

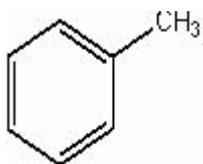
Choose the correct answer:

- 1- Drug metabolism is also called:
a) detoxification b) bioavailability
c) bioassay d) anabolic reactions
- 2- Which of the following is true:
a) esterase enzyme is found in liver while amidase enzyme is found in plasma.
b) cytochrome P450 enzyme is localized in liver only
c) oxidation can occur in lungs only.
d) reduction of aldehyde produces primary alcohol
e) oxidation of nitro and azo compounds give amines
- 3- Most of the current treatment of asthma involve :
a) bronchodilator (β 2 agonist)
b) an anti-inflammatory agent such as a corticosteroid
c) β 1 blocker
d) both a) and b)
e) both b) and c)
- 4- Procainamide:
a) is metabolized by blood esterase
b) is hydrolyzed faster than the ester procaine
c) has longer duration of action than the ester procaine
d) both a) and b)
e) both b) and c)
- 5- Drugs can be targeted against specific organ or tissues within the body because:
a) various receptor subtypes are not uniformly distributed around the body
b) all tissues have the same number of receptor subtypes.
c) Different receptors are found in human and in animals or microbes
d) All of the above
e) None of the above
- 6- Penicillins are considered selective antibacterial drugs because they:
a) target an enzyme involved in bacterial cell wall biosynthesis.
b) target an enzyme involved in Mammalian cell membrane biosynthesis.
c) target an enzyme involved in both bacterial and human cell wall biosynthesis.
d) Both a) and b)
e) Both b) and c)

- 7- Metabolites obtained after metabolism may:
- be inactive
 - retain similar activity
 - be with different activity
 - be bioactivated metabolites
 - all of the above
- 8- In Extra-hepatic metabolism:
- | | |
|-----------------------------|------------------------------|
| A) takes place in the liver | B) takes place in the kidney |
| C) takes place in the lungs | D) both a) and b) |
| E) <u>both b) and c)</u> | |
- 9- Hydrolysis of procaine (local anaesthetic) into p-aminobenzoic acid and N,N-diethylethanolamine is an example of:
- bioactivation
 - obtaining metabolites still active as local anaesthetic
 - obtaining metabolites with different activity
 - inactive metabolites
 - none of the above
- 10- The analgesic Codiene is metabolized in the body into the:
- analgesic paracetamol
 - analgesic phenacetin
 - analgesic morphine
 - antidepressant iproniazid
 - none of the above
- 11- Which of the following is an example of *bioactivated* metabolites?
- p-aminobenzoic acid from procaine
 - 6-mercaptopuric acid from 6-mercaptopurine
 - dopamine from levodopa
 - isoniazid from iproniazid
 - paracetamol from phenacetin
- 12- All of the following is correct about Phase- I metabolic reactions Except:
- Polar functional groups are either introduced into the molecule or modified
 - lipophilic compounds are converted into more polar compounds
 - lipophilic compounds are converted into less polar compounds by introducing polar endogenous molecules.
 - aromatic and aliphatic hydroxylation are examples of type I metabolic reaction
 - Phase I reactions may increase or decrease or leave unaltered the pharmacological activity of the drugs

- 13- Which of the following is not used to manage or delay drug metabolism
- a) IV injection
 - b) oral dosage forms
 - c) enteric coated formulations
 - d) inhalation
 - e) sublingual formulations
- 14- All of the following are enzymes involved in phase I metabolic reactions except:
- a) cyt P450
 - b) reductase
 - c) esterase
 - d) N-methyl transferase
- 15- Which of the following is an enzyme not involved in phase II metabolic reaction?
- a) glutathione S-transferase
 - b) glucuronyl transferase
 - c) sulfotransferase
 - d) amidase
 - e) N-acetyl transferase
- 16- First pass effect :
- a) means that drug is subjected to metabolism in intestine
 - b) means that drug is subjected to metabolism in lungs
 - c) can be avoided if administered by sublingual route
 - d) means acid degradation of drug in stomach
- 17- In choosing a bioassay procedure, which of the following is first tried:
- a) in-vitro test
 - b) in-vivo test
 - c) both a) and b)
 - d) none of the above
- 18- Which is incorrect:
- a) Enzyme inhibitors can be tested on pure enzyme in solution.
 - b) Receptor agonist and antagonists can be tested on isolated tissues or cells
 - c) Antibacterial drugs are tested in vivo by measuring how effectively they inhibit or kill bacterial cells
 - d) All Phase II-conjugation reactions increase polarity of conjugated metabolites except methyl transferase reactions
 - e) None of the above
- 19- Which is of the following is not a polar functional group/s
- A) OH B) NH C) CH₃ D) COOH E) -O-

- 20- The following compound is toluene. All of the followings are expected phase I metabolic reactions for it except:



Toluene

- a) para-hydroxylation
 b) oxidation into Ar-CH₂OH
 c) oxidation of Ar-CH₂OH into Ar-CHO
 d) oxidation of Ar-CHO into Ar-COOH
 e) oxidation of Ar-CH₂OH into Ar-CO-CH₃

- 21- _____ is the strategy that involves the addition, removal of functional groups or isosteric modification of them to manage drug metabolism

A- Pharmaceutical strategy

B- Chemical strategy

C- Pharmacological strategy

D-enzyme inducer strategy

- 22- Which of the following drugs can female metabolized faster

A- diazepam

B- Propranolol

C- Chlordiazepoxide

D- Lidocaine

- 23- All of the following are right about the prodrugs EXCEPT

A- Prodrugs are more stable than their parent compound

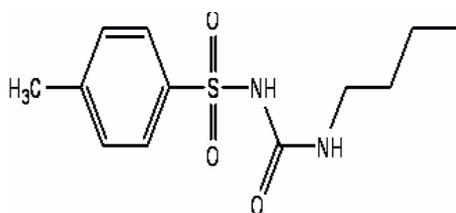
B- Prodrugs have better bioavailability

C- Prodrugs have more side effects

D- Prodrugs converted to active drugs in vivo

- 24- All of the following are possible phase I metabolic reactions for Tolbutamide (oral hypoglycaemic) except:

Tolbutamide



a) aliphatic oxidation of terminal-CH₃ into -COOH.

b) N- oxidative dealkylation

c) Amide hydrolysis

d) Ester hydrolysis

- 25- All of the following are right EXCEPT

A- An increase in drug dose decrease metabolism rate but sometimes an alternative pathway is opened.

B- Congestive heart increase metabolism rate

C- Increased N-acetyltransferase increase metabolism rate in Asian people

D- Deficiency of Iron increase metabolism rate

- 26- Enteric coated formulations
A- Involve the use of enzyme inhibitors to decrease drug metabolism
B- Useful for delivering drugs directly into the circulation system
C- Provide a continuous supply of drug over an extended period of time
D- Can protect acid sensitive drugs
- 27- There are several problems associated with *in- vivo testing* such as :
a) It is slow
b) it causes animal suffering.
c) Animals have different pharmacokinetic parameters than human
d) the results obtained may be misleading
e) all of the above
- 28- Tetracyclines are of _____ origin:
a) plant b) animal
c) marine d) venoms e) microbes
- 29- _____ should be carefully controlled when administering phenobarbitone:
a) penicillins b) warfarin
c) cimetidine d) chlordaizepoxide e) propranolol
- 30- Teprotide can be obtained from:
a) plants b) animals
c) marine d) microbes
e) venoms and toxins
- 31- There is no animal model for antipsychotic drug. This is:
A) true b) false
- 32- Transdermal patches are considered a tool of ----- to manage drug metabolism:
a) pharmaceutical strategy b)chemical strategy
c) pharmacological straytegy d)prodrug strategy
- 33- The antibacterial drug can be tested by its effect on:
a) enzyme reaction in tissues
b) action potential in isolated nerve
c) no available model for it
d) killing bacteria in cultures
e) none of the above
- 34- A lead compound :
a) is a compound which shows the desired pharmacological activity.

- b) its of the activity may not be very great
- c) it may have undesirable side effects.
- d) it provides a start for the drug design and development process.
- e) all of the above

35- Sulfonamides are Antibacterial agents that were the lead compounds for:

- a) penicillin antibacterials
- b) tolbutamide antidiabetic
- c) procaine local anaesthetic
- d) captopril antihypertensive

36- Thalidomide is teratogenic in :

- a) rabbits
- b) humans
- c) mice
- d) both a) and b)
- e) both b) and c).

37- _____ involves testing of large number of compounds versus a large number of targets.

- a) Surface Plasmon resonance
- b) scintillation proximity assay
- c) high throughput screening
- d) all of the above

38- Penicillin methyl ester is :

- a) hydrolyzed in mice into active penicillin,
- b) it is hydrolyzed in humans or rabbits.
- c) Is active only in human and rabbits
- d) Both a) and b)

39- Mustard gas was the lead compound for treating:

- a) leukemia
- b) bacterial infections
- c) angina
- d) diabetes

40- Administering ampicillin together with clavulanic acid is one of ----- strategies used to delay drug metabolism:

- a) pharmaceutical strategy
- b) chemical strategy
- c) pharmacological strategy
- d) prodrug strategy



With best of Luck

