



CHEMISTRY

BOOKS - PRADEEP CHEMISTRY (HINGLISH)

CHEMISTRY IN EVERYDAY LIFE

Curiosity

1. Name the active chemotherapeutic agent in each of the following widely used medicines:

(i) Ibuprofen (ii) Crocin (iii) disprin



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2. Alkaloids are poisonous and habit forming yet many of them are used as potent medicines, can you name the alkaloid used for the treatment of (i) hypertension, (ii) malaria fever and (iii) severe pain ?



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Test Your Grip I Multiple Choice

1. Which of the following antacids is an antihistamine

A. Ranitidine

B. Lansoprazole

C. Terfenadine

D. Luminal

Answer: a



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2. Which of the following is/are neurologically active drug/s .

A. Aspirin

B. Phenezine

C. Heroin

D. All the three

Answer: d



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3. Which is used as a painkiller ?

A. Antibiotic

B. Analgesic

C. Antipyretic

D. Antioxidants

Answer: b



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4. Birth control pills contain a mixture of

A. Aspirin + Ibuprofen

B. Luminal + Equanil

C. Norethindrone + Ethynylestradiol

D. Cimetidine + Brompheniramine

Answer: c



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5. Which of the following is not a broad spectrum antibiotic?

A. tetracycline

B. Chloromycetin

C. penicillin G

D. none of these

Answer: c



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6. Aspirin is an

A. antihistamine

B. Analgesic

C. antibacterial

D. antibiotic

Answer: b



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7. Antiseptic chloroxylenol is

A. 4-chloro-3,5-dimethylphenol

B. 3-chloro-4,5-dimethylphenol

C. 4-chloro-2,5-dimethylphenol

D. 5-chloro-3,4-dimethylphenol

Answer: a



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8. Which of the following is bacteriostatic?

A. penicillin

B. erythromycin

C. aminoglycoside

D. ofloxacin

Answer: b



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9. Which of the following is used as a preservative to protect processed food ?

A. Sodium tripolyphosphate

B. Saccharin

C. Diclofenac sodium

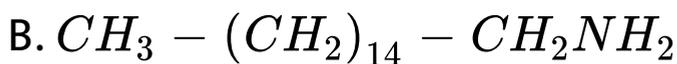
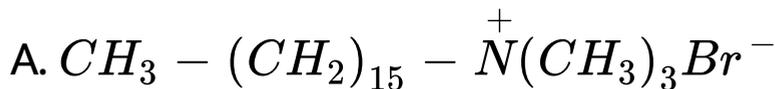
D. Sod. Metabisulphite

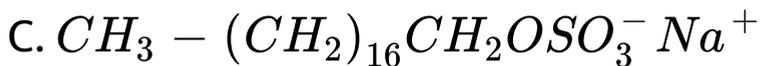
Answer: d



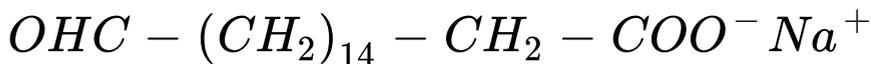
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10. Which of the following is not a surfactant?





D.



Answer: b



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11. Structurally a biodegradable detergent should contain a

A. normal alkyl chain

B. branched alkyl chain

C. phenyl side chain

D. cyclohexyl side chain

Answer: a



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Test Your Grip Ii Fill In The Blanks

1. _____ is the branch of chemistry which deals with the treatment of diseases using

chemicals



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2. A chemical substance which cures the disease , is safe to use, has negligible toxicity and does not cause addiction is called a _____ while a chemical substance which cures the disease but is habit forming , causes addiction and has serious side effects is called a _____



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3. Drug targets are biomolecules such as _____, _____, _____ and _____



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4. are produced when a drug binds to more than one type of receptor.



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5. The substance which lowers the acidity of the stomach is called _____



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6. Omeprazole and lansoprazole are _____



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7. The chemical which cause allergy is called



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8. Diphenylhydrazine and terfenadine are _____
drugs



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9. Aspirin on hydrolysis in the stomach gives
_____ which cause _____



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10. Aspirin inhibits the synthesis of _____ which stimulate inflammation in the tissue and cause pain



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11. _____ is widely used to prevent heart attacks



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12. Chemicals which lower the body temperature in high fever are called _____



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13. Naproxen is _____ analgesic



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14. Morphine diacetate is called _____



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15. Chemicals used for reducing pain are called



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16. Morphine or Heroin is a _____ analgesic



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17. The drugs used for the treatment of stress are called _____



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18. A drug which prevents pregnancy is termed _____



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19. Veronal, luminal and seconal are _____
derivatives



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20. Penicillin and ofloxacin are _____
antibiotics



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21. 2-3% solution of iodine in alcohol-water is called _____



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22. The antiseptic dettol is a mixture of _____
and _____ in a suitable solvent



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23. Depending upon concentration , phenol can be used both as an _____ as well as a _____



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24. The artificial sweetening agent sucralose is aderivative of sucrose.



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25. Tripolyphosphate is added to detergents as _____



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26. Polyethylene glycol stearate is a _____ detergent



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Conceptual

1. Why do drugs cause side effects ?



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2. Sleeping pills are recommended by doctors to the patients suffering from sleeplessness but it is not advisable to take its doses without consultation with doctor. Why?



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3. Sulpha drugs work like antibiotics but they are not antibiotics. Is this a valid statement and why?



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4. Pick out the odd ones from among the following compounds on the basis of their medicinal properties. (i) Luminal, seconal, phenacetin, equanil (ii) Chloroxylenol, phenol, chloramphenicol, bithional.





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5. Butylated hydroxytoluene (BHT) contains two bulky tert-butyl groups. Can it still work as an antioxidant if these two tert-butyl groups are removed ? Explain



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6. What are invert soaps ?



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1. Sleeping pills are recommended by doctors to the patients suffering from sleeplessness but it is not advisable to take its doses without consultation with the doctor. Why ?



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2. With reference to which classification has the statement, “ranitidine is an antacid” been given?



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3. Why do we require artificial sweetening agents ?



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4. Write the chemical equation for preparing sodium soap from glyceryl oleate and glyceryl palmitate. Structural formulae of these compounds are given below.

(i) $(C_{15}H_{31}COO)_3C_3H_5$ - Glyceryl palmitate

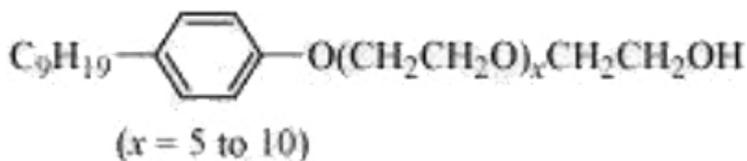
(ii) (i) $(C_{17}H_{32}COO)_3C_3H_5$ - Glyceryl oleate



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5. Following type of non-ionic detergents are present in liquid detergents, emulsifying agents and wetting agents. Label the hydrophilic and hydrophobic parts in the molecule. Identify the functional group(s)

present in the molecule.



Answer



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Ncert Exercises

1. Why do we need to classify drugs in different ways ?



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2. Explain the term, target molecules or drug targets as used in medicinal chemistry.



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3. Name the macromolecules that are chosen as drug targets.



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4. Why should not medicines be taken without consulting doctors ?



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5. Define the term chemotherapy.



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6. Which forces are involved in holding the drugs to the active site of enzymes ?



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7. While antacids and antiallergic drugs interfere with the function of histamines, why do these not interfere with the function of each other ?



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8. Low level of noradrenaline is the cause of depression. What type of drugs are needed to

cure this problem ? Name two drugs.



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9. What is meant by the term 'broad spectrum antibiotics' ? Explain.



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10. How do antiseptics differ from disinfectants ? Give one example of each.



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11. Why are cimetidine and ranitidine better antacids than sodium hydrogencarbonate or magnesium or aluminium hydroxide ?



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12. Name a substance which can be used as an antiseptic as well as disinfectant.



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13. What are the main constituents of dettol ?



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14. What is tincture of iodine ? What is its use ?



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15. What are food preservatives ?



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16. Why is use of aspartame limited to cold foods and drinks ?



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17. What are artificial sweetening agents ? Give two examples.



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18. Name the sweetening agent used in the preparation of sweets for a diabetic patient.



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19. What problem arises in using alitame as artificial sweetener ?



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20. How are synthetic detergents better than soaps ?



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21. Explain the following terms with suitable examples :

(a) Cationic detergents (b) Anionic detergents



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22. What are biodegradable and non-biodegradable detergents? Give one example of each class.



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23. Why do soaps not work in hard water ?



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24. Can you use soaps and synthetic detergents to check the hardness of water ?



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25. Explain the cleansing action of soaps.



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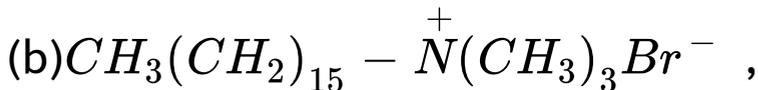
26. If water contains dissolved calcium hydrogencarbonate, out of soaps and

synthetic detergents which one will you use for cleaning clothes ?

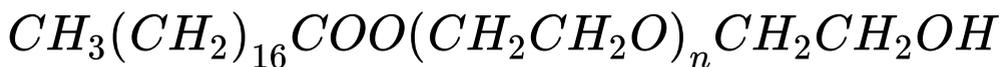


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27. Label the hydrophilic and hydrophobic parts in the following compounds.



(c) _____)



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Ncert Exemplar Problems Multiple Choice

1. Which of the following statements is not correct ?

A. Some antiseptics can be added to soaps.

B. Dilute solutions of some disinfectants can be used as an antiseptic.

C. Disinfectants are antimicrobial drugs.

D. Antiseptic medicines can be ingested.

Answer: D



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2. Which is the correct statement about birth control pills?

- A. Contain estrogen only
- B. Contain progesterone only
- C. Contrain a mixture of estrogen and progesterone derivatives

D. Progesterone enhances ovulation

Answer: C



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3. Which statement about aspirin is not true?

A. Aspirin belongs to narcotic analgesics

B. It is effective in relieving pain

C. It has anti blood clotting action

D. It is a neurologically active drug

Answer: A



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4. The most useful classification of drugs for medicinal chemists is_____.

- A. on the basis of chemical structure
- B. on the basis of drug action
- C. on the basis of molecular targets
- D. on the basis of pharmacological effect

Answer: C



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5. Which of the following statements is correct ?

- A. Some tranquillisers function by inhibiting the enzymes which catalyse the degradation of noradrenaline.
- B. Tranquillisers are narcotic drugs.

C. Tranquillisers are chemical compounds that do not affect the message transfer from nerve to receptor.

D. Tranquillisers are chemical compounds that can relieve pain and fever.

Answer: A



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6. Salvarsan is arsenic containing drug which was first used for the treatment of._____.

A. syphilis

B. typhoid

C. meningitis

D. dysentery

Answer: A



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7. A narrow spectrum antibiotic is active against

- A. gram positive or gram negative bacteria
- B. gram negative bacteria only
- C. single organism or one disease
- D. both gram positive and gram negative bacteria

Answer: A



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8. The compound that causes general antidepressant action on the central nervous system belongs to the class of

- A. analgesics
- B. tranquillizers
- C. narcotic analgesics
- D. antihistamines

Answer: B



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9. Compound which is added to soap to impart antiseptic properties is

A. sodium lauryl sulphate

B. sodium dodecylbenzenesulphonate

C. rosin

D. bithional

Answer: D



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10. Equanil is a

A. artificial sweetener

B. tranquillizer

C. antihistamine

D. antifertility drug

Answer: B



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11. Which of the following enhances leathering property of soap?

A. Sodium carbonate

B. Sodium rosinate

C. Sodium stearate

D. Trisodium phosphate

Answer: B



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12. Glycerol is added to soap. Its function:

A. as a filler

B. to increase lathering

C. to prevent rapid drying

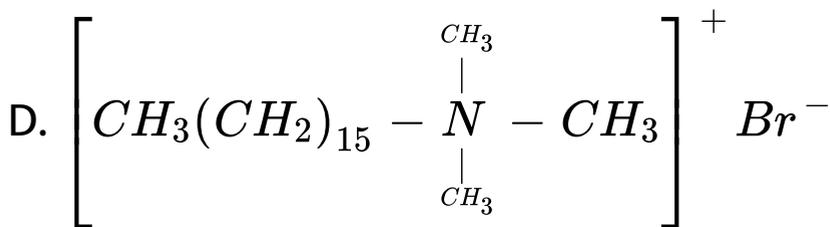
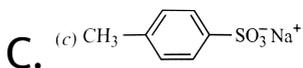
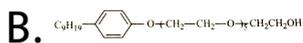
D. to make soap granules

Answer: C



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13. Which of the following is an example of liquid dishwashing detergent ?



Answer: B



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14. Polyethylene glycols are used in the preparation of which type of detergent ?

- A. Cationic detergents
- B. Anionic detergents
- C. Non-ionic detergents
- D. Soaps

Answer: C



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15. Which of the following is not a target molecule for drug function in body?

A. Carbohydrates

B. Lipids

C. Vitamins

D. Proteins

Answer: C



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16. Which of the following statements is not true about enzyme inhibitors ?

A. Inhibit the catalytic activity of the enzyme

B. Prevent the binding of substrate

C. Generally a strong covalent bond is formed between an inhibitor and an enzyme

D. Inhibitors can be competitive or non competitive

Answer: C



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17. Which of the following chemicals can be added for sweetening of food item at cooking temperature and does not provide calories?

A. Sucrose

B. Glucose

C. Aspartame

D. Sucralose

Answer: D



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18. Which of the following will not enhance nutritional value of food ?

A. Minerals

B. Artificial sweeteners

C. Vitamins

D. Amino acids

Answer: B



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Ncert Exemplar Problems Ii Multiple Choice

1. Which of the following statements are incorrect about receptor proteins?

- A. Majority of receptor proteins are embedded in the cell membranes.
- B. The active site of receptor proteins opens on the inside region of the cell.
- C. Chemical messengers are received at the binding sites of receptor proteins.
- D. Shape of receptor doesn't change during attachment of messenger.

Answer: B::D



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2. Which of the following are not used as food preservatives?

A. Table salt

B. Sodium hydrogen carbonate

C. Cane sugar

D. Benzoic acid

Answer: B::C



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3. Compounds with antiseptic properties are

A. $CHCl_3$

B. CHI_3

C. Boric acid

D. 0.3 PPM aqueous solution of Cl_2

Answer: B::C



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4. Which of the following statements are correct about barbiturates ?

A. Hypnotics or sleep producing agents

B. These are tranquillizers

C. Non-narcotic analgesics

D. Pain reducing without disturbing the nervous system

Answer: A::B



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5. Which of the following are sulpha drugs?

A. Sulphapyridine

B. Prontosil

C. Salvarsan

D. Nardil

Answer: A::B



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6. Which of the following are antidepressants ?

A. Iproniazid

B. Phenelzine

C. Equanil

D. Salvarsan

Answer: A::B::C



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7. Which of the following statements are incorrect about penicillin?

- A. An antibacterial fungus
- B. Ampicillin is its synthetic modification
- C. It has bacteriostatic effect
- D. It is a broad spectrum antibiotic

Answer: C::D



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8. Which of the following compounds are administered as antacids :

- (a) Sodium carbonate
- (b) Sodium hydrogen carbonate
- (c) Aluminium carbonate
- (d) Magnesium hydroxide

A. Sodium carbonate

B. Sodium hydrogen carbonate

C. Aluminium carbonate

D. Magnesium hydroxide

Answer: B::D



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9. Amongst the following antihistamines, which are antacids?

A. Ranitidine

B. Brompheniramine

C. Terfenadine

D. Cimetidine

Answer: A::D



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10. Veronal and luminal are derivatives of barbituric acid which are

- A. Tranquillizers
- B. Non-narcotic analgesic
- C. Antiallergic drugs
- D. Neurologically active drugs

Answer: A::D



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11. Which of the following are anionic detergents ?

A. Sodium salts of sulphonated long chain

alcohol

B. Ester of stearic acid and polyethylene

glycol

C. Quaternary ammonium salt of amine
with acetate ion

D. Sodium salts of sulfonated long chain
hydrocarbons

Answer: A::D



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12. Which of the following statements are correct ?

A. Cationic detergents have germicidal properties

B. Bacteria can degrade the detergents containing highly branched chains

C. Some synthetic detergents can give foam even in ice cold water

D. Synthetic detergents are not soaps.

Answer: A::C::D



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Ncert Exemplar Problems Short Answer

1. What is the average molecular mass of drugs ?



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2. Write the uses of medicines.



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3. What are antiseptics ?



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4. Which type of drugs come under antimicrobial drugs?



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5. Where are receptors located ?



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6. What is the harmful effect of hyperacidity ?



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7. Which site of an enzyme is called allosteric site ?



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8. What type of forces are involved in binding of substrate to the active site of enzyme ?



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9. What is the commonality between the antibiotic arsphenamine and azodye ?



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10. Which class of drugs is used in sleeping pills ?



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11. Aspirin is pain relieving antipyretic durg but can be used to prevent heart attack . Explain.



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12. Both antiacids and antiallergic drugs are antihistamines but they are antihistamines but they cannot replace each other . Explain why ?



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13. What is a soft soap ?



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14. If soap has high alkali content it irritates skin. How can the amount of excess alkali be determined ? What can be the source of excess alkali ?



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15. Explain why some times foaming is seen in river water near the place the place where sewage water is poured after treatment ?



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16. Which category of the synthetic detergents is used in toothpaste ?



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17. Hair shampoos belong to which class of synthetic detergent ?



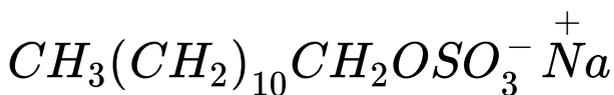
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18. Dishwashing soaps are synthetic detergents. What is their chemical nature ?



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19. Draw the diagram showing micelle formation by the following detergent.



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20. How does the branching of hydrocarbon chain of synthetic detergents affect their biodegradability ?



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21. Why is it safer to use soap from the enviromental point of view ?



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22. What are analgesics ?



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23. What is the scientific explanation for the feeling of depression ?



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24. What is the basic difference between antiseptics and disinfectants ?



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25. Between sodiumhydrogen carbonate and magnesium hydroxide , which is a better antacid and why ?



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26. Which anaglesis are called opiates ?



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27. What is the medicinal use of narcotic drugs ?



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28. What are antagonistic drugs ?



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29. What is the mode of action of antimicrobial drugs?





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30. What is the side product of soap industry ?

Give reactions showing soap formation.



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31. What is the difference between bathing soap and washing soaps ?



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32. How are transparent soaps manufactured ?



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33. What is the advantage of using antihistamines over antacids in the treatment of acidity ?



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34. What are the functions performed by histamine in the body ?



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35. With the help of an example explain how do tranquilizers control the feeling of depression ?



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36. Why are certain drugs called enzyme inhibitors ?



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37. What are fillers and what role these fillers play in soap ?



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38. Sugar is the main source of energy as it produces energy on metabolic decomposition. But these days low calorie drinks are more popular, why ?



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39. Pickles have a long shelf life and do not get spoiled for months, Why ?



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40. What is the difference between saccharin and saccharin acid ?



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41. Name an artificial sweetener which is derivative of sucrose.



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42. Name two α -amino acids which form a dipeptide which is 100 times more sweet than cane sugar ?



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43. Aspartame is unstable at cooking temperature, where would you suggest aspartame to be used for sweetening ?



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44. Sodium salts of some acids are very useful as food preservatives. Suggest a few such acids ?



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45. Explain the role of allosteric site in enzyme inhibition ?



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46. How are receptor protein located in the cell membrane ?



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47. What happen when the bond formed between an enzyme and an inhibitor is a strong covalent bond ?



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Ncert Exemplar Problems Matching

1. Match the medicines given in Column I with their use given in Column II

Column I

- (i) Ranitidine
- (ii) Furacine
- (iii) Phenelzine
- (iv) Chloramphenicol

Column II

- (a) Tranquillizer
- (b) Antibiotic
- (c) Antihistamine
- (d) Antiseptic
- (e) Antifertility drug



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2. Match the soaps given in Column I with items given in Column II

Column I

- (i) Soap chips
- (ii) Soap granules
- (iii) Soap powder
- (iv) Scouring soap

Column II

- (a) dried miniature soap bubbles
- (b) small broken pieces of soap formed from melted soaps
- (c) soap powder + abrasives + builders (Na_2CO_3 , Na_3PO_4)
- (d) soap powder + builders like Na_2CO_3 and Na_3PO_4



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3. Match structures given in Column I with the type of detergents given in Column II.

Column I	Column II
A. $\text{CH}_3(\text{CH}_2)_{16}\text{COO}(\text{CH}_2\text{CH}_2\text{O})_n, \text{CH}_2\text{CH}_2\text{OH}$	1. Cationic detergent
B. $\text{C}_{17}\text{H}_{35}\text{COO}^-\text{Na}^+$	2. Anionic detergent
C. $\text{CH}_3-(\text{CH}_2)_{10}\text{CH}_2\text{SO}_3^-\text{Na}^+$	3. Nonionic detergent
D. $\left[\text{CH}_3(\text{CH}_2)_{15}-\underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{N}}}-\text{CH}_3 \right]^+ \text{Br}^-$	4. Soap

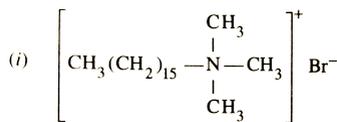


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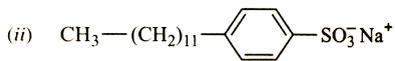
4. Match the detergents given in column I with their uses given in Column II.

Column I

Column II



(a) Dishwashing powder



(b) Laundry soap



(c) Hair conditioners



(d) Toothpaste



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5. Match the class of compounds given in Column I with their functions given in Column

II.

Column I	Column II
A. Antagonists	1. Communicate message between two neurons and that between neurons to muscles.
B. Agonists	2. Bind to the receptor site and inhibit its natural function.
C. Chemical messenger	3. Crucial to body's communication process.
D. Inhibitors	4. Mimic the natural messenger.
E. Receptors	5. Inhibit activities of enzymes.



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6. Match the classes of drugs given in Column I with their action given in Column II.

Column I	Column II
A. Analgesics	1. Inhibit the growth of microorganisms can be given orally
B. Antiseptics	2. Treatment of stress
C. Antihistamines	3. Applied to inanimate objects
D. Antacids	4. Prevents the interaction of histamine with its receptor
E. Tranquilizers	5. Pain killing effect
F. Antibiotics	6. Applied to diseased skin surfaces
G. Disinfectants	7. Treatment of acidity



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Ncert Exemplar Problems Assertion And Reason

1. Assertion (A) Penicillin (G) is an antihistamine.

Reason (R) Penicillin (G) is effective against gram positive as well as gram negative bacteria.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: C



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2. Assertion : Sulpha drugs contain sulphonamide group.

Reason : Salvarsan is a sulpha drug.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: D



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3. Assertion : Receptors are crucial to body's communicational process.

Reason : Receptors are proteins.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: A



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4. Assertion (A) Enzymes have active sites that hold substrate molecule for a chemical reaction.

Reason (R) Drugs compete with natural substrate by attaching covalency to the active site of enzyme.

- A. Assertion and reason both are correct statement but reason does not explain assertion
- B. Assertion and reason both are correct and reason explains the assertion
- C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: D



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5. Assertion (A) Chemical messengers are chemicals that enable communications of message between two neurons or between or between neurons and muscles.

Reason (R) Chemicals enter the cell through receptor.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is
wrong statement

Answer: D



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6. Assertion (A) Transparent soaps are made by
dissolving soaps in ethanol.

Reason (R) Ethanol makes things invisiable.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: D



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7. Assertion (A) Sodium chloride is added to precipitate soap after saponification.

Reason (R) Hydrolysis of esters of long chain fatty acids by alkali produces soap in colloidal form.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct
and reason explains the assertion

C. Both assertion and reason are wrong
statement

D. Assertion is correct statement reason is
wrong statement

Answer: B



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8. Assertion (A) Competitive inhibitors compete with natural substrate for their attachment on the active sites of enzymes.

Reason (R) In competitive inhibitor binds to the allosteric site of the enzyme.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: D



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9. Assertion (A) Non-competative inhibitor inhibits the catalytic activity of enzyme by binding with its active site.

Reason (R) Non-competitive inhibitor changes the shape of the active site in such a way that substrate can't recognise it .

A. Assertion and reason both are correct

statement but reason does not explain assertion

B. Assertion and reason both are correct

and reason explains the assertion

C. Both assertion and reason are wrong

statement

D. Assertion is wrong statement reason is correct statement

Answer: D



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10. Assertion (A) Chemical messenger gives message to the cell without entering the cell.

Reason (R) Chemical messenger is received at the binding site of receptor proteins.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: B



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11. Assertion (A) Receptor protein show selectivity for one chemical messenger over the other.

Reason (R) Chemical messenger binds to the receptor site and inhibits its natural function.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct
and reason explains the assertion

C. Both assertion and reason are wrong
statement

D. Assertion is correct statement reason is
wrong statement

Answer: D



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12. Assertion (A) All chemicals added to food items are called food preservatives.

Reason (R) All these chemicals increase the nutritive value of the food.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: C



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13. Assertion (A) Preservative are added to food items.

Reason (R) Preservatives inhibit the growth of microorganisms.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: B



Watch Video Solution

14. Assertion (A) Artificial sweeteners are added to the food to control the intake of calories.

Reason (R) Most of the artificial sweetnes are inert and do not metabolise in the body.

A. Assertion and reason both are correct statement but reason does not explain assertion

B. Assertion and reason both are correct and reason explains the assertion

C. Both assertion and reason are wrong statement

D. Assertion is correct statement reason is wrong statement

Answer: B



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Ncert Exemplar Problems Long Answer

1. In what respect do prontosil and salvarsan resemble. Is there any resemblance between azo dye and prontosil? Explain.



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2. How do enzymes catalyse a chemical reaction in the living system ?

Explain drug target interaction taking the example of enzyme as target.



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3. Synthetic detergents have advantage over usual soaps as far as cleansing power is concerned. But use of synthetic detergents over a long time creates environmental

pollution. How can the pollution caused by synthetic detergents be minimised ? Classify the detergents according to their chemical nature.



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4. What are enzymes inhibitors ? Classify them on the basis of their mode of attachments on the active site of enzymes. With the help of diagrams explain how do inhibitors the enzymatic activity ?



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Additional Very Short Answer

1. What is the nature of an antacid ?



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2. What class of drugs is ranitidine ?



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3. How do omeprazole and lansoprazole act as antacids ?



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4. What is the cause of depression in human beings ? Name two medicines to reduce depression ?



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5. What are barbiturates ? To which class of drugs do they belong ?



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6. Which class of drugs is used in sleeping pills ?



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7. What are tranquilizers ?



[Watch Video Solution](#)

8. Give one important use of each of the following in pharmacy:

(i) Equanil (ii) Morphine



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9. Write two side effects of Aspirin.



[Watch Video Solution](#)

10. What is an antipyretic ? Give an example.



[Watch Video Solution](#)

11. How does aspirin act as analgesic ?



[Watch Video Solution](#)

12. The drug used for the prevention of heart attacks is



[Watch Video Solution](#)

13. What is salvarsan To which class of drugs does it belong and for what disease is it used ?



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14. Broad spectrum antibiotics.



Watch Video Solution

15. (i) What are tranquilizers ?

(b) Give on example each of bactericidal and bacteriostatic antibiotics.



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16. What are antimalarials. Give examples.



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17. Classify the following into antihistamine, antacid, tranquilliser, antibiotic drug :
penicillin, meprobamate, terfenadine, ranitidine.



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18. Give one example of sulpha drugs.



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19. Define antiseptics?



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20. Name the chemical responsible for the antiseptic properties of dettol.



[Watch Video Solution](#)

21. Why is bithional added to soap ?



[Watch Video Solution](#)

22. Why iodoform show antiseptic properties ?



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23. Name one substance which can act as both

:

(i) Analgesic and antipyretic .

(ii) Antiseptice and disinfectant .



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24. Which of the following is an antiseptic :

0.2% phenol or 1% phenol



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25. Name one estrogen which forms a part of an oral contraceptive



Watch Video Solution

26. Which one of the following is a food preservative ? Equanil, Morphine, Sodium benzoate.



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27. What is aspartame and what is its use ?



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28. Give one example of an artificial sweetener used by diabetic patients.



Watch Video Solution

29. Name the antioxidants commonly used to increase the storage of butter.



Watch Video Solution

30. Name the antioxidant used in wine and beers.



Watch Video Solution

31. Why are detergents preferred over soap?



Watch Video Solution

32. What type of detergents are used for dish washing ?



[Watch Video Solution](#)

33. Which structural unit present in a detergent makes it non-biodegradable?



[Watch Video Solution](#)

34. What are the consequences of using non-biodegradable detergents ?



[Watch Video Solution](#)

35. Give one example for each of the following : (i) An artificial sweetener whose use is limited to cold drinks , (ii) A non-ionic detergent , (iii) A pain reliever for relief from severe post-operative pain or pain due to terminal cancer.



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36. Classify the following into artificial sweeteners, preservatives , soap , detergent : Sodium palmitate, sucrolose, salt of sorbic acid, cetytrimethylammonium bromide.



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Additional Short Answer

1. What do you understand by the term chemotherapy?



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2. What are medicines or drugs? Name the two types



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3. Describe the following with one example in each case

Tranquillisers



[Watch Video Solution](#)

4. Describe the following with suitable examples of chemicals (i)Antipyretics , (ii)Antiseptics



 [Watch Video Solution](#)

5. Describe actions of the following with suitable examples of state an example each and function of the following : (i) Tranquillisers , (ii) Broad spectrum antibiotics



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6. What are analgesic drugs ? How are they classified and when are they usually recommended for use ?



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7. What is an alkaloid ? Name two alkaloids which are used as analgesics ?



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8. Name the active chemotherapeutic agent in each of the following widely used medicines:

(i) Ibuprofen (ii) Crocin (iii) disprin



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9. How do antiseptics differ from disinfectants? Name a substance which can be used as an antiseptic as well as disinfectant



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10. Differentiate between disinfectants and antiseptics .



[Watch Video Solution](#)

11. How are antiseptics different from disinfectants ? How does an antibiotic differ from these two ? Give one example of each of them.



Watch Video Solution

12. Different between antiseptic and disinfectant



Watch Video Solution

13. Give one important use of each of the following

- (i) Bithional (ii) Chloramphenicol (iii) Streptomycin (iv) Paracetamol



Watch Video Solution

14. What is antibiotic ? Give the name of the first discovered antibiotic



Watch Video Solution

15. What are antibiotics? Give two examples.



Watch Video Solution

16. Mention one use each of the following drugs :

(i) Ranitidine

(ii) Paracetamol

(iii) Tincture of iodine



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17. What do you understand by broad spectrum antibiotics ? Is penicillin a broad spectrum antibiotic? Name a place in India where penicillin is manufactured



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18. Name a broad spectrum antibiotic and two diseases for which it is prescribed .



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19. Sulpha drugs work like antibiotics but they are not antibiotics . This a valid statement and why ? Give one example each for sulpha drug and antibiotics .



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20. Define the following with one or two examples in each case :

Sulpha drugs



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21. Describe the following with one example in each case (i) Bactericidal antibiotics (ii) Bacteriostatic antibiotics.



Watch Video Solution

22. Give the composition of one oral contraceptive



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23. Describe the following with one example in each case (i) Artificial sweeteners or Sweetening agents (ii) Food preservatives or Preservatives



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24. What are preservatives ? Give the name and formula of any two preservatives



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25. Why are artificial sweetening agents needed Draw the structures of two such sweeteners



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26. What is saccharin ? Write its significance.



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27. What are antioxidants ? What is the difference between preservatives and an antioxidant ?



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28. Give the names of two important antioxidants and explain how do they act ?



Watch Video Solution

29. What are detergents ? Give their scheme of classification



Watch Video Solution

30. Classify synthetic detergents giving an example in each case



Watch Video Solution

31. Why are detergents preferred over soap?



[Watch Video Solution](#)

32. Describe the following with one example in each case : (i) Detergents or Synthetic detergents , (ii) Biodegradable detergents , (iii) Non-biodegradable detergents



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33. Explain the cleansing action of soap Why do soaps not work in hard water?





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34. What are biodegradable and non-biodegradable detergents? Give one example of each class.



[Watch Video Solution](#)

35. Explain the following terms with suitable examples

(i) cationic detergents

(ii) anionic detergents and

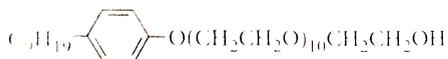
(iii) non-ionic detergents.



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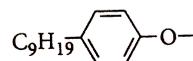
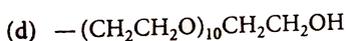
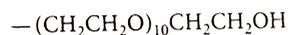
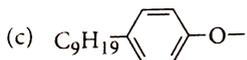
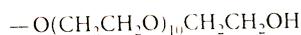
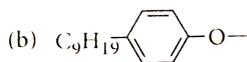
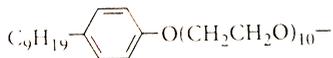
36. Identify the hydrophilic and hydrophobic parts in the following non-ionic detergent present in liquid detergents and wetting

agents .



Hydrophobic part

Hydrophilic part



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Additional Long Answer

1. What are medicines or drugs ? Discuss briefly the various types of medicines citing at

least one example



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2. Write a short note on chemotherapy



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3. What are food additives ? Discuss briefly the various types of food additives citing at least one example.



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4. What are synthetic detergents ? Write any four reasons for which they are preferred over soaps .



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Higher Order Thinking Skills

1. If water contains dissolved calcium hydrogencarbonate, out of soaps and

synthetic detergents which one will you use for cleaning clothes ?



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2. Account for the following: (i) Aspirin drug helps in the prevention of heart attack. , (ii) Diabetic patients are advised to take artificial sweeteners instead of natural sweeteners. ,(iii) Detergents are non-biodegradable while soaps are biodegradable.



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3. What are antihistamines ? Give an example.



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Value Based Questions

1. Vasantha is a domestic help (or maid) working at Mrs. Sharma's home. One day Vasantha complained to Mrs. Sharma that she had difficulty in reading the letter which she had received from her parents. Mrs. Sharma,

realising that Vasantha had an eye defect, look her to an eye-specialist doctor. The doctor tested her eyes carefully and told Vasantha to wear spectacles for Vasantha. By wearing these spectacles, Vasantha could read and write easily. She was very happy and thanked Mrs. Sharma.

(a) What could be the eye-defect Vasantha was suffering from ?

(b) What could be the eye-defect reasons responsible for her eye-defect.

(c) What type of lenses do you think doctor recommended for Vasantha's spectacles ? Why

?

(d) Do you think Vasantha has to wear the spectacles all the time ? Give reason for your answer.

(e) What values are displayed by Mrs. Sharma in this episode ?



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2. Due to hectic and busy schedule, Mr. Angad made his life full of tension and anxiety. He started taking sleeping pills to overcome the

depression without consulting the doctor. Mr. Deepak, a close friend of Mr. Angad, advised him to stop taking sleeping pills and suggested to changes his lifestyle by doing Yoga, meditation and some physical exercise. Mr. Angad followed his friend's advice and after few days he started feeling better.

After reading the above passage, answer the following :

- (i) What are the values (at least two) displayed by Mr. Deepak?
- (ii) Why is it not advisable to take sleeping

pills without consulting doctor?

(iii) What are tranquilizers? Give two examples.



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3. Due to hectic and busy schedule, Mr. Angad made his life full of tensions and anxiety. He started taking sleeping pills to overcome the depression without consulting the doctor. Mr. Deepak, a close friend of Mr. Angad, advised him to stop taking sleeping pills and suggested to change his lifestyle by doing

yoga, meditation and some physical exercise.

Mr. Angad followed his friend's advice and after few days he started feeling better.

What are tranquilizers? Give two examples.



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4. Due to hectic and busy schedule, Mr. Angad made his life full of tension and anxiety. He started taking sleeping pills to overcome the depression without consulting the doctor. Mr. Deepak, a close friend of Mr. Angad, advised

him to stop taking sleeping pills and suggested to changes his lifestyle by doing Yoga, meditation and some physical exercise. Mr. Angad followed his friend's advice and after few days he started feeling better.

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- (i) What are the values (at least two) displayed by Mr. Deepak?
- (ii) Why is it not advisable to take sleeping pills without consulting doctor?
- (iii) What are tranquilizers? Give two examples.



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5. i. Tara, after completing her exams, went to her grandmother's house along with her younger brother Rahul. One day, Rahul came home after playing and switched on the fan as well as air conditioner. At the same time, his grandmother was preparing a milkshake of him using a mixer. Suddenly, there was a big sound and the electricity of the house got shut down. Tara then called an electrician. He said the main reason of supply to shut down was overloading Both Tara and Rahul asked few

questions to the electrician as given below.

What answers would the electrician has given below. What answers would the electrician had given to these questions?

What happens to the flow of electric current during a short circuit?



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6. Ankit's grandfather is not only obese but he is also a diabetic patient. Seeing this fondness for sweets, Ankit suggested him to replace

sugar with artificial sweeteners. After few days, Ankit observed a controlled level of sugar in his grandfather. Answer the following :

(i) What are artificial sweeteners ?

(ii) What are artificial sweeteners ?

(iii) Give two examples of artificial sweeteners ?

(iv) Name an artificial sweetener which is unstable at cooking temperature.



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7. Seeing the growing cases of diabetes and depression among young children, Mr. Chopra, the principal of one reputed school organized a seminar in which he invited parents and principals. They all resolved this issue by strictly banning junk food in schools and introducing healthy snacks and drinks like soup, lassi, milk, etc. in school canteens. They also decided to make compulsory half an hour of daily physical activities for the students in the morning assembly. After six months, Mr. Chopra conducted the health survey in most

of the schools and discovered a tremendous improvement in the health of the students.

After reading the above passage, answer the following questions :

(i) What are the values (at least two) displayed by Mr. Chopra ? (ii) As a student, how can you spread awareness about this issue ? (iii) Why should antidepressant drugs not be taken without consulting a doctor ? (iv) Give two examples of artificial sweeteners.



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8. A group of students accompanied by their science teacher went trekking. After reaching the top of the hill they felt hungry. The Teacher told them that they would have to bear the hunger as cooking of food is slow and takes a longer time at the top of the hill. The students wanted to know the reason for the above fact. The Teacher explained the reason for the above fact till the food was cooked. Can you predict the explanation given by the teacher?



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Competition Focus I Multiple Choice

1. Use of chemicals for therapeutic effect is called

A. medicines

B. chemotherapy

C. drug target interaction

D. phototherapy

Answer: B



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2. The drug Tegamet is :

A. analgesic

B. antibiotic

C. anaesthetic

D. antacid

Answer: D



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3. Which of the following is not an antacid ?

A. Phenelzine

B. Ranitidine

C. Aluminium hydroxide

D. Cimetidine

Answer: A



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4. Terfenadine is commonly used as a/an

A. tranquillizer

B. antihistamine

C. antimicrobial

D. antibiotic

Answer: B



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5. Which of the following is employed as antihistamine .

- A. Omeprazole
- B. Chloramphenicol
- C. Diphenhydramine
- D. Norethindrone

Answer: C



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6. Which one of the following is employed as a tranquilizer ?

A. Equanil

B. Naproxen

C. Tetracycline

D. Dettol

Answer: A



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7. Which one of the following is employed as a tranquilizer drug ?

A. Mifepristone

B. Promethazine

C. Valium

D. Naproxen

Answer: C



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8. Barbituric acid is used as

A. An antipyretic

B. An antiseptic

C. An antibiotic

D. A tranquillizer

Answer: D



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9. Aspirin acts as an analgesic because it

- A. inhibits the synthesis of prostaglandins
which stimulate inflammation of the
tissue
- B. prevents the release of HCl in the
stomach
- C. prevents the interaction of histamine
with its receptor
- D. inhibits activities of enzymes

Answer: A



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10. The carboxyl functional group (-COOH) is present in

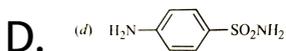
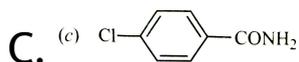
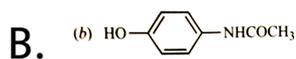
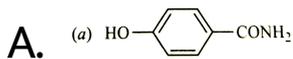
- A. Picric acid
- B. Barbituric acid
- C. Ascorbic acid
- D. Aspirin

Answer: D



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11. The correct structure of the drug paracetamol is :



Answer: B



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12. Which of the following drugs reduce fever?

A. Analgesic

B. Antipyretic

C. Antibiotic

D. Tranquilliser

Answer: B



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13. Which of the following can possibly be used as analgesic without causing addiction and modification?

A. Acetylsalicylic Acid

B. N-Acetyl-para-aminophenol

C. Phenyl salicylate

D. Methyl salicylate

Answer: B



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14. Which of the following is an analgesic ?

A. Streptomycin

B. Chloromycetin

C. Novalgin

D. Penicillin

Answer: C



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15. Narcotic analgesic is

A. aspirin

B. paracetamol

C. codeine

D. zantac

Answer: C



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16. Chloramphenicol is.

A. antiseptic and disinfectant

B. antibiotic broad spectrum

C. antifertility drug

D. antihistamine

Answer: B



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17. Amoxicillin is semi-synthetic modification of

A. Penicillin

B. Streptomycin

C. Tetracycline

D. Chloramphenicol.

Answer: A



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18. Which of the following is a bacteriostatic drug ?

A. Aminoglycosides

B. Penicillin-G

C. Ofloxacin

D. Tetracycline

Answer: D



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19. Which of the following is not true?

A. Ampicillin is not a natural antibiotic

B. Vancomycin is a broad spectrum antibiotic

C. Erythromycin is a bacteriostatic antibiotic

D. Prontosil is not converted into sulphanilamide in the body

Answer: D



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20. Antiseptics and disinfectants either kill or prevent growth of microorganism. Identify which of the following statements is not true :

A. Dilute solutions of boric acid and hydrogen peroxide are strong antiseptics

B. Disinfectants harm the living tissues

C. A 0.2% solution of phenol is an antiseptic while 1% solution acts as a disinfectant

D. Chlorine and iodine are used as strong disinfectants

Answer: A



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21. Tincture of iodine is

- A. aqueous solution of I_2
- B. solution of I_2 , in aqueous KI
- C. alcoholic solution of I_2
- D. aqueous solution of KI

Answer: C



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22. Bithional is generally added to the soaps as an additive to function as a/an

A. buffering agent

B. antiseptic

C. softner

D. dryer

Answer: B



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23. An ester used as medicine is :

A. ethyl acetate

B. methyl acetate

C. phenyl salicylate

D. ethyl benzoate

Answer: C



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24. The oxidant which is used as an antiseptic is

A. $KBrO_3$

B. $KMnO_4$

C. CrO_3

D. KNO_3

Answer: B



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25. Which of the following is used as a "morning after pill"?

A. Norethindrone

B. Ethynylestradiol

C. Mifepristone

D. Bithional

Answer: C



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26. The sweetest artificial sugar among the following is

A. aspartame

B. sucralose

C. alitame

D. sucrose

Answer: C



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27. The artificial sweetener containing chlorine that has the appearance and taste as the of sugar and is stable is stable at cooking temperature is .

A. aspartame

B. saccharin

C. sucralose

D. alitame

Answer: C



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28. Artificial sweetener which is stable under cold conditions only is

A. Saccharine

B. sucralose

C. aspartame

D. alitame

Answer: C



Watch Video Solution

29. Butylated hydroxy toluene as a food additive acts as

A. antioxidant

B. flavouring agent

C. colouring agent

D. emulsifier

Answer: A



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30. Food preservatives prevent spoilage of food due to microbial growth. The commonly used preservatives are :

A. table salt, sugar

B. vegetable oils and sodium benzoate

C. C_6H_5COONa

D. All of the above

Answer: D



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31. Salts of sorbic acid and propionic acid are used as

A. antioxidants

B. flavouring agents

C. food preservatives

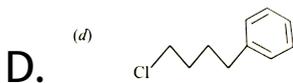
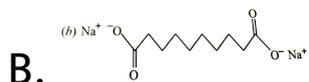
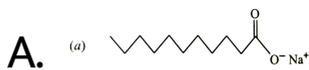
D. nutritional supplement

Answer: C



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32. Which of the following can disperse benzene in water



Answer: A



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33. The organic detergents that is used in hair conditioners _____.

A. sodium dodecylbenzene sulfonate

B. sodium lauryl sulphate

C. tetramethylammonium chloride

D. cetyltrimethylammonium bromide

Answer: D



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34. Which one of the following is a cationic detergent ?

- A. Sodium lauryl sulphate
- B. Cetyltrimethylammonium bromide
- C. Sodium dodecylbenzenesulphonate
- D. Glyceryl palmitate

Answer: B



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35. Which of the following is an anionic detergent ?

A. Sodium stearate

B. Sodium lauryl sulphate

C. Cetyltrimethylammonium bromide

D. Glyceryl Oleate

Answer: B



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36. The role of phosphate in detergent powder is to

A. control pH level of the detergent water mixture

B. remove Ca^{2+} and Mg^{+} ions from the water that cause the hardness of water

C. provide whiteness to the fabrics

D. form solid detergents as phosphate less detergents are liquid in nature

Answer: B



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Competition Focus II Multiple Choice

1. Which one of the following does not act as a neurotransmitter ?

- A. acetylcholine
- B. adrenaline
- C. noradrenaline
- D. serotonin

Answer: B



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2. Which of the following are used as analgesics ?

A. Aspirin

B. Heroin

C. Promethazine

D. Serotonin

Answer: A::B



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3. Which of the following pairs are bacteriostatic antibiotics ?

A. Erythromycin, tetracycline

B. Erythromycin, chloramphenicol

C. Ofloxacin, Aminoglycosides

D. Tetracycline, chloramphenicol

Answer: A::B::D



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4. Which of the following can be used artificial sweeteners ?

A. Aspartame

B. Alitame

C. Sucralose

D. Saccharin

Answer: A::B::C::D



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Competition Focus Iii Multiple Choice

1. Synthetic tranquillisers are mostly barbituric acid derivatives (e.g. veronal, luminal, seconal, amytal and nembutal). Other tranquillisers which are not barbituric acid derivatives are chlordiazepoxide, equanil, meprobamate, valium (diazepam), etc. Opium alkaloids such as morphine and codeine are powerful analgesics (reduce pain). Heroin which is morphine diacetate is a widely used narcotic analgesic. Drugs which are used to cure

diseases caused by microbes are called antimicrobials. These may be either sulpha drugs such as sulphapyridine, sulphadiazine, sulphaguanidine or they may be antibiotics. Antibiotics such as erythromycin, tetracycline, chloramphenicol which inhibit or arrest the growth of microbes are called bacteriostatic while others which kill the microbes are called bactericidal antibiotics.

Which of the following tranquillisers is not a derivative of barbituric acid ?

A. Veronal

B. Equanil

C. Seconal

D. Luminal

Answer: B



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2. Tranquillizers are drugs that reduce emotional instability, tension, fear, anxiety and induce sleep. They are also used in relieving stress, anxiety and irritability-Barbituric acid

and its derivatives, known as barbiturates (veronal, amytal, nembutal, luminal) serve as good tranquillizers. Other tranquillizers which are not barbituric acid derivatives are chlordi-azepoxide, equanilmeprobamate, valium (diazepam), etc. Opium alkaloids such as morphine and codeine are powerful analgesics (reduce pain). Morphine is a very potent narcotic analgesic that is known to act on the central nervous system. Antimicrobials are substances that either kill microbes (microbiocidal) or prevent their growth (microbiostatic). These may be either sulpha

drugs such as sulphapyridine, sulphadiazine, sulphaguanidine or antibiotics such as erythromycin, tetracycline, chloramphenicol which inhibit or arrest the growth of microbes.

Among the following, the narcotic analgesic is

:

A. heroin

B. ibuprofen

C. naproxen

D. aspirin

Answer: A



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3. Synthetic tranquillisers are mostly barbituric acid derivatives (e.g. veronal, luminal, seconal, amytal and nembutal). Other tranquillisers which are not barbituric acid derivatives are chlordiazepoxide, equanil meproamate, valium (diazepam), etc. Opium alkaloids such as morphine and codeine are powerful analgesics (reduce pain). Heroin which is morphine diacetate is a widely used narcotic analgesic. Drugs which are used to cure

diseases caused by microbes are called antimicrobials. These may be either sulpha drugs such as sulphapyridine, sulphadiazine, sulphaguanidine or they may be antibiotics. Antibiotics such as erythromycin, tetracycline, chloramphenicol which inhibit or arrest the growth of microbes are called bacteriostatic while others which kill the microbes are called bactericidal antibiotics.

Which of the following is/are antibacterials ?

A. Penicillin

B. Sulphapyridine

C. Ofloxacin

D. All

Answer: D



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4. Tranquillizers are drugs that reduce emotional instability, tension, fear, anxiety and induce sleep. They are also used in relieving stress, anxiety and irritability-Barbituric acid and its derivatives, known as barbiturates

(veronal, amytal, nembutal, luminal) serve as good tranquillizers. Other tranquillizers which are not barbituric acid derivatives are chlordi-azepoxide, equanilmeprobamate, valium (diazepam), etc. Opium alkaloids such as morphine and codeine are powerful analgesics (reduce pain). Morphine is a very potent narcotic analgesic that is known to act on the central nervous system. Antimicrobials are substances that either kill microbes (microbiocidal) or prevent their growth (microbiostatic). These may be either sulpha drugs such as sulphapyridine, sulphadiazine,

sulphaguanidine or antibiotics such as erythromycin, tetracycline, chloramphenicol which inhibit or arrest the growth of microbes. The bactericidal and bacteriostatic antibiotics, respectively, are :

- A. Penicillin, ofloxacin
- B. Erythromycin, tetracycline
- C. Penicillin, chloramphenicol
- D. Tetracycline and penicillin

Answer: C



Competition Focus Iv Matching

1. Match the following columns

Column I

- (A) Antacid
- (B) Antihistamine
- (C) Analgesic
- (D) Antibacterial drug

Column II

- (p) Naproxen
- (q) Prontosil
- (r) Terfenadine
- (s) Ranitidine



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Column I

- (A) Neurotransmitter
- (B) Antidepressant drug
- (C) Artificial sweetener
- (D) Sodium benzoate

Column II

- (p) Iproniazid
- (q) Preservative
- (r) Dopamine
- (s) Aspartame

2.

A. A-p , B-r , C -q , D-s

B. A-r , B-p , C -s , D-q

C. A-s , B-q , C -p , D-r

D. A-q , B-s , C -r , D-p

Answer: b



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3.

Column I

- (A) Ethynylestradiol
- (B) Bath tub scum
- (C) Sodium lauryl sulphate
- (D) Heroin

Column II

- (p) Morphine diacetate
- (q) Detergent
- (r) An estrogen
- (s) Calcium stearate

A. A-s , B-q , C -r , D-p

B. A-q , B-r , C -p , D-s

C. A-r , B-s , C -p , D-q

D. A-r , B-s , C -q , D-p

Answer: d



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4.

Column I

- (A) Sodium perborate
- (B) Chlorine
- (C) Bithional
- (D) Potassium stearate

Column II

- (p) Disinfectant
- (q) Antiseptic
- (r) Milk bleaching agent
- (s) Soap

A. A-p , B-q , C -r , D-s

B. A-q , B-r , C -s , D-p

C. A-r , B-p , C -q , D-s

D. A-s , B-p , C -q , D-r

Answer: c



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Competition Focus V Matrix Match

1. Match the following columns

Column I

- (A) Penicillin
- (B) Chloramphenicol
- (C) Phenol
- (D) Chloroxylenol

Column II

- (p) Antiseptic
- (q) Antibiotic
- (r) Bactericidal
- (s) Disinfectant



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2. Match the following columns

Column I

- (A) Cetyltrimethylammonium chloride
- (B) Norepinephrine
- (C) Acetylcholine
- (D) Adrenaline

Column II

- (p) Hormone
- (q) Neurotransmitter
- (r) Germicide
- (s) Cationic detergent



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Competition Focus Vi Integer

1. Amongst the following, the maximum number of antacids is : valium, meprobamate, ranitidine, phenelzine, cimetidine, omeprazole, penicillin, chloramphenicol, chlorpheniramine.



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2. How many of the following are antibiotics ?
Chloramphenicol, chloroxylenol, streptomycin,

saccharin, primaquin, penicillin, penicillin, ampicillin, equanil, tetracyclin.



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3. Amongst the following, non-narcotic analgesics are: morphine, paracetamol, aspirin, codeine, naproxen, ibuprofen, diclofenac sodium, heroin, luminal.



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4. Amongst the following, the number of artificial sweeteners is _____.

L-glucose, D-glucose, saccharin, cyclamate, D-fructose, alitame, aspartame, sucralose, sucrose.

A. Statement-1 is True, Statement-2 is True ,
Statement-2 is the correct explanation
for statement 1

B. Statement-1 is True, Statement-2 is True ,
Statement-2 is not a correct explanation

for statement 1

C. Statement-1 is True, Statement-2 is False

D. Statement-1 is False, Statement-2 is True.

Answer: 6



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5. How many of the following are preservatives

?

Sodium benzoate, sodium sulphite, sodium metasulphite, sodium sulphate, sodium

thiosulphate, sodium acetate, sodium stearate.

A. Statement-1 is True, Statement-2 is True ,
Statement-2 is the correct explanation
for statement 1

B. Statement-1 is True, Statement-2 is True ,
Statement-2 is not a correct explanation
for statement 1

C. Statement-1 is True, Statement-2 is False

D. Statement-1 is False, Statement-2 is True.

Answer: 2



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Competition Focus Vii Assertion Reason

1. Statement-1. Cimetidine is an antacid.

Statement-2. It prevents the interaction of histamine thereby producing less hydrochloric acid in the stomach.

- A. Statement-1 is True, Statement-2 is True ,
Statement-2 is the correct explanation
for statement 1
- B. Statement-1 is True, Statement-2 is True ,
Statement-2 is not a correct explanation
for statement 1
- C. Statement-1 is True, Statement-2 is False
- D. Statement-1 is False, Statement-2 is True.

Answer: A



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2. Low level of noradrenaline is the cause of depression. What type of drugs are needed to cure this problem?

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: C



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3. Statement-1. Aspirin is a narcotic analgesic.

Statement-2. It inhibits the synthesis of prostaglandins.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: D



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4. Assertion (A) Ranitidine is used to treat hyperacidity and brompheniramine is used to treat hyperallergy .

Reason (R) Both of these drugs are antihistamines.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: B



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5. Assertion : Aspirin can cause ulcer in the stomach.

Reason : The ester group in aspirin gets hydrolysed to acid group in the stomach where the pH is 2.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of

the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: A



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6. Assertion : Analgesics bring down the body temperature higher fever.

Reason : Penicillin is a tranquilliser.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: D



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7. Assertion. Tetracycline is bacteriostatic antibiotic.

Reason. It inhibits the growth of organisms.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: A



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8. Assertion. Bithional is added to soap for its beautification and solidification.

Reason. Bithional is a sulpha drug.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: D



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9. Assertion : Saccharin is an artificial sweetener.

Reason : It has a high calorific value.

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: C



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10. Assertion : Detergents are preferred to soaps for washing purpose .

Reason : Detergents having branched hydrocarbon chains are non biodegradable .

A. If both assertion and reason are true, and reason is the true explanation of the assertion.

B. If both assertion and reason are true, but reason is not the true explanation of the assertion.

C. If assertion is true, but reason is false

D. If both assertion and reason are false.

Answer: B



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11. Assertion : The micelle formed by sodium stearate in water has $-COO^-$ groups at the surface.

Reason : Surface tension of water is reduced by the addition of stearate.



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12. Assertion : Sodium-2-dodecyl benzene sulphonate is a biodegradable detergent.

Reason : Detergents having minimum branching are biodegradable.



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Important Question For Board Examination

1. What do you understand by the term chemotherapy ?



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2. What are medicines drugs ?



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3. What type of forces are involved in binding of substrate to the active site of enzyme ?



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4. Why do drugs cause side effects ?



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5. What is the nature of an antacid ?



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6. Why are cimetidine and ranitidine better antacids than sodium hydrogencarbonate or magnesium or aluminium hydroxide ?



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7. Low level of noradrenaline is the cause of depression. What type of drugs are needed to cure this problem ? Name two drugs.



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8. While antacids and antiallergic drugs interfere with the function of histamines, why do these not interfere with the function of each other ?



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9. What is the advantage of using antihistamines over antacids in the treatment of acidity ?



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10. What are analgesics ? Give two examples. Which analgesic are called opiates ?



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11. What are barbiturates ? To which class of drugs do they belong ?



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12. Define antibiotics. How do bactericidal antibiotics differ from bacteriostatic antibiotics ? Give one example of each .



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13. Sulpha drugs work like antibiotics but they are not antibiotics. Is this a valid statement and why?



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14. Name a substance which can be used as an antiseptic as well as disinfectant.



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15. Sleeping pills are recommended by doctors to the patients suffering from sleeplessness but it is not advisable to take its doses without consultation with the doctor. Why ?



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16. (i) What are main constituents of dettol ?
(ii) What is tincture of iodine ? What is its use ?



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17. What is the role of Bithional in toilet soaps ?



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18. Sugar is the main source of energy as it produces energy on metabolic decomposition. But these days low calorie drinks are more popular, why ?



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19. What is food preservative ? Which one of the following is a food preservatives ? Equanil, Morphine , Sodium benzoate .



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20. Name the antioxidants commonly used to increase the storage of butter.



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21. In what respect do prontosil and salvarsan resemble. Is there any resemblance between azo dye and prontosil? Explain.



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22. Name two α -amino acids which form a dipeptide which is 100 times more sweet than cane sugar ?



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23. Explain the following terms with suitable examples :

(a) Cationic detergents (b) Anionic detergents



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24. What are biodegradable and non-biodegradable detergents? Give one example of each class.



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25. Synthetic detergents have advantage over usual soaps as far as cleansing power is concerned. But use of synthetic detergents over a long time creates environmental pollution. How can the pollution caused by synthetic detergents be minimised ? Classify the detergents according to their chemical nature.



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26. If water contains dissolved calcium hydrogencarbonate, which out of soap and detergent, will you prefer to use ? Why ?



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27. Account for the following :

(i) Aspirin drug helps in the prevention of heart attack.

(ii) Diabetic patients are advised to take artificial sweeteners instead of natural

sweeteners.

(iii) Detergents are non-biodegradable while soaps are biodegradable.



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28. (a) Pickles have a long shelf life and do not get spoiled for months, why ?

(b) Name an artificial sweetener which is derivative of sucrose.

(c) Sodium salts of some acids are very useful

as food preservatives. Suggest a few such acids.



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29. What are fillers and what role these fillers play in soap ?



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30. (i) Can we use soaps and detergents to check the hardness of water ?

(ii)What structural unit makes detergents non-biodegradable ?

(iii)What are invert soaps ? Give one examples



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Others

1. What is the use of ranitidine?



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2. Write the composition of dettol. Dettol is an example of which kind of drug? It is an antiseptic.



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3. What is the role of Bithional in toilet soaps ?



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