

- 1 Which class of drugs is used in sleeping pills? 1
- ANS: Tranquilizers.
- 2 What is meant by 'narrow spectrum antibiotics'? Give one example. 1
- ANS: Those antibiotics which are effective against only particular micro-organism are called narrow spectrum antibiotics, e.g. Ampicillin, Streptomycin, etc.
- 3 What is the cause of a feeling of depression in human beings? Name a drug which can be useful in treating this depression. 1
- ANS: If the level of noradrenaline is low, then signal sending activity is low. It leads to depression. These drugs inhibit enzymes which catalyse the degradation of noradrenaline which is neurotransmitter and thus, counteract the effect of depression. Chlordiazepoxide and meprobamate are mild tranquilizers suitable for relieving tension. Equanil is used in controlling depression and hypertension.
- 4 State a reason of the following statement: 1
The use of the sweetner aspartame is limited to cold foods and drinks.
- ANS: It is because it is unstable at high temperature.
- 5 What is meant by a 'broad spectrum antibiotic'? 1
- ANS: Those antibiotics which are effective for large number of microorganisms are called 'broad spectrum antibiotics', e.g. chloramphenicol, tetracycline, etc.
- 6 Write the name of an antacid which is often used as a medicine. 1
- ANS: Ranitidine or NaHCO_3 or a mixture of $\text{Al}(\text{OH})_3$ and $\text{Mg}(\text{OH})_2$ is used as antacid.
- 7 Name a food preservative which is most commonly used by food producers. 1
- ANS: Common salt is used as food preservative.
- 8 Describe and illustrate with an example, a detergent. 1
- ANS: Detergent is sodium or potassium salt of benzene sulphonic acid or sulphonate of unsaturated hydrocarbons of alkene type, e.g., sodium alkylbenzene sulphonate.
- 9 Define the following and give one example: 1
Tranquilizers
- ANS: Tranquilizers: Those drugs which reduce anxiety and produce a feeling of well being, e.g., Equanil, seconal, etc.
- 10 Describe the following types of substances, giving suitable examples: 1
Antiseptics
- ANS: Antiseptics: Those chemicals which prevent the growth of micro-organisms are called antiseptics, e.g. Dettol, 0.2% solution of phenol.
- 11 Which type of drugs come under antimicrobial drugs? 1
- ANS: Antiseptics, antibiotics and disinfectants are antimicrobial drugs.
- 12 Where are receptors located? 1
- ANS: Receptors are embedded in cell membrane.
- 13 What is the harmful effect of hyperacidity? 1
- ANS: It causes pain and may lead to formation of ulcer in stomach.

14 Which site of an enzyme is called allosteric site? 1

ANS: Sites different from active site of enzyme where a molecule can bind and affect the active site is called allosteric site. Some drugs may also bind at this site.

15 What is the commonality between the antibiotic arsphenamine and azodye? 1

ANS: Arsphenamine possesses —As=As— linkage that resembles —N=N— linkages in azodye.

16 What is a soft soap? 1

ANS: Soft soaps are potassium salts of fatty acids.

17 Explain why sometimes foaming is seen in river water near the place where sewage water is poured after treatment? 1

ANS: Some detergents are not biodegradable and persist in water even after sewage treatment and cause foaming in river.

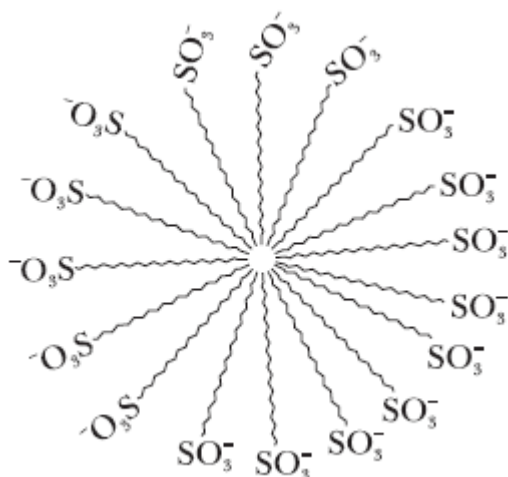
18 Which category of the synthetic detergents is used in toothpaste? 1

ANS: Anionic detergents.

19 Dishwashing soaps are synthetic detergents. What is their chemical nature? 1

ANS: Non-ionic detergents.

20 Draw the diagram showing micelle formation by the following detergent. $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{OSO}_3\text{Na}^+$ 1



ANS:

21 How does the branching of hydrocarbon chain of synthetic detergents affect their biodegradability? 1

ANS: Lesser the branching, more will be biodegradability.

22 Why is it safer to use soap from the environmental point of view? 1

ANS: Soaps are 100 % biodegradable and do not create water pollution, therefore, safer to use for environmental point of view.

23 What are analgesics? 1

ANS: Analgesics are those drugs which reduce pain without loss of consciousness, mental confusion, coordination or paralysis or some other nervous system disturbances.

24 Which analgesics are called opiates? 1

ANS: Narcotic analgesics which are obtained from opium poppy are called opiates. Morphine and its derivatives like heroin and codeine are examples.

25 What is the medicinal use of narcotic drugs? 1

ANS: Narcotic drugs relieve pain and induce sleep, these are chiefly used for the relief of post operative pain, cardiac pain and the pain of terminal cancer and in child birth.

26 What are antagonistic drugs? 1

ANS: Drugs that bind to the receptor site and inhibit the natural function are called antagonistic drugs.

27 What is the mode of action of antimicrobial drugs? 1

ANS: Antimicrobial drugs kill the micro-organisms, such as bacteria, virus, fungi or other parasites. They can alternatively inhibit the growth of pathogenic action of microbes.

28 What is the difference between bathing soap and washing soaps? 1

ANS: Bathing soaps are potassium salts, whereas washing soaps are sodium salts of fatty acids.

29 How are transparent soaps manufactured? 1

ANS: Soaps are manufactured by heating vegetable oils like Castor oil with 40% NaOH. This process of manufacture of soap is called saponification. Glycerol is obtained as side product.

30 Name an artificial sweetener which is derivative of sucrose. 1

ANS: Sucrolose.

31 Explain the following terms giving an example of each: 2

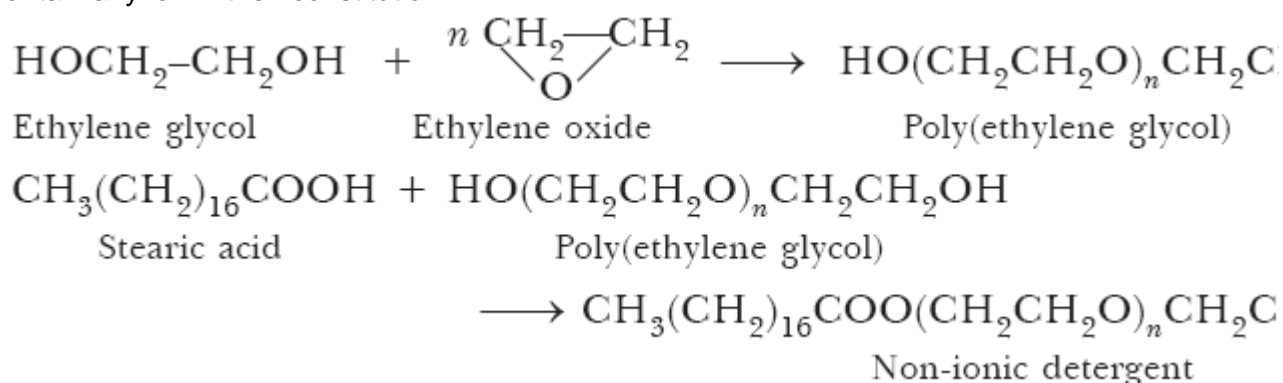
- (i) Antacids
- (ii) Sweetening agents

ANS: (i) Antacids: Substances which remove the excess acid and raise the pH to appropriate level in stomach are called antacids, e.g. Milk of Magnesia $[Mg(OH)_2]$, Ranitidine (Zantac) etc.
 (ii) Sweetening agents: Those substances which do not add calories are sweetening agents, e.g. alitame.

32 Describe the following substances with one suitable example of each type: 2

- (i) Non-ionic detergents
- (ii) Disinfectants

ANS: (i) Non-ionic detergents: Some of the detergents are non-ionic, like the esters of high molecular mass formed by reactions between polyethylene glycol and stearic acid. They do not contain any ion in their constitution.



Some liquid dishwashing detergents are of non-ionic type. (ii) Disinfectants: They kill micro-organisms but are not safe for contact with living tissues. These are applied to inanimate objects such as floor, instruments, walls, etc. 2% solution of phenol acts as disinfectant, 0.2 to 0.4 parts per million is used for disinfecting drinking water and low concentration of SO_2 is used for sterilising squashes for preservation.

33 Explain the following terms with an example for each : 2

- (i) Antifertility drugs
- (ii) Antibiotics

ANS: (i) Antifertility drugs: Those drugs which control the birth of the child are called antifertility drugs. e.g. mifepristone, progesterone.

(ii) Antibiotics: Those drugs which kill or prevent the growth of bacteria and other micro-organisms are called antibiotics, e.g. Streptomycin.

34 Mention one important use of each of the following: 2

(i) Equanil (ii) Sucralose

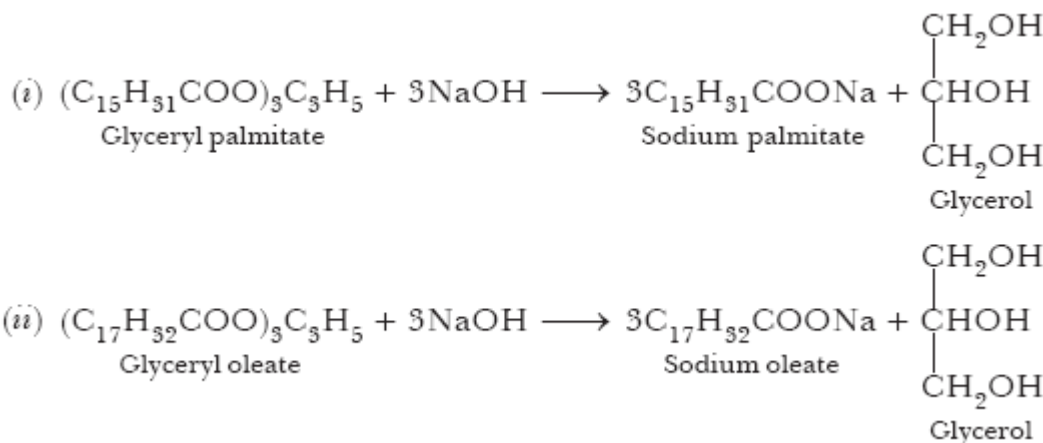
ANS: (i) Equanil is tranquilizer.

(ii) Sucralose is artificial sweetener.

35 Name a broad spectrum antibiotic and state two diseases for which it is prescribed. 2

ANS: Chloramphenicol is used in typhoid and meningitis.

36 Write the chemical equation for preparing sodium soap from glyceryl oleate and glyceryl palmitate. Structure of these compounds are given below. (i) $(C_{15}H_{31}COO)_3C_3H_5$ (Glyceryl palmitate) 2



ANS:

37 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? 2

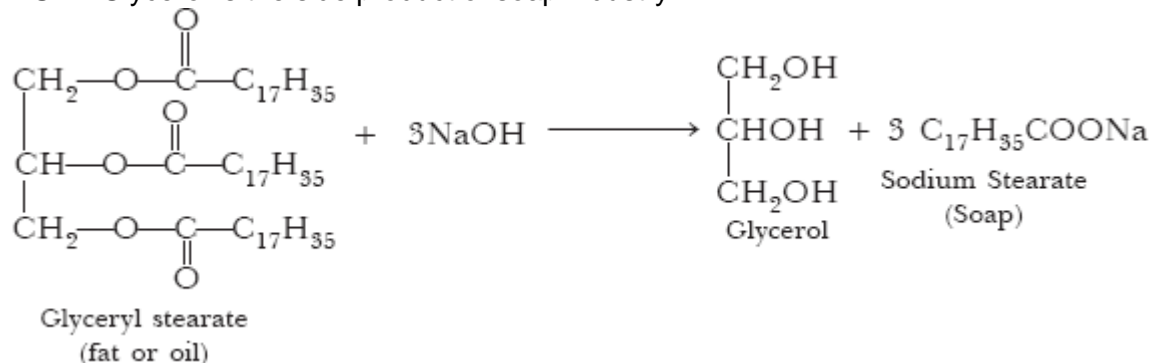
ANS: Acid-Base titration can be used to determine the excess amount of alkali in the soap. The excess alkali left after hydrolysis of oil can be source of alkalinity in soap.

38 What is the scientific explanation for the feeling of depression? 2

ANS: When a person has low level of noradrenaline, feeling of depression is observed. Noradrenaline is neurotransmitter.

39 What is the side product of soap industry? Give reactions showing soap formation. 2

ANS: Glycerol is the side product of soap industry.



40 What is the advantage of using antihistamines over antacids in the treatments of acidity? 2

ANS: Antacids control only symptoms and not the cause as they neutralise excess of acid produced and do not control the cause of production of acid.

Antihistamines are drugs that suppress the action of histamine which is chemical responsible for stimulation of secretion of pepsin and HCl in the stomach. Antihistamine prevents the binding of histamine and the receptors present in stomach wall resulting in lower acid production, and therefore, better treatment.

41 What are the functions performed by histamine in the body? 2

ANS: Histamine is vasodilator, i.e. it contracts muscles in the gut and bronchi. It relaxes some other muscles, e.g. in the walls of blood vessels. Histamine is also responsible for congestion in the nose associated with common cold and allergies. It stimulates the release of pepsin and hydrochloric acid in the stomach.

42 With the help of an example explain how do tranquilizers control the feeling of depression? 2

ANS: Antidepressant drugs (Tranquilizers) inhibit the enzymes which catalyse the degradation of noradrenaline. If the enzyme is inhibited, this neurotransmitter is slowly metabolised and can activate its receptors for longer period of time, thus counteracting the effect of depression.

43 What are fillers and what role these fillers play in soap? 2

ANS: Substances which are added to change the properties of substance for a particular application are called fillers, e.g. sodium resinate is added to laundry soaps so as to increase lather and glycerol is added to shaving soaps to prevent it from drying.

44 Pickles have a long shelf life and do not get spoiled for months, why? 2

ANS: Common salt and oil are added to pickles which act as preservatives and do not allow bacteria to grow on them.

45 What is the difference between saccharin and saccharic acid? 2

ANS: Sachharin O (ortho-sulphobenzimide) is the first popular artificial sweetening agent. It is above 550 times as sweet as cane sugar and excreted from the body in urine unchanged. It has great value for diabetic patients and people who need to control intake of calories. Saccharic acid is a carboxylic acid obtained by the oxidation of glucose. It is not sweet in taste.

46 Sodium salts of some acids are very useful as food preservatives. Suggest a few such acids. 2

ANS: Benzoic acid, sorbic acid and propanoic acid. Their salts are used as preservatives.

47 Explain the role of allosteric site in enzyme inhibition? 2

ANS: Drugs can also bind to different sites of enzyme called allosteric sites. It changes the shape of active site of enzyme, such that substrate can't recognise it and E-S is not formed and enzyme is inhibited.

48 How are receptor proteins located in the cell membrane? 2

ANS: Receptors proteins are required for body's communication which are embedded in cell membranes in such a way that active site is at the outside region.

49 What happens when the bond formed between an enzyme and an inhibitor is a strong covalent bond? 2

ANS: If E—I (enzyme-inhibitor) bond is highly stable involving strong covalent bond which cannot be broken then enzyme is blocked permanently. E—I complex is degraded by body and new enzyme is synthesized.

50 (i) Define Antihistamine with an example.
(ii) Which one of the following drugs is an antibiotic:
Morphine, Equanil, Chloramphenicol, Aspirin
(iii) Why is use of aspartame limited to cold food and drink? 3

ANS: (i) Those drugs which counteract the effect of histamines causing allergy are called antihistamines, e.g. Ranitidine, Avil.
(ii) Chloramphenicol is an antibiotic.
(iii) Aspartame is unstable at cooking temperature, therefore, its use is limited to cold food and drink.

51 Explain the following types of substances with one suitable example, for each case:
(i) Cationic detergents.
(ii) Food preservatives.
(iii) Analgesics. 3

ANS: (i) Cationic detergents: These are mostly acetates or chlorides or bromides of quarternary ammonium salts. They are more expensive, therefore used to limited extent. Such detergents

possess germicidal properties and are used extensively as germicides, e.g. cetyl trimethyl ammonium chloride $[\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{CH}_3)_3]^+\text{Cl}^-$ is cationic detergent.

(ii) Food preservatives: Those chemicals which are added into food to prevent spoilage of food due to microbial growth. The most common preservative is sodium benzoate, $\text{C}_6\text{H}_5\text{COONa}$. Salts of propanoic acid and sorbic acid are also used as preservatives. (any one example)

(iii) Analgesics: Those drugs, which relieve or decrease pain without causing unconsciousness, paralysis or incoordination, mental confusion are termed as analgesics. Aspirin, analgin, seridon, anacine, aspro, morphine, codeine. (any one example)

52 Mention one use each of the following drugs:

(i) Ranitidine

(ii) Paracetamol

(iii) Tincture of iodine

ANS: (i) Ranitidine is used as antacid.

(ii) Paracetamol is used as analgesic and antipyretic drug.

(iii) Tincture of iodine is used as antiseptic.

53 Mention the action of the following on the human body in bringing relief from a disease.

(i) Brompheniramine

(ii) Aspirin

(iii) Equanil

ANS: (i) Brompheniramine is antihistamine. It gives relief from allergy.

(ii) Aspirin is analgesic and antipyretic (pain reliever). It also acts as blood thinner.

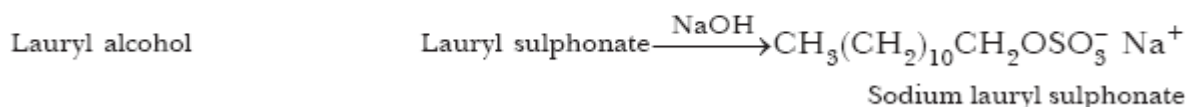
(iii) Equanil helps in treatment of depression.

54 What are anionic detergents? Give an example how are they prepared? Write their two main uses. 3

ANS: Anionic detergents: Long chain alcohols are used in the manufacture of some of the synthetic anionic detergents. The long chain alcohols are treated with concentrated sulphuric acid to form alkyl hydrogen sulphates of high molecular mass and finally alkyl sulphates are neutralised with alkali to form salts, e.g.

Sodium lauryl sulphonate is example of anionic detergent.

Preparation:



(Anionic detergent) It is

called anionic detergent because large part of the molecule is anion. The single anionic detergent in largest use today in household detergents is alkylbenzene sulphonate.

Uses: They are effective in acidic solutions, whereas soap are not effective due to formation of insoluble fatty acids. Anionic detergents are also used in toothpastes.

55 Natural sweeteners, e.g. sucrose add to calorie intake and therefore, cannot be used by diabetic patients. Such people use saccharin (o-sulphobenzimide), alitame, aspartame and sucralose (trichloro derivative of sucrose) as artificial sweetener. These are boon for people who want to control their calorie intake.

(i) What is the advantage of using saccharin?

(ii) Why is the use of aspartame limited to cold food and soft drinks?

(iii) What is the drawback of alitame? Which is better artificial sweetener than alitame and why?

(iv) What are the values possessed by people taking less sugar?

ANS: (i) It is 550 times as sweet as sugar. It appears to be entirely inert and harmless when taken. It is excreted through urine from the body, unchanged.

(ii) It is because it is stable only at low temperature and unstable at cooling temperature.

(iii) The sweetness of alitame cannot be controlled. Sucralose is better as it is stable at cooling temperature. Its appearance and taste is like sugar. It does not provide calories.

(iv) They protect themselves from diabetes and heart ailments and will be more useful to society.

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- 56 Synthetic detergents are cleansing agents which have all the properties of soaps but which actually do not contain any soap. These can be used in both hard as well as soft water as they give foam even in hard water. Some of the detergents give foam even in ice-cold water.
- What type of detergents are used in toothpaste?
 - Which type of detergents have germicidal properties and are used in hair conditioners?
 - Liquid dishwashing detergents are of which type?
 - What is the main problem in using detergents?
 - What is the solution to above problem ? How can we save our environment?
- ANS: (i) Anionic detergents
(ii) Cationic detergents
(iii) Non-ionic detergents
(iv) If hydrocarbon chain is highly branched, then bacteria cannot degrade it easily. Slow degradation leads to its accumulation. Effluents containing such detergents reach the rivers, ponds, etc. These persist in water even after sewage treatment and cause foaming and water gets polluted.
(v) These days the branching of hydrocarbon chain is controlled and kept to minimum. Unbranched detergents can be biodegraded more easily and pollution is prevented. We can save our environment by using biodegradable detergents.
- 57 Today life is full of stress. Tranquilizers are drugs used for the treatment of stress, mild or even severe mental diseases. These relieve anxiety, stress, irritability and excitement by inducing a sense of well being. These are essential component of sleeping pills.
- Name a tranquilizer used to treat mood changes and depression.
 - Should tranquilizer be taken regularly for very long periods?
 - Should sleeping pills be taken regularly?
 - What values are not possessed by people committing suicides using sleeping pills?
- ANS: (i) Noradrenaline is neurotransmitter that plays an important role in mood changes. It leads to depression. Iproniazid and phenelzine (Nardil) are drugs to treat them.
(ii) No, these should be taken under supervision of doctors and not for very long time as body becomes habitual of these drugs.
(iii) No, sleeping pills should not be taken regularly. Cause of sleeplessness need to be investigated and treated.
(iv) They are weak minded people and do not have courage to face the difficulties of life.
- 58 Mamta, a housewife lives in Sonapat (Haryana). The tap water she gets is rich in dissolved salts. She uses ordinary washing soap for washing her clothes and she finds that soap is not very effective in cleaning her clothes. One of her neighbours, Shilpa is a student of science. Shilpa suggested to her to use synthetic detergent for washing clothes.
- Answer the following questions:
- As a science student, why did Shilpa suggest to Mamta to use synthetic detergent.
 - Give one chemical reaction to justify not using ordinary soap.
 - What are values associated with the above decision?
- ANS: (i) Synthetic detergents work well even with hard water.
(ii) $2C_{17}H_{35}COONa + Ca^{2+} \rightarrow (C_{17}H_{35}COO)_2Ca + 2Na^+$
(iii) Helping nature, social concern, general awareness, use of knowledge of chemistry.
- 59 Ramesh went to a departmental store to purchase groceries. On one of the shelves he noticed sugar free tablets. He decided to buy them for his grandfather who was a diabetic. There were three types of sugar free tablets. Ramesh decided to buy sucrose which was good for his grandfather's health.
- Name the another sugar free tablet which Ramesh did not buy?
 - Was it right to purchase such medicine without doctor's prescription?
 - What quality of Ramesh is reflected above?
- ANS: (i) Alitame, Aspartame, Saccharine. (Any one)
(ii) Yes, it does not have side effects, therefore, it does not need doctor's prescription.
(iii) Social concern, empathy, social awareness. (Any two)
- 60 Due to hectic and busy schedule, Mr. Singh started taking junk food in the lunch break and slowly became habitual of eating food irregularly to excel in his field. One day during meeting he felt

severe chest pain and fell down. Mr. Khanna, a close friend of Mr. Singh took him to doctor immediately. The doctor diagnosed that Mr. Singh was suffering from acidity and prescribed some medicines. Mr. Khanna advised him to eat home made food and change his lifestyle by doing yoga, meditation and some physical exercise. Mr. Singh 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. Khanna?
- (ii) What are antacids? Give one example.
- (iii) Would it be advisable to take antacids for a long period of time? Give reason.

ANS: (i) Mr. Khanna is helpful. He is a kind person.

(ii) Those drugs which neutralise hyperacidity in stomach are called antacids, e.g. sodium hydrogen carbonate.

(iii) No, it should not be taken for long time because it may lead to secretion of more acid and it may form ulcers.

61 Mr. Naresh works in a multinational company. He is stressed due to his hectic schedule. Mr. Amit, his friend, comes to know that he has started taking sleeping pills without consulting the doctor. Mr. Amit requests Naresh to stop this practice and takes him to a Yoga centre. With regular Yoga sessions, Mr. Naresh is now a happy and relaxed man.

After reading the above passage, answer the following questions:

- (i) Write the values shown by Mr. Amit.
- (ii) Which class of drugs is used in sleeping pills?
- (iii) Why is it not advisable to take sleeping pills without consultation with the doctor?

ANS: (i) Mr. Amit is kind person who helps his friend in need. He is a true friend.

(ii) Hypnotics (Tranquilizers) are used in sleeping pills.

(iii) These drugs are habit-forming, affect nervous system and interfere with natural sleep. They may harm our body.

62 Antibiotic revolution has provided long and healthy life to people. The life expectancy has almost doubled. The increased population has caused many social problems in terms of food resources, environmental issues, employment, etc. To control these problems, population is required to be controlled. This has led to the concept of family planning. Birth control pills are most popular in these days.

- (i) What are antifertility drugs? What does they contain?
- (ii) Name two antifertility drugs.
- (iii) i-Pill is being used as emergency pill to avoid pregnancy? Should it be used frequently?
- (iv) What are the values possessed by people not using drugs on their own, without prescription of doctors?

ANS: (i) Those drugs which control the birth of the child are called antifertility drugs. Birth control pills are also called antifertility drugs which essentially contain mixture of synthetic estrogen and progesterone derivatives. Both of them are hormones.

(ii) Norethindrone, Ethynylestradiol (novestral).

(iii) No, it should be used rarely only in emergency case of unprotected sex to avoid unwanted pregnancy but it should not be used as birth control pill as these have side effects and may cause excessive bleeding.

(iv) They are intelligent people because most of the drugs have side effects and every drug is not suitable for every person.

63 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.

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.

ANS: (i) Helpful, empathy and knowledge of Science.

(ii) Sleeping pills should not be taken regularly as it can harm the patient. These drugs affect

nervous system and interfere with natural sleep.

(iii) Tranquilizers are those drugs which are used to treat depression and anxiety and produce a feeling of well being, e.g. Equanil and Seconal.

- 64 Which of the following is used as tranquilizer?
(a) Naproxene (b) Tetracycline
(c) Chlorpheniramine (d) Equanil 1

ANS: (d) Equanil

- 65 Which one of the following is antihistamine?
(a) Chloramphenicol (b) Diphenyl hydramine
(c) Norethindrone (d) Omeprazole 1

ANS: (b) (a) is broad spectrum antibiotic (c) is antifertility drug (birth control) and (d) is antacid.

- 66 Artificial sweetener which is stable only under cold conditions only is
(a) saccharine (b) sucralose
(c) aspartame (d) alitame 1

ANS: (c) aspartame.

- 67 Bithional added to soap acts as
(a) buffering agent (b) antiseptic
(c) softener (d) drying 1

ANS: (b) antiseptic.

- 68 Which of the following is analgesic?
(a) Streptomycin (b) Chloromycetin
(c) Novalgin (d) Penicillin 1

ANS: (c) is analgesic (pain reliever) others are antibiotics.

- 69 Mixture of chloroxylenol and terpineol acts as
(a) antiseptic (b) antipyretic
(c) antibiotic (d) analgesics 1

ANS: (a) These are components of Dettol.

- 70 Which of the following is used as antacid?
(a) Iproniazid (b) Salvarsan
(c) Zantac (d) Chloramphenicol 1

ANS: (c) Zantac is antacid, (b) is used for treatment of syphilis, (a) is tranquilizer and (d) is broad spectrum antibiotic.

- 71 Drugs that bind to receptor site and inhibit its natural function are called
(a) antagonists (b) agonists
(c) enzymes (d) molecular targets 1

ANS: (a) These are called antagonists.

- 72 The drug Tagamet is
(a) analgesics (b) antidepressant
(c) anaesthetic (d) antacid 1

ANS: (d) antacid.

- 73 Which of the following cationic detergent?
(a) Sodium lauryl sulphate. 1

- (b) Cetyl trimethyl ammonium bromide.
- (c) Sodium dodecyl benzene sulphonate.
- (d) Glyceryl oleate.

ANS: (b) (a) and (c) are anionic detergents and (d) is fat (glycerol ester of fatty acid).

- 74 The artificial sweetener which contains chlorine that has the appearance and taste as that of sugar and is stable at cooking temperature: 1
- (a) Aspartame (b) Saccharin
 - (c) Sucralose (d) Alitame

ANS: (c) Sucralose

- 75 Narcotic analgesic is 1
- (a) aspirin (b) paracetamol
 - (c) codeine (d) cimetidine

ANS: (c). (a) and (b) are analgesics and antipyretic (d) is antacid.

- 76 Bactericidal antibiotic among the following is 1
- (a) ofloxacin (b) erythromycin
 - (c) chloramphenicol (d) tetracycline

ANS: (a) is bactericidal, others are bacteriostatic, i.e., suppress the multiplication of bacteria.

- 77 Butylated Hydroxy Toluene (BHT) as a food additive acts as 1
- (a) antioxidant (b) flavouring agent
 - (c) colouring agent (d) emulsifier

ANS: (a) It prevents spoilage of butter.

- 78 Sodium benzoate is used as 1
- (a) food preservative
 - (b) artificial sweetener
 - (c) antioxidant
 - (d) detergent

ANS: (a) It is food preservative, used in cold drinks.

- 79 Which of the following is not an antacid? 1
- (a) Phenelzine
 - (b) Ranitidine
 - (c) $\text{Al}(\text{OH})_3$
 - (d) Cimetidine

ANS: (a) Phenelzine is antidepressant (tranquilizer), not an antacid, others are antacids.

- 80 A narrow spectrum antibiotic is active against _____. (a) gram positive or gram negative bacteria. 1
- (b) gram negative bacteria only.
 - (c) single organism or one disease.
 - (d) both gram positive and gram negative bacteria.

ANS: (a) is correct statement.

- 81 Which of the following enhances leathering property of soap? [NCERT Exemplar Problem] 1
- (a) Sodium carbonate (b) Sodium rosinate
 - (c) Sodium stearate (d) Trisodium phosphate

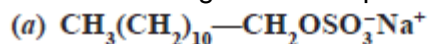
ANS: (b) Sodium rosinate enhance lathering property of soap.

- 82 Glycerol is added to soap. It functions _____. (a) as a filler.
(b) to increase leathering.
(c) to prevent rapid drying.
(d) to make soap granules.

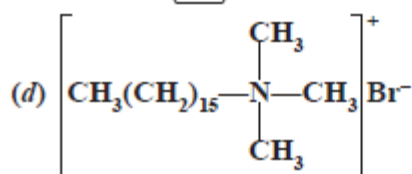
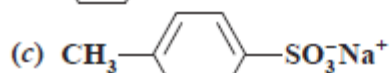
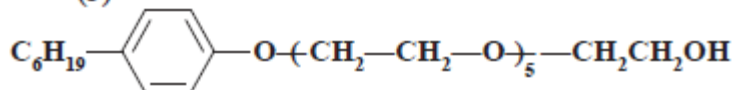
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ANS: (c) It prevents rapid drying because it is hygroscopic (absorbs moisture) from atmosphere.

- 83 Which of the following is an example of liquid dishwashing detergent?



(b)



1

ANS: (b) is dishwashing, non-ionic detergent, (d) Cationic, (a) and (c) are anionic detergents.

- 84 Which of the following is not a target molecule for drug function in body?

- (a) Carbohydrates
(b) Lipids
(c) Vitamins
(d) Proteins

1

ANS: (c) Vitamins are not a target molecules for drug function in body.

- 85 Which of the following statements are incorrect about receptor proteins?

- (a) Majority of receptor proteins are embedded in the cell membranes. [NCERT Exemplar Problem]
(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.

1

ANS: (b) and (d) are incorrect.

- 86 Which of the following statements are correct about barbiturates?

- (a) Hypnotics or sleep producing agents.
(b) These are tranquilizers.
(c) Non-narcotic analgesics.
(d) Pain reducing without disturbing the nervous system.

1

ANS: (a) and (b) are correct.

- 87 Compounds with antiseptic properties are _____.

- (a) CHCl_3
(b) CHI_3
(c) Boric acid
(d) 0.3 ppm aqueous solution of Cl_2

1

ANS: (b) CHI_3 (Iodoform) and (c) Boric acid are antiseptics.

- 88 Which of the following statements are incorrect about penicillin?

- (a) An antibacterial fungus.

1

- (b) Ampicillin is its synthetic modification.
- (c) It has bacteriostatic effect.
- (d) It is a broad spectrum antibiotic.

ANS: (c) and (d) are incorrect. It is bactericidal.

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

Column I	Column II
(a) Ranitidine	(i) Tranquilizer
(b) Furacine	(ii) Antibiotic
(c) Phenelzine	(iii) Antihistamine
(d) Chloramphenicol	(iv) Antiseptic
	(v) Antifertility drug

1

ANS: (a) (iii) (b) (iv) (c) (i) (d) (ii)

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

Column I	Column II
(a) Soap chips	(i) dried miniature soap bubbles
(b) Soap granules	(ii) small broken pieces of soap formed from melted soaps
(c) Soap powder	(iii) soap powder + abrasives + builders (Na_2CO_3 , Na_3PO_4)
(d) Scouring soap	(iv) soap powder + builders like Na_2CO_3 and Na_3PO_4

1

ANS: (a) (ii) (b) (i) (c) (iv) (d) (iii)

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

Column I	Column II
(a) Antagonists	(i) Communicate message between two neurons and that between neurons to muscles
(b) Agonists	(ii) Bind to the receptor site and inhibit its natural function
(c) Chemical messenger	(iii) Crucial to body's communication process
(d) Inhibitors	(iv) Mimic the natural messenger
(e) Receptors	(v) Inhibit activities of enzymes.

1

ANS: (a) (ii) (b) (iv) (c) (i) (d) (v) (e) (iii)

92 In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (Q.29 to Q.32)

- (a) Assertion and reason both are correct and reason is correct explanation of assertion.
- (b) Assertion and reason both are wrong statements.
- (c) Assertion is correct but reason is wrong statement.
- (d) Assertion is wrong but reason is correct statement.
- (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion.

1

Assertion: Sulpha drug contain sulphonamide group. [NCERT Exemplar Problem]

Reason: Salvarsan is a sulpha drug.

ANS: (c) Assertion is correct but reason is wrong statement.

- 93 In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (Q.29 to Q.32)
- (a) Assertion and reason both are correct and reason is correct explanation of assertion.
 - (b) Assertion and reason both are wrong statements.
 - (c) Assertion is correct but reason is wrong statement.
 - (d) Assertion is wrong but reason is correct statement.
 - (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion. Assertion: Transparent soaps are made by dissolving soaps in ethanol. [NCERT Exemplar Problem]
- Reason: Ethanol makes things invisible.

ANS: (c) Assertion is correct but reason is wrong statement.

- 94 In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (Q.29 to Q.32)
- (a) Assertion and reason both are correct and reason is correct explanation of assertion.
 - (b) Assertion and reason both are wrong statements.
 - (c) Assertion is correct but reason is wrong statement.
 - (d) Assertion is wrong but reason is correct statement.
 - (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion. Assertion: Competitive inhibitors compete with natural substrate for their attachment on the active sites of enzymes. [NCERT Exemplar Problem]
- Reason: In competitive inhibition, inhibitor binds to the allosteric site of the enzyme.

ANS: (c) Assertion is correct but reason is wrong statement.

- 95 In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (Q.29 to Q.32)
- (a) Assertion and reason both are correct and reason is correct explanation of assertion.
 - (b) Assertion and reason both are wrong statements.
 - (c) Assertion is correct but reason is wrong statement.
 - (d) Assertion is wrong but reason is correct statement.
 - (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion. Assertion: Non-competitive inhibitor inhibits the catalytic activity of enzyme by binding with its active site. [NCERT Exemplar Problem]
- Reason: Non-competitive inhibitor changes the shape of the active site in such a way that substrate can't recognise it.

ANS: (d) Assertion is wrong but reason is correct statement.

- 96 Histamine is potent _____.

ANS: vasodilator.

- 97 _____ prevents heart attack, can also be used as analgesics and antipyretic but should not be taken empty stomach as it releases salicylic acid, may damage stomach lining.

ANS: Aspirin.

- 98 Plenty of salt and cover of oil act as _____.

ANS: preservative.

- 99 Bathing soaps are _____ salts of long chain fatty acids.

ANS: potassium.

- 100 Aspirin is not suitable for ulcer patients. [TrueFalse] 1
ANS: True, it forms salicylic acid which may cause bleeding and wounds.
- 101 cis-platin is used in chemotherapy for cancer. [TrueFalse] 1
ANS: True, it is antitumour agent.
- 102 A person suffering from depression has low level of noradrenaline. [TrueFalse] 1
ANS: True.
- 103 Morphine is narcotic analgesics given in acute pain of terminal cancer. [TrueFalse] 1
ANS: True, it causes addiction, should not be used regularly.
- 104 Aspirin is known as
(a) Phenyl salicylate
(b) Acetyl salicylate
(c) Methyl salicylic acid
(d) Acetyl salicylic acid 1
ANS: (d) It is acetyl salicylic acid (2-acetoxybenzoic acid).
- 105 Which of the following is an anionic detergent?
(a) Sodium stearate
(b) Sodium lauryl sulphate
(c) Cetyl trimethyl ammonium chloride
(d) Glyceryl oleate. 1
ANS: (b) (a) is soap (c) is cationic detergent and (d) is fat or oil.
- 106 Which of the following is not an antibiotic?
(a) Penicillin (b) Oxytocin
(c) Erythromycin (d) Tetracycline 1
ANS: (b) Oxytocin is an hormone, others are antibiotic.
- 107 Which one among the following is not an analgesic?
(a) Ibuprofen (b) Naproxen
(c) Diclofenac sodium (d) Valium 1
ANS: (d) Valium is antidepressant, reduces anxiety, others are analgesics.
- 108 Which is the correct statement about birth control pills? [NCERT Exemplar Problem]
(a) Contain estrogen only.
(b) Contain progesterone only.
(c) Contain a mixture of estrogen and progesterone derivatives.
(d) Progesterone enhances ovulation. 1
ANS: (c) Contain a mixture of estrogen and progesterone derivatives.
- 109 Which statement about aspirin is not true? [NCERT Exemplar Problem]
(a) Aspirin belongs to narcotic analgesics.
(b) It is effective in relieving pain.
(c) It has antiblood clotting action.
(d) It is a neurologically active drug. 1
ANS: (a) It is non-narcotic analgesics.

- 110 Which of the following statements is correct? [NCERT Exemplar Problem]
(a) Some tranquilisers function by inhibiting the enzymes which catalyse the degradation of noradrenaline.
(b) Tranquilisers are narcotic drugs. 1
(c) Transquilisers are chemical compounds that do not affect the message transfer from nerve to receptor.
(d) Tranquilisers are chemical compounds that can relieve pain and fever.

ANS: (a) is correct statement, others are not correct.

- 111 Which of the following statements is not true about enzyme inhibitors? [NCERT Exemplar Problem]
(a) Inhibit the catalytic activity of the enzyme.
(b) Prevent the binding of substrate. 1
(c) Generally a strong covalent bond is formed between an inhibitor and an enzyme.
(d) Inhibitors can be competitive or non-competitive.

ANS: (c) Strong covalent bond is not formed.

- 112 Which of the following chemicals can be added for sweetening of food items at cooking temperature and does not provide calories? 1
(a) Sucrose (b) Glucose
(c) Aspartame (d) Sucralose

ANS: (d) Sucralose is stable at cooking temperature and does not provide calories.

- 113 Veronal and luminal are derivatives of barbituric acid which are _____. [NCERT Exemplar Problem]
(a) Tranquilizers 1
(b) Non-narcotic analgesic
(c) Antiallergic drugs
(d) Neurologically active drugs

ANS: (a) and (d).

- 114 Which of the following statements are correct? [NCERT Exemplar Problem]
(a) Cationic detergents have germicidal properties.
(b) Bacteria can degrade the detergents containing highly branched chains. 1
(c) Some synthetic detergents can give foam even in ice cold water.
(d) Synthetic detergents are not soaps.

ANS: (a), (c) and (d) are correct.

Branched chain detergents are non-biodegradable, create water pollution.

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

Column I	Column II
(a) Analgesics	(i) Inhibit the growth of microorganisms can be given orally.
(b) Antiseptics	(ii) Treatment of stress
(c) Antihistamines	(iii) Applied to inanimate objects
(d) Antacids	(iv) Prevents the interaction of histamine with its receptor
(e) Tranquilisers	(v) Pain killing effect
(f) Antibiotics	(vi) Applied to diseased skin surfaces
(g) Disinfectants	(vii) Treatment of acidity

ANS: (a) (v) (b) (vi) (c) (iv) (d) (vii) (e) (ii) (f) (i) (g) (iii)

- 116 In the following question a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. 1
(a) Assertion and reason both are correct and reason is correct explanation of assertion.

- (b) Assertion and reason both are wrong statements.
- (c) Assertion is correct but reason is wrong statement.
- (d) Assertion is wrong but reason is correct statement.
- (e) Assertion and reason both are correct statements but reason is not correct explanation of assertion.

Assertion: Preservative are added to food items. [NCERT Exemplar Problem]

Reason: Preservatives inhibit the growth of microorganisms.

ANS: (a) Assertion and reason both are correct and reason is correct explanation of assertion.

117 Soaps _____ create water pollution. 1

ANS: do not.

118 Chloroquine is analgesic. [True/False] 1

ANS: False, it is antimalarial drug.