechanism of action , effect on gastrointestinal tract , central nervous and endocrine systems

-Mitochlopramide and ondansetrone as regards their mechanism of action , effect on central nervous system , gastrointestinal tract . Mention 2 therapeutic uses and one side effect of each drug.

Explain the following statements on pharmacological basis

-Lactulose is used in prophylaxis against hepatic encephalopathy.

-Novobiocin is used in prophylaxis against hepatic encephalopathy.

-Octeritide is used in treatment of Zollinger illision syndrome.

- Terlipressin is used in treatment of esophageal varieces.

-Paracetamol induced hepatotoxicity.
-Methylcellulose is used in treatment of obesity.
-Bismusth subsalicylates is used in treatment of diarrhea
-Mesopristole is used in treatment of non steroidal anti-inflammatory induced peptic ulcer.
-Nabione is used in treatment of vomiting induced by anticancer drugs
-Long term lansoprazole therapy may increase the incidence of bacterial infections.
-Cimetidine may be used in treatment of hirsutism.
-Pirenzipine has less effect on central nervous system than atropine

Mention the mechanism of action , 2 therapeutic effects , 2 side effects of the following drugs:

- Bismuth subsalicylate.
- Omeprazole .
- Lansoprazole.
- Pantoprazole
- Ranitidine
- Cimetidine
- Oxyphenonium
- Pirenzipine.
- Sucralfate
- Mesopristole
- Chlorpromazine
- Mitochlopramide
- Domperidone
- Meclizine
- Sodium bicarbonate
- Magnesium sulfate
- Sulfasalazine

Self assessement

1-Mutilin receptors are stimulated by

a-Domperidone
b-Onsetrone.
c-Nabilone
d-Erythyomycin d

2-**5HT$_3$ receptors are stimulated by:**

a-Mitochopramide
b-Chlorpromazine
c-Misopristole
d-Famotidine

3-Sulfasalazine is a combination of:

a- sulfapyridine, 5-aminosalicylic acid (5ASA).a

b- Sulfamethoxazole , trimethoprim
c- Sulfadoxine , pyrimethamine
d- Sulfadiazine , dapson.

4-Chynodesoxycholic acid is more effective in dissolving

a-Cholesterol stones a
b-Bilirubin stones
c-Calcium carbonate stones
d-Mixed stones

5-The hepatotoxic effect of novobiocin is due to:

a-Inhibition of handling of bilirubin
a- Inhibition of conjugation of bilirubin.b
b- Inhibition of uptake of bilirubin
c- Inhibition of uptake of bilirubin

6-Infliximab inhibits :

a-Tumor necrosis factor.a
b-Leukotrienes
c-Bradykinin
d-Platelet activating factor

7-Fatty liver is a side effect of the following drugs:

a-Valproic acid. a
b-Novobiocin.
c-Alpha methyl dopa
d-Estradiole.

8-Vomiting during pregnancy is treated by all of the following except:

a-Miclizine. a
b-Promazine
c-Mitochlopramide
d-Vitamin B_6.

9-Octeritide is used in the treatment of the following diseases except:

a-Carcinoid tumor
b-Zollinger illison syndrome
c-Cancer stomach.c
d-VIPoma

10-Caster oil is:

a-Saline pergative.
b-Irritant pergative. c
c-Bulk forming laxative
d-Osmotic pergative

11-All of the following drugs are used in the treatment of hepatic encephalopathy except:

a-Neomycin
b-Metronidazole

c-Lactulose
d-Sulfasalazine d

12-Immune mediated hepatotoxicity is a manifestation of the following drugs except:

a-Acetaminophin.**a**
b-Penicillin.
c-Paraminosalicylic
d-Carbon tetrachloride.d

13-A purgative , cholegaue , hypotensive and antiarrythmic drug is:

a-Potssium iodide
b-Magnesium oxide
c-calcium carbonate
d-Magnesium sulfate. d

14-All of the following drug combinations are used in the treatment of resistant peptic ulcer except:

a -Metronidazole + ampicillin + omeprazole.
b-Clarthromycin + ampicillin+ lansoprazole
c-Tindazole + levofluxacin + omeprazole
d-Tetracycline+ metronidazole+ sucralfate+ omeprazole. d

15-Which of the following is the most potent as regarding inhibition of H_2 blockade:

a-Cimetidine
b-Ranitidine
c-Famotidine
d-Nizatidine

16-All of the following drugs are used in the treatment of esophageal varieces except:

a-Vasoprssin tannate.
b-Desmopressin. b
c-Propranolol
d-Verapamil.

Pharmacology of respiration

Enumerate two drugs used in the treatment of the following diseases. Mention their mechanism of action and 2 therapeutic uses of each of them:

- Acute bronchial asthma
- Chronic bronchial asthma
- Chronic bronchitis.

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- Albuterol
- Salmitrol

- Choline theophilline.
- Aminophylline
- Ipratropium bromide
- Beclomethasone
- Potassium iodide.
- Ketotifen
- Disodium cromoglycate.
- Zafirlukast
- Zileuton
- Oxygen therapy.

Compare between :

- Atropine and ipratropium bromide as regards their effects on respiratory , cardiovascular ,nervous system .
- Theophilline and dexamethasone as regards to their mechanism of action , effects on central nervous system , cardiovascular system . Mention 2 therapeutic uses and 2 side effects of each of them.

Explain the following statements on pharmacological basis

-Atropine is used in treatment of bronchial asthma.
-Its better to use Ipratopium bromide than atropine in treatment of bronchial asthma.
-Zafirlukast is used in prophylaxis against acetyl salicylic acid induced bronchial asthma.
-Ketotifen may prevent captopril induced cough.
-Disodium cromoglycate is used in acute but not chronic bronchial asthma.
-hydroxycobolamine is used in treatment of cyanide poisoning.
-Potassium iiodide is contraindicated in bronchial ashma.
-Amelioride is used in treatment of cystic fibrosis.

Self assessment

1-All of the following drugs may produces behavioral and mood changes except:

a- Tiotropium **a**
b- Dexamethasone
c- Monellokast
d- Zaditen.

2-The expectorant effect of ammonium chloride is due to:

a- Reflex stimulation of bronchial muscles. a
b- Increase volume of respiratory secretions.
c- Liquification of sputum.
d- Decrease viscosity of sputum.

3-An expectorant contraindicated in patients with bronchial asthma:

a- Potassium iodide. a
b- Synephrine hydrochloride.
c-Ipecacuanha
d-Sodium bicarbonate.

4-Which of the following has the least effect on respiratory cilia

a- Dexamethasone
b- Choline thiophilline
c- Albuterol.
d- Tiotropium d

5-Which of the following is orally active ,antihistaminic , antiserotonergic and must cell stabilizer:

a- Zileutine
b- Nidocromil
c- Ketotifen c
d- Bezotifen

6-Which of the following has the longest duration of action

a- Albuterol.
b- Terbutaline
c- Formotrol
d- Salbutamol d

7-Which of the following drugs has the most potent bronchodilator effect:

a- Betamethasone. a
b- Ipratropium bromide.
c- Disodium cromoglycate
d- Methyl prednisolone

8-Which of the following drugs is not used in acute term management of bronchial asthma

a- Dexamethasone
b- Ipratropium bromide
c- Nidocromil c
d- Turbutaline

9-Lung fibrosis is a side effect of all of the following drugs except:

a- Amodiarone.
b- Busulphane

c- Cholchicine c
d- Atorvastatin

10-All of the following are sulfur containing mucolytics except:

a- Bromohexine. a
b- Erdostine
c- S-adenosyl cystine
d- Acetylcytine.

11-Non sulfur containing mucolytic , diuretic drug is:

a- Bromohexine
b- Amelioride b
c- Erdostine
d- Servanta

12-The drug that decrease the adhesiveness of mucous to respiratory passages is called:

a- Mucolytic.
b- Surfactant. b
c- Decongestant
d- Expectorant

13-Angiotensin converting enzyme inhibitors induced cough is treated by:

a- Zafirikast
b- Bromohexine
c- Ketotifen c.
d- Potassium iodide.

14-The concentration of helium in gas mixture used during divering:

a- 20%
b- 50%
c- 70%
d- 80% d

15-The concentration of carbon dioxide in gas mixture used in carryting inhalational general anesthetics is:

a- 5%. a
b- 30%
c- 50%
d- 70%

16-Protein derived drug used in treatment of chronic bronchial asthma is:

a- Aminophylline
b- Dexamethasone
c- Omalizumab c
d-Bromohexine

Pharmacology of central nervous system

Enumerate:

- 3 preparations of serotonin reuptake inhibitors .Mention 3 therapeutic uses and 3 side effects of them.
- 3 drug groups used in the treatment of generalized epilepsy .Mention their mechanism of action. 3 side effects of each of them.
- Three MAO inhibitors . Mention their therapeutic uses and side effects .
- Two mood stabilizing drugs . Mention their mechanism of action and 3 side effects of each of them.
- Three preparations of phenothiazines. Mention their mechanism of action . 3 therapeutic uses and 3 side effects of them.
- 2 drugs that cause 2 one used in the treatment of parkinsonism . Mention the mechanism of action and 2 side effects of each of them.
- Three preparations of non steroidal anti-inflammatory drugs .Mention 3 therapeutic uses , 3 side effects of each of them.
- 3 therapeutic uses , 3 side effects and 3 contraindications of morphine.
- 2 short acting and 2 long acting preparations of benzodiazpins mechanism of action , 2 theapeutic uses , 3 side effects and of benzodiazpines
- Two advantages and 2 disadvantages of thiopental.
- Three side effects of local anesthetics ,2 ester and 2 ether local anesthetics
- Mechanism of action . 2 therapeutic uses . 3 manifestations of acute toxicity and treatment of acute toxicity of the following drugs:
  - -Acetyl salicylic acid
  - -Amphetamine
  - -Paracetamol
  - -Acute morphine poisoning.
  - -Chronic morphine poisoning (morphine addiction)

Mention
Three drugs used in the treatment of the following diseases Mention their mechanism of action . 3 side effects of each of them:

- Acute gouty arthritis
- Chronic gouty arthritis
- Depression
- Bipolar affective disorder
- Generalized (grand mal) epilepsy
- Petit mal epilepsy
- Acute rheumatoid arthritis
- Acute psychosis.
- Status epilepticus

Compare between

- Morphine , mepyradine as regards to their effect of central nervous system , eye , cardiovascular system.
- Morphine and pentazocin as regards their mechanism of action , effect on respiration , cardiovascular and central nervous system.
- Acetyl salicylic acid and paracetamol as regards their mechanism of action , their effect on central nervous system , gastrointestinal tract , liver and blood. Mention 2 rherapeutic uses and 2 side effects of each of them.
- Diclofenac sodium and meloxicam as regards their mechanism of action , effect of gastrointestinal tract and kidney.
- Teriary amine and quaternary amine antidepressant drugs.
- Imipramine and protryptaline as regards their mechanism of action , action of central , autonomic nervous system and metabolism.
- Acetyl salicylic acid and morphine as regards to their effect on central nervous system , cardiovascular and gastrointestinal tract . Mention 3 theapeutic uses and 3 side effects of each of them.

Explain the following statements on pharmacological basis:

- Carbidopa is combined with L-dopa in the treatment of parkinsonism.
- L dopa induced vomiting.
- Chrlopromazine may produce postural hypotension.
- Amitryptaline induce postural hypotension
- Imipramine may produce tachycardia.
- Adrenaline is combined with lidocaine in infiltration anesthesia.
- Pentazoncine is contraindicated in patients acute myocardial infarction.
- Fentanyl produces less respiratory depression than morphine.
- Diphennoxylate is used in treatment of diarrhea.
- Nalbuphine has less respiratory depressant action than morphine
- Pentazocine may produce tachycardia.
- Naloxone and not naltroxone is used in treatment of acute morphine poisosning.
- Acetyl salicylic acid is used in prophylaxis against thrombosis.
- Meloxicam has less side effects than pryroxicam
- Diclofenac sodium is contraindicated in bronchial asthma.
- Indomethacin is used in treatment of patent ductus arteriosus.
- Acetyl salicylic acid is contraindicated in children.
- Prolonged carbamazipine therapy is associated with weight gain
- Contraceptive pills falls in phenytoin treated epileptic patients .
- Pramipixole is used in treatment of parkinsonism
- Prolonged flufenazine therapy may produce parkinsonism.
- Caffiene may relive headache

Mention the mechanism of action , 3therapeutic uses and 3side effects of the following drugs:

- Diazepam
- Chlorpromazine
- Lorazepam
- Carbamzipine
- Diphenylhydantoin
- Valproic acid
- Imipramine.
- protryptaline
- Sertaline
- Sertindole
- Parpxotine
- TriFfluperazine
- Hallopeeridole
- Venlafaxine
- Bupropion
- Buspirone
- Respiridone
- Nalbuphine
- Flumazinil

1- Serotonin reuptake inhibitors is:

a-Imitryptaline
b-Sertindole.
c-Sertraline c
d-Buspirone

2-COMT inhibitor is:

a-Enticapon a
b-Phenelizine
c-Benzricide
d-Acetazolamide

3-Non sedating antianxiety drug is:

a-Propranolol
b-Buspirone b
c-Oxizepam
d-Primedone

4-All of the following are side effects of carbamazipine except:

a-Weight loss. a

b-Teratogenicity.

c-Hyponitremia

d-Ataxia.

5-Which of the following drugs is not used in treatment of petit mal epilepsy:

a-Ethosuxamide.

b-Clonazipam

c-Acetazolamide.

d-Primidone d

6-Which of the following is sigma receptor agonist:

a-Bupropion

b-Levalorphin

c-Ketamine c

d-Nalbufin.

7-Addictive ,CNS depressant drug with profound psychological dependence and mild physical dependence is:

a-Morphine

b-Amphetamine

c-Diazepam c

d-Cannabis

8-Long acting benzodiazepine is :

a-Diazepam a

b-Oxizepam

c-Medazolam

d-Thiopental

9-Anoxiolytic , antiepileptic , addictive drug contraindicated in patients with porphyria is:

a-Clonazepam.

b-Phenobarbitone b

c-Carbamazepam.

d-Valproic acid.

10-Non sedating, non addictive , hepatotoxic broad spectrum antiepileptic drug is:

a-Ethintoin

b-Carbamazipine

c-Diazepam

d- Valproic acid d

11-Tardive dyskinesia is a side effect of which of the following drugs;

a-Mepyridine
b-Nortryptaline
c-Isocarboxizide
d-Droperidole d

13-Pentazocin is used as analgesic in the treatment of all of the following conditions except:

a-Obstetric pain
b-Postoperative pain
c-Cancer pain
d-Pain of myocardial infarction. d

14-Hepatotoxic inhalation anesthetic with inadequate skeletal muscle relaxant effect is :

a-Halothane a
b-Enflurane
c-Sevoflurane
d-Nitrous oxide

15-Which of the following anesthetic agents has the shortest recovery time:

a-Thiopental sodium
b-Ketamine
c-Sufentanyl
d-Propofol d

16-All of the following drugs could be used in treatment of status epilepticus except:

a-Valproic acid a
b-Diphenylhydantoin
c-Diazepam
d-Phenobarbitone

17-Which one of the following has the least gastic irritant effect:

a-Pyroxicam
b-Meloxicam b
c-Ibuprofin
d-Diclofenac sodium

18-Al of the following are side effects of l-dopa except:

a-Abnormal movement
b-Hypotension
c-Vomiting
d-Gynecomastia. d

19-Parkinsonism is a side effect of all of the following drugs except:

a-Alpha methyl dopa

d-Reserpine
c-Halloperidole
d-Enticapone d

20-All of the following drug combinations are valid except:

a-L-dopa + carbidopa.
b-Imipramine + phenelizine b
c-Diphenylhydantoin + Gabapentin
d-Penicillamine + pyroxicam

General pharmacology

-Compare between zero order and first order kinetics as regards rate of drug elimination, drug half life of elimination, time to reach steady state concentration and the ratio of excretion of free drug.
-Compare between microsomal and non-microsomal enzymes as regards their location ,drug specificity ,liability for induction and their level in neonates and
-Compare between agonist competitive and antagonist as regards affinity , rate of drug association , rate of drug dissociation ,efficacy and intrinsic activity.
-Compare between overdose toxicity and idiosyncrasy as regards mechanism and dose dependence. Give example of each .
-Compare between type I and type II adverse drug reaction as regards dose dependency and mechanism .
-Compare between drugs with low and high hepatic clearance as regards to extraction ratio and predominant factor affecting each one .Give example of each.
-Compare between placental and blood brain barrier as regards to structure , location and clinical significance.

Define the following terms and mention 3 factors affecting them:

- Oral bioavailability.
- Volume of distribution.
- Renal clearance.
- Hepatic clearance.

-Define the following terms and give example of each:

- Partial agonist.
- Irreversible antagonist.
- Non competitive antagonist
- Idiosyncrasy.
- Teratogenicity.
- Drug hypersensitivity.
- Enterohepatic circulation

Mention the clinical significance of the following:

- Drugs with high plasma protein binding.
- Drugs that pass placental barrier
- Drugs that induce microsomal enzymes
- Drugs that inhibit microsomal enzymes.
- Enterohepatic circulation.

-Mention

- 3 advantages of intravenous root of administration.

- 2 methods to prolong the action of penicillin .
- One method that prolong the action of local anesthetics.
- 3 disadvantages of oral drug administration.
- One drug that inhibit micromal enzymes.
- One inducer of cytochrome p450pIAi
- One inducer of cytochrome p450pIIIC19.
- Idiosyncrasy reaction after administration of INH mention the mechanism .
- Idiosyncrasy reaction after administration of succenylcholine mention the mechanism.
- 3 brain areas outside the blood brain barrier.
- 3 drugs excreted in breast milk.
- 3 examples of prenatal drugs.
- 2 drugs with high plasma protein binding .
- 2 drugs displaced by non steroidal anti-inflammatory drugs.
- 2 factors that decrease oral bioavailability of drugs.
- 3 sites of first pass metabolism
- 3 drugs whose GIT absorption is decreased by food.
- 3 drugs whose GIT absorption is increased by food.
- 3sites of drug storage and give example for each one.

Explain the following statements on pharamacological basis:

- Barbaiturates are used in treatment of neonatal jaundice.
- Adrenaline is used in combination with local anesthetics.
- Penicillin G is used in treatment and not prophylaxis of bacterial meningitis.
- Adrenaline reverses the vasodilator effect of histamine.
- Males need relatively higher dose of drugs than females in the same age and weight.
- Mitoclopramide augments the effect of paracetamol (acetaminophen).
- The therapeutic effect of barbiturates may be lost after prolonged administration.
- Old patients need relatively lower doses of drugs than middle aged ones.

Self assessment

1-The following factors affect bioavailability except:

a-Surface area of the absorbing surface.

b-First pass metabolism.

c-Rate of elimination.c

d-pH of the drug.

2-Which of the following drugs is covalently bound with α receptors except:

a-Clonidine.

b-Isoprnaline. b
c-Phenoxybenzamine.
d-Amphetamine

3-To treat toxicity of acidic drugs, you must give

a-Acidic substance.
b-Basic substance b
c-Neutral substance
d-Lipid soluble substance.

4-Effective dose 50 is

a-The dose of the drug that produces the required response in half of the tested individuals.
b-The dose of the drug that produces half maximal effect.b
c-The dose of the drug that produces half maximal plasma concentration.
d-Non of the above.

5-The dosage of the drug should be decreased in all of the following conditions except:

a-Male patient .a
b-Young patient
c-Old patient
d-Female patient

6-Antagonist has

a-Affinity and efficacy.a
b-Efficacy and no affinity
c-Efficacy and no affinity

7-The following conditions are associated with decrease effect of drugs except:

a-Tolerance
b-Microsomal enzyme induction
c-Microsomal enzyme inhibition.c
d-Tachyphylaxis

8-**The drug which has rapid association and rapid dissociation with the receptors is called:**

a-Agonist. a
b-Antagonist
c-Chelating agent
d-Non of above

9-Idiosycracy is :

a-Genetically mediated a

b-Immunologically mediated.
c-All of above
d-Non of above.

`10-Probanicid induced increase in penicillin efficacy is due :

a-Decrease penicillin metabolism
b-Decrease renal clearance of penicillin. b
c-All of above
d-Non of above

11-The inhibition of histamine induced vasodilatation by adrenaline is an example of :

a-Completive antagonism
b-Non competitive antagonism
c-Physiological antagonism. c
d-Non of abov

12-All of the following cytochrome p450 oxidase subtypes are induciblr except :

a-Cytochrome P450 oxidase 1A2
b-Cytochrome p450 oxidase 2C9.
c- Cytochrome p450 oxidase 2b6. c
d-Non of abover

13-all of the following are first phase metabolism except:

a-Oxidation
b-Reduction
c-Glucuronization c
d-Hydrolysis

14-The following pathological conditions are due to idiosyncrasy except:

a-Procaine penicillin induced anaphylactic shock. a
b-Succenyl choline apnea.
c-All of above.
d-Non of above

15-Drug toxicity of most drugs is exaggerated in :

a-Renal patient
b-Hepatic patient
c-Tolerance c
d-Non of above.

16-All of the following is true about drugs with high plasma protein binding except:

a-Delayed absorption a
b-Delayed distribution
c-Delayed metabolism
d-Delayed excretion

17-Blood brain barrier is deficient in all of the following conditions except:

a-Old patients
b-Meningitis
c-Brain tumors
d-Non of above d

18-All of the following drugs are contraindicated during pregnancy except:

a-Zidofudin a
b-Aminoglycosides
c-Testosterone
d-Non of above

19-Placebo is a chemical substance which has

a-Affinity and efficacy
B-Affinity And no efficacy
C-Efficacy and no affinity
d-Neither affinity nor efficacy d

20-Partial agonist has

a-Partial affinity and efficacy
B-Affinity And partial efficacy. b
C-Efficacy and partial affinity
d-Neither affinity nor efficacy

21-A drug undergoing glomerular filtration:

a- Highly bound to plasma proteins.
b free and not bound to plasma protein. b
c-Has positively charged quaternary ammonium ion.
d-Has low volume of distribution.

22-Using the Fick Law of Diffusion, how will flux change if membrane thickness is doubled?

a) It will double
b) It will quadruple
c) It will halve c
d) It will quarter
e) It will not change

23-To treat overdose toxicity of acidic drug ,you may perform gastric lavage with:

a-Sodium bicarbonate. a
b-Ascorbic acid
c-Saline
d-Non of above.

24-Drug disposition is :

a-Absorption and distribution
b-Distribution and metabolism
c-Metabolsim and excretion
d-Distribution + metabolism + excretion. d

25- A decrease in renal and liver function, as seen in the elderly, would prolong drug half-life, ____ plasma protein binding, and ____ volume of distribution.

a) Increase; Increase
b) Decrease; Decrease
c) Increase; Decrease
d) Decrease; Increase

26-All of the following drugs are highly excreted in milk except:

a-Acidic drugs
b-Basic drugs
c-Lipid soluble drugs
d-Unionized drugs. d

27-The lipid-soluble form of a base is ____ and the lipid-soluble form of an acid is ____.

a) Protonated; Protonated
b) Protonated; Unprotonated
c) Unprotonated; Unprotonated
d) Unprotonated; Protonated d

28- What determines the degree of movement of a drug between body compartments?

a) Partition constant
b) Degree of ionization
c) pH
d) Size
e) All of the above

29-The non ionized lipid soluble drug with low molecular weight is usually absorbed by:

a-Pinocytosis.
b-Passive diffusion .b
c-Acitive transport
d-Filtration

30- Which of the following describes an agonist?

a) Any substance that brings about a change in biologic function through its chemical action
b) A specific regulatory molecule in the biologic system where a drug interacts
c) A drug that binds to a receptor and stimulates cellular activity. c
d) A drug that binds to a receptor and inhibits or opposes cellular activity
e) A drug directed at parasites infecting the patient

31-Half life of distribution is:
a-The time required for the drug to increase its concentration to 50% of steady state concentration. a
b-Time required for the drug to decrease its concentration to 50% of steady state concentration.
c-Time required for the drug to decrease its biological effect by 50%.
d-Non of above
32-Subacute toxicity study is performed over:
a-1-4 weeks.
b-1-6 months.b
c-6-12 months
d-1-2 years

33-Which of the following brain areas is outside blood brain barrier

a-Choroid plexus.a
b-Vomiting center.
c-Limbic system.
c-Supraoptic nucleus of the hypothalamus.

34-What percentage of the steady-state drug concentration is achieved at 3.3 * t(1/2)?
a) 10%
b) 25%
c) 50%
d) 75%
e) 90%. e

35-Damage at which of the following locations would most affect the goals of phase II biotransformation?
a) Skin
b) Kidneys
c) Lungs
d) Liver. d
e) GI Tract

36-Acidic drugs, such bind primarily to which of the following plasma
proteins?
a) α1-fetoprotein .

b) gamma Globulin
c) Albumin. c
d) α1-acid glycoprotein .

37-What organ is responsible for metabolism in the "first pass effect"?
a) Brain
b) Heart
c) Kidney
d) Liver d

38-Weak acids are excreted faster in ____ urine and weak bases are excreted faster in____ urine.
a) Acidic; Alkaline
b) Alkaline; Acidic b
c) Acidic; Neutral
d) Neutral; Alkaline
e) Alkaline; Neutral

a-Filtration
b-Diffusion
c-Active transport
d-Pinocytosis

39To maintain a drug concentration at steady state, the dosing rate should equal the
elimination rate. Which of the following is true? (CL = Drug Clearance)
a) Dosing rate = CL + target concentration
b) Dosing rate = CL - target concentration
c) Dosing rate = CL * target concentration. c
d) Dosing rate = CL / target concentration

40-Which of the following metabolically active tissues is the principle organ for drug metabolism?
a) Skin
b) Kidneys
c) Lungs
d) Liver. d
e) GI Tract

41-What type of drugs can cross the blood-brain barrier (BBB)?
a) Large and lipid-soluble
b) Large and lipid-insoluble
c) Small and lipid-soluble. c
d) Small and lipid-insoluble

42-Bioavailability is the fraction or percentage of administered drug that reaches the systemic circulation via a given route as compared to what route?

a) Oral
b) IV (intravenous) b
c) IO (intraosseous)
d) CSF (cerebrospinal fluid)

43- When an inactive form of the drug is being activated in the body ,it is called

a-Toxic metabolite.
b-Pro-drug. b
c-Cleared part.
d-Up regulation.

44-Which of the following can produce a therapeutic response? A drug that is:

a) Bound to plasma albumin
b) Concentrated in the bile
c) Concentrated in the urine
d) Not absorbed from the GI tract
e) Unbound to plasma proteins e

45-**Which one of the following drugs is highly bound to plasma proteins**

a-Sulfonamide
b-Heparine. b
c-Salicylates
d-Warfarine

Ocular and autonomic pharmacology

Compare between :

- Adrenaline , noradrenaline , isoprenaline , nicotine as regards their mechanism of action effects on cardiovascular , respiratory system
- Reserpine ,guanthedine as regards their mechanism of action effect on cardiovascular , central nervous system .Mention 2 therapeutic uses and 3 side effects of each of them
- Adrenaline and ephedrine as regards their mechanism of action effect on cardiovascular , respiratory ,central nervous system

- Salbutamol and isoprenaline as regards their mechanism of action effects on cardiovascular ,respiratory system , heart rate and blood pressure
- Proparanolol ,atenolol , metoprolol , temolol , pendolol and labetalol as regards to their mechanism of action , effect on blood vessels , central nervous system , cardioselectivity , intrinsic sympahthomimetic effect s .
- Prazocin and propranolol as regards their mechanism of action , effects on blood vessels , heart , respiratory system .Mention 3 therapeutic uses and 3 side effects of each of them .
- Phenoxybenzmine and phentolamine as regards their mechanism and duration of action .
- Atropine and hyosine as regards to their duration of action ,effects on central nervous system , cardiovascular , gastrointestinal tract and eye .
- Physostigmine and neostigmine as regards their cemical nature , oral bioavailabiliy , mechanism of action , effects on central nervous , muscloskeletal system. Mention 2 therapeutic uses of each of them.
- Lipophilic and hydrophilic B blockers as regards their bioavailability , metabolism , excretion , duration and passage through blood brain barrier . Mention 2 preparations of each of them.

Mention 3 drugs used in the treatment of the following diseases . Mention their mechanism of action , 3 side effects of each of them:

- Pheochromocytoma
- Acute migraine.
- Prophylaxis against migraine.

Mention the manifestations of treatment of acute toxicity of the following drugs:

- Atropine
- Malathione
- Amphetamine

- Proparnolol.
- Chronic wide angle glaucoma.
- Acute angle closure glaucoma

Explain the following statements on pharmacological basis:

- B blockers should not be stopped suddenly.
- Propranolol is used in treatment of thyrotoxicosis.
- Timolol is used in treatment of chronic wide angle glaucoma.
- Long term use of reserpine may cause parkinsonism
- Long term use of reserpine may cause gynecomastia
- Long term use of reserpine may cause female infertility
- Guanthdine is contraindicated in patients with pheochromcytoma.
- Clonidine is not used in treatment of emergency hypertension.
- Prazocin induced postural hyotenion
- Phenoxybenzamie induced tachycardia
- Atropine injection produces initial bradycardia followed by tachycardia.
- Hyosine is used in preanesthetic medication.
- Neostigmine is administrated after long abdominal operations.
- Alfuzocin is used in treatment of senile enlargement of prostate.
- Tolerance may develop to the cardiovascular effect of ephidrien.
- Tolerance may develop to the cardiovascular effect of reserpine.
- Hyosine butylbromide has less effects on central nervous system than hyosine.
- Pralidoxime is used in treatment of organophosphorus poisoning.
- Atenolol is used in treatment of obstructive cardiomyopathy.

- Edrophonium is used in diagnosis not treatment of mythesinia gravis.
- Neostigmine reverses the action of pancuronium.
- Atropine induced cycloplegia
- Guanethidine reduces intraocular pressure.
- Homatropine is used in treatment of iritis.

Trimetaphan induced postural hypotension.

- Phenylephrine is used in treatment of allergic conjunctivitis.
- Ipratopium bromide not atropine is used in treatment of bronchial asthma
- Norepinephrine induced bradycardia.
- Xylometazoline is used in treatment of allergic rhinitis
- Salbutamol is used in treatment of precipitate labor.
-

Mention the mechanism of action , 2 therapeutic uses and 2 side effects of the following drugs:

- Atropine
- Nostigmine
- Hyosine butyl bromide
- Prazocin
- Alfuzocin
- Proparnolol
- Atenolol
- Carvidalol
- Timolol
- Phenyephrine
- Xylometazoline
- Salbutamol
- Turbutaline
- Amphetamine
- Ephedrine

Enumerate

- Two preparations passive and 2 active mydriatics . Mention their mechanism of action and 2 therapeutic used of each of them.
- Two preparations of vasodilator B blockers . Mention 3 therapeutic uses and 3 side effect s of them.
- One non specific and one alpha 1 selective blocker . Mention 2 therapeutic uses and 2 side effects of each of them.
- Three therapeutic uses and three side effects of B 2 adrenergic agonists . Mention 2 short acing and 2 long acting preparations of them.
- Two preparations of cardioselective B blockers . Mention 3 therapeutic uses and 3 side effect s of them.
- Three therapeutic uses and 3 side effects of atropine . Mention the mechanism of action . 2 teriary amine and 2 quaternary amine atropine substitutes.

Self assessment

1-The symptoms of cholinesterase inhibitor toxicity include:
a-Nausea ,vomiting and diarrhea
b-Salivatio nand sweating
c-Miosis and paralysis of skeletal muscles
d-All of the above d
2-The cause of death in organophosphrus poisoning is:
a-GIT bleeding
b-Hypertension
c-Respiratory failure c
b-Congestie heart failure
3-Psudocholinesterase inactivates:
a-Succenylcholine.a
b-Methacholine
c-Carbachol
c-Curare.
4-Physostigmine may be used to overcome the toxicity of all of the following compounds ,except :
a-Amitriptyline
b-Edrophonium b
c-Atropine
d-Thioridazine.
5-Phenoxybenzamine is used in the treatment of all of the following except:
a-Pheochromocytoma.

b-Carcenoid tumor
c-Raynauld s disease.
d-Essential hypertension.d

6-A drug producing mydriasis without cycloplegia is:

a-Homatropine.
b-Pilocarpine.
c-Isoprenaline
d-Phenylephrine. d

7-The central effect of anticholinesterase can be prevented by:

a-Acetylcholine.
b-Atropine. b
c-Methacholine
d-Dopamine

8-Atenolol has

a-Intrensic sympahtomimetic activiy
b-Membrane stabilizing effect.
c-All of above
d-Non of above.d

9-Which of the following drugs is most likely to produce tachycardia

a-Proparanolol
b-Carbachol
c-Neostigmine
d-Trimetaphan. d

10-Which of the following drugs is more likely to produce postural hypotension:

a-Tolazoline. a
b-Metoprolol
c-Ibobamine
d-Bethanechol

11-Which of the following drugs stimulates nicotinic receptors

a-Trimetaphane
b-Carbachole. b
c-Phenoxybenzamine
d-Non of above.

12-Diastolic blood pressure is likely to be reduced by :

a-Adrenaline
b-Ibobmine
c-Isoprenaline. c
d-Non of above

13-GIT motility Is likely to be decreased by :

a-Reserpine
b-Propranolol
c-Phentolamine
d-Non of above.d

14-Selective B2 stimulants frequently cause:

a-Skeletal muscle tremors
b-Tachycardia proportionate to bronchodilatation
c-Vasodilatation of cutaneous blood vessels.
d-All of above. d

15-Which drug of the following can be used as a nasal decongestant

a-Adrenaline

b-Isoprnaline
c-Dopamine
d-Tetrahydrozoline. d

16-Which of the following drugs blocks autonomic ganglia;

a-Nicotine
b-Hyosine
c-Hyosine butyl bromide c
d-D-tubocurarine. d

17-which of the following does not cause bradycardia:

a-Clonidine
b-Reserpine
c-Noradrenaline
d-Prazocin. d

18-Urinary retention in an elderly man is most likely to result from:

a-Trimetaphan.
b-Reserpine. b
c-Hyosine
d-All of above

19-Which of the following drug is vasodilator:

a-Isoprenaline
b-Labetalol
c-Trimetaphane
d-All of above. d

20-Which of the following drugs inhibits uptake of norepinephrine by adrenergic neurons

a-Tyramine .
b-Amitryptayline(tricyclic antidepressant drug).b
c-Amphetamine .
d-Yohimbine.

21-All of following are toxic effects of α methyl dopa except

a-Sedation
b-Drug fever
c-Hepatitis
d-Hemolytic anemia
e-Prolonged vasospasm leading to gangrene.e