

الإمتحان مكون من 6 صفحات

تعليمات للإجابة:

ارسم جدول الإجابة الموضح في نهاية السؤال في كراسة الإجابة وضع الإجابة به.

I- Choose the correct answer and write symbol of your answer in the answer sheet below: (50 Marks)

- 1- Drugs are distributed more slowly to less perfused tissues, including
- A) Brain
B) Heart
C) Kidney
D) Skin
- 2- The molecular weight of most drugs ranged from
- A) 10-100
B) 100-1000
C) 1000-2000
D) None of them
- 3- is the maximal response produced by a drug
- A) Potency
B) Efficacy
C) LD50
D) None of them
- 4- The characters of simple diffusion, include all of the following, except:
- A) No need of energy
B) No carrier is required
C) Competition occurs with other drugs
D) Not saturable
- 5- This kind of movement depends mainly on hydrostatic pressure and blood flow
- A) Simple diffusion
B) Filtration
C) Active transport
D) Facilitated diffusion
- 6- Which route of drug administration is most likely to lead to the first-pass effect?
- A) Sublingual
B) Oral
C) Intravenous
D) Intramuscular
- 7- Therapeutic index is calculated by
- A) LD_{50}/ED_{50}
B) ED_{50}/LD_{50}
C) V_d/ED_{50}
D) None of them
- 8- The volume of liquids in intracellular compartment equals to of all body fluids
- A) 5 %
B) 15 %
C) 40 %
D) None of them
- 9- Drug biotransformation may lead to:
- A) Formation of toxic metabolites
B) Formation of more biologically active metabolites
C) Formation of more polar and water soluble derivatives

D) All of them

10- Half-life ($t_{1/2}$) is the time required to:

- A) Metabolize a half of an introduced drug into the active metabolite
- B) Bind a half of an introduced drug to plasma proteins
- C) Absorb a half of an introduced drug
- D) Change the amount of a drug in plasma by half during elimination

11- Stimulation of liver microsomal enzymes can:

- A) Require the dose increase of some drugs
- B) Require the dose decrease of some drugs
- C) Prolong the duration of the action of a drug
- D) Intensify the unwanted reaction of a drug

12- What is characteristic of the oral route?

- A) Fast onset of effect
- B) Absorption depends on GI tract secretion and motor function
- C) A drug reaches the blood avoiding the liver
- D) All of them

13- In the ANS, the preganglionic neurons synapse (connect) with postganglionic neurons in the:

- A) Autonomic ganglia
- B) Brain stem
- C) Spinal cord
- D) Skeletal muscle cells

14- The effector organs for the somatic motor nervous system are:

- A) Cardiac muscle
- B) Smooth muscles
- C) Skeletal muscles
- D) All of them

15- Most postganglionic neurons of the sympathetic division are

- A) Adrenergic
- B) Cholinergic

16- Acetylcholine released from postganglionic neurons can react with

- A) Adrenergic receptors
- B) Muscarinic receptors
- C) Nicotinic receptors
- D) B and C

17- Acetylcholine will be found in:

- A) Neuromuscular junctions
- B) Sympathetic ganglia
- C) Parasympathetic ganglia
- D) All of them

18- M_3 receptor subtype is located:

- A) In the heart
- B) In sympathetic postganglionic neurons
- C) On effector cell membranes of glandular and smooth muscle cells
- D) In the brain

19- The two major division of the autonomic system are the sympathetic and parasympathetic. Where do parasympathetic fibers originate?

- A) The thoraco-lumbar spinal region.
- B) The cranial and sacral regions.

20- The somatic nervous system is part of the:

- A) Sympathetic nervous system.
- B) Parasympathetic nervous system.
- C) Autonomic nervous system.
- D) None of the above

21- Regarding the sympathetic nervous system:

- A) All its preganglionic fibres are cholinergic.
- B) It is involved in stress & emergency conditions.
- C) It causes vasodilation of skeletal muscle blood vessels.
- D) All of them

22- Which of the following is NOT a pharmacokinetic process?

- A) Modification of the drug by liver enzymes
- B) Movement of drug from the GIT into general circulation
- C) The drug causes dilation of coronary vessels
- D) All of them

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

- A) Bound to plasma albumin
- B) Concentrated in the urine
- C) Not absorbed from the GI tract
- D) Unbound to plasma proteins

24- Insulin receptor belongs to

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) None of them

25- The effect of agonist that binds to occurs after lag time of 30 min to several hours

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) Intracellular receptor

26- These type of receptors suffer from down-regulation

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) Intracellular receptor

27- This type of receptor characterized by rapidity of signaling mechanism that allows moment-to-moment transfer of information across synapses

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) Intracellular receptor

28- This type of receptor is called "serpentine" receptors, because the receptor polypeptide chain "snakes" across the plasma membrane seven times.

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) Intracellular receptor

29- Fight-or-flight response is associated with

- A) Sympathetic nervous system
- B) Parasympathetic nervous system.
- C) Both of them

30- Muscarinic receptor is

- A) Tyrosine kinase linked receptor
- B) Ion channel
- C) G protein coupled receptors
- D) Intracellular receptor

31- M₂ receptors occur in

- A) Eye
- B) Heart
- C) Smooth muscles
- D) None of them

32- β₁ receptors occur in

- A) Brain
- B) Heart
- C) Smooth muscles
- D) None of them

33- The sympathetic preganglionic neurons release..... at their terminals.

- A) Norepinephrine
- B) neostigmine
- C) Acetylcholine
- D) All of them

34- Which of the following drug permeation mechanisms responsible for vitamin B12 absorption?

- A) Aqueous diffusion
- B) Lipid diffusion
- C) Carrier molecules
- D) Pinocytosis

35- How many types of muscarinic receptors

- A) 3
- B) 5
- C) 7
- D) 9

36- EC50 mainly reflexes a drug's:

- A) Efficacy
- B) Potency
- C) Toxicity
- D) Ease of elimination

37- An example of a receptor which is a structural protein.

- A) Na^+/K^+ ATPase
- B) Acetylcholinesterase
- C) Tubulin
- D) Phospholipase C

38- Example(s) for saturable transport system(s):

- A) Facilitated diffusion
- B) Passive diffusion
- C) Active transport
- D) A & C

39- Lipid solubility and drugs:

- A) More of the weak acid drug will be in the lipid-soluble form at alkaline pH
- B) More of the weak acid drug will be in the lipid soluble form at acid pH
- C) More of the weak base drug will be in the lipid soluble form at alkaline pH
- D) B & C

40- Example of a receptor which is enzyme:

- A) Dihydrofolate reductase
- B) Nicotinic receptor
- C) Muscarinic oxidase
- D) All of them

41- Vitamin A and D are obtained from

- A) Animal source
- B) Plant source
- C) Mineral source
- D) Microbiological source

42- All of the following are among characteristic variables of dose response curve, EXCEPT:

- A) Potency
- B) Efficacy
- C) Slope
- D) V_d

43- Receptors are usually:

- A) lipids
- B) proteins
- C) Active transport
- D) A & B

44- Drug P has a volume of distribution of 150 liters. Indicate below the implications that derive from this observation:

- A) Drug P distribution in the body is largely confined to the plasma
- B) Drug P is subject to extensive first-pass metabolism
- C) Drug P distribution involves large amounts in body tissues
- D) None of them

45- The process in which a substance is engulfed by the cell membrane.

- A) lipid diffusion
- B) carrier-mediated transport
- C) exocytosis
- D) pinocytosis

46- Conjugation with glucuronic acid is principally associated with which one of the following categories of drug metabolizing systems?

A) phase I

B) phase II

47- Site(s) of drug metabolism following oral ingestion:

A) blood

D) A & C

B) intestinal wall

E) A, B & C

C) liver

48- Bioavailability < 100% following oral dose administration:

A) incomplete absorption

C) both

B) first pass effect

D) neither

49- An example of an agent that exerts much of its effects through intracellular receptors:

A) acetylcholine

C) corticosteroids

B) dopamine

D) atropine

50- Most important organ for elimination of polar unchanged drug

A) liver

C) kidney

B) lung

D) none of them

Answer Sheet

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

II- Mark T for true sentence and F for false sentence in the answer sheet below: (40 Marks)

- 1- Insulin can be obtained from recombinant DNA technology and animal sources.
- 2- Sympathetic ganglia are usually located inside organs.
- 3- Drugs with very high molecular weight can diffuse easily between body compartments.
- 4- The most important organ in drug metabolism is the intestine.
- 5- Vitamin C inhibits the absorption of iron from the G.I.T.
- 6- Solids are absorbed better than liquids.

- 7- Drug absorption refers to the passage of drug molecules from the site of administration to stomach.
- 8- Dry mouth and sedation are among side effects of antihistamineic drugs.
- 9- Regarding tyrosine kinase receptors, extracellular binding domain and cytoplasmic enzyme domain are connected by a hydrophobic segment.
- 10- cAMP is a second messenger that mediates action of vasopressin on the kidney.
- 11- Autonomic nervous system belongs to central nervous system.
- 12- Acetylcholine is released at both sympathetic and parasympathetic ganglia.
- 13- The chemical difference between norepinephrine and epinephrine is the addition of a methyl group (CH_3) in norepinephrine.
- 14- Blood vessels receive only sympathetic nerve supply.
- 15- Neutral and basic drugs tend to bind to alpha-1-acid glycoprotein.
- 16- Rapid absorption occurs when the drug is given on empty stomach.
- 17- Rectal route is suitable for unconscious patients.
- 18- Intravenous route is not suitable for irritant drugs.
- 19- Tubulin is a receptor that belongs to structural protein.
- 20- Plasma protein-bound drugs generally cannot permeate through aqueous pores.

Answer Sheet

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Good Luck

Answer Sheet

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