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Q1. Explain the following type of substance with one suitable example: Analgesics.

Q2. Name the main constituents of dettol.

Q3. What is meant by a 'broad spectrum antibiotic'?

Q4. Determine the following giving one example: Antacids.

Q5. Differentiate between disinfectants and antiseptics.

Q6. What is the cause of a feeling of depression in human beings? Name a drug which can be useful in treating this depression.

Q7. What is the following substance? Give one example? Tranquilizers.

Q8. What are limited spectrum antibiotics? Give one example.

Q9. Which class of drugs is used in sleeping pills?

Q10. What are antiseptics? Give one example.

Q11. What is Antibiotics? Give one example: Antibiotics.

Q12. Give two examples of macromolecules that are chosen as drug targets.

Q13. Why is use of aspartame limited to cold foods and soft drinks?

Q14. Name a substance that can be used as an antiseptic as well as a disinfectant.

Q15. Define the following term: Narcotic drugs.

Q16. Describe the following substance with one suitable example: Disinfectants.

Q17. Explain the following terms with one suitable example: A sweetening agent for diabetic patients.

Q18. Why do we require artificial sweetening agents?

Q19. Which one of the following is a food preservative?

Equanil, Morphine, Sodium benzoate.

Q20. What are the following substance? Give one example.

Food preservatives.

Q21. Name sweetening agent used in the preparation of sweets for a diabetic patient.

Q22. Define the following term: Saponification.

Q23. What are the following substance? Give one example.

Nonionic detergents.

Q24. How are synthetic detergents better than soaps?

Q25. Explain the following term with one example? Detergents.

Q26. Explain the following terms with one suitable example.

Cationic detergents.

Q27. Why do soaps not work in hard water?

Q28. What are the following substance? Give one example.

Synthetic detergents.

Q29. If water contains dissolved Ca^{2+} ions, out of soaps and synthetic detergents, which will you use for cleaning clothes?

Q30. Define the folowing term: Alitame.

Q31. What are the following substance? Give one example.

Sweetening agents.

Q32. (a) What class of drug is ranitidine? (b) Which of the following is an antiseptic?

0.2% Phenol, 1% Phenol.

Q33. Explain the following terms with a suitable example for each:

(a) Disinfectants (b) Antacids.

Q34. (a) Define Antihistamine with an example.

(b) Which one of the following drugs is an antibiotic?

Q35. Discuss the two ways in which drugs prevent attachment of natural substrate on active site of an enzyme.

Q36. Discuss the two ways in which drugs prevent attachment of natural substrate on active site of an enzyme.

Q37. What are the food preservatives? Name two such substances.

Q38. What are the following? Give one example:

(a) Sweetening agents (b) Food preservatives.

Q39. Explain the following terms with one suitable example in each case:

(a) Enzymes (b) Antifertility drugs.

Q40. Answer the following questions:

(a) What are the main constituents of dettol?

(b) How do antiseptics differ from disinfectants?

Q41. Explain the following terms with one suitable example for each:

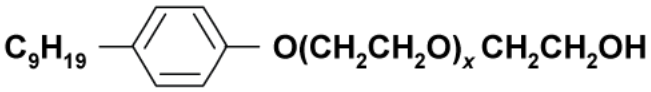
(a) Enzymes (b) Analgesics.

Q42. What are the following substances? Give one example of each:

(a) Broad Spectrum antibiotics (b) Narcotic analgesics.

Q43. How do antiseptics differ from disinfactants? Give one examples of each. (Give two differences).

Q44. Label the hydrophilic and hydrophobic parts in the following mole of a non-ionic detergent:



Identify the functional group(s) present in the molecule.

Q45. State the reason in each of the following cases:

(a) Soaps do not work well in hard water.

(b) Synthetic detergents are better than soaps.

Q46. Explain the following terms:

(a) Cationic detergents (b) Anionic detergents (c) Neutral detergents.

Q47. Explain the following terms with suitable examples:

(a) Cationic detergents (b) Anionic detergents.

Q48. Answer the following questions:

(a) Why should medicines not be taken without consulting a doctor?

(b) What is meant by 'broad-spectrum antibiotics'?

(c) What are the main constituents of Detol?

Q49. Mention one use each of the following drugs:

(a) Ranitidine (b) Paracetamol (c) Tincture of iodine.

Q50. What is meant by the term, 'broad-spectrum antibiotics? Name a broad-spectrum antibiotic and state two diseases for which it is prescribed.

Q51. What are analgesic medicines? How are they classified and when are they commonly recommended for use?

Q52. Mention the action of the following on the human body in bringing relief from a disease:

(a) Brompheniramine (b) Aspirin (c) Equanil.

Q53. What are the following substances? Give one example of each:

(a) Analgesics (b) Antibiotics (c) Tranquilizers.

Q54. What are the following substances? Give one example of each:

(a) Antihistamines (b) Tranquilizers (c) Broad-spectrum antibiotics.

Q55. (a) How do antiseptics differ from disinfectants? Give one example of each.

(b) What are the tranquilizers? Give one example of each:

Q56. What are biodegradable and non-biodegradable detergents? Give one example of each

Q57. (a) What are disinfectants? Give an example.

(b) What are anionicdetergents? Five an example.

Q58. On the occasion of World Health Dat, Dr. Satal organized a 'health camp' for the poor farmers living in a nearby village. After checkup, he was shocked to see that most of the farmers suffered from cancer due to regular exposure to pesticides and many were diabetic. They distributed free medicines to them. Dr. Satpal immediately reported the matter to the National Human Rights Commission (NHRC). On the suggestions of NHRC, the government decided to provide medical care, financial assistance, setting up of super-speciality hospitals for treatment and prevention of the deadly disease in the affected villages all over India.

(a) Rtite the values shown by (i) Dr. Satpal (ii) NHRC.

(b) What type of analgesics are chiefly used for the relief of pains of terminal cancer?

(c) Give an example of artificial sweetener that could have been recommended to diabetic patients.

Q59. What are the artificial sweetening agents? Give two example.s Name the sweetening agent used in the preparation of sweets for a diabetic patient.

Q60. (a) What are antihistamines and how do they act?

(b) Mention the name of a substance which can be used both as an antiseptic as well as a disinfectant.

Q61. What are anionic detergents? How are they prepared? Write their two main uses.

Q62. 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 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:

(a) What are the values (at least two) displayed by Mr. Deepak?

(b) Why is it not advisable to take sleeping pils without consulting doctor?

(c) What are the tanquilizers? Give two examples.

Q63. Mr. roy, the principal of one reputed school organized a seminar in which he invited parents and principals to discuss the serious issue of diabetes and depression in students. They all resolved this issue by strictly banning the junk food in schools and to introduce healthy snacks and drinks like soup, lassi, milk etc. in school canteens. They also decided to make compulsory half an hour physical activities for the students in the morning assembly daily. After six months, Mr. Roy conducted the health survey in most of the schools and discovered a tremendous improvement in the health of students.

After reading the above passage, answer the following:

(a) What are the values (at least two) displayed by Mr. Roy?

(b) As a student, how can you spread awareness about this issue?

(c) What are the tranquilizers? Give an example.

(d) Why is use of aspartame limited to cold foods and drinks?

Q64. 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 good.:

After reading the above passage, answer the following:

(a) What are the values (at least two) displayed by Mr. Khanna?

(b) What are antacids? Give one example.

(c) Would it be advisable to take antacids for a long period of time? Give reason.

Q65. Neeraj went to the department 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. He decided to buy sucralose which was good for his grandfather's health.

(a) Name another sugar-free tablet which Neeraj did not purchase.

(b) Was it right to purchase such medicines without doctor prescription?

(c) What quality of Neeraj is reflected above?

Q66. Seeing the growing cases of diabetes and depression among young children, Mr. Lugani, 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 cateens. They also decided to make compulsory falh an hour of daily phisical activities for the students in the morning assembly. After six months, Mr. Lugani 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:

(a) What are the values (at least two) displayed by Mr. Lugani?

(b) As a student, how can you spread awareness about this issue?

(c) What are antidepressant drugs? Give an example.

(d) Name the sweetening agent used in the preparation of sweets for a diabetic patient.

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S1. Analgesics are drugs that reduce pain without causing impairment of consciousness, metal confusion, incoordination or paralysis or some other disturbances of nervous system.

Example: Aspirin, Paracetamol, Morphine etc.

S2. Chloroxylenol and terpineol.

S3. The antibiotic which is effective against a wide range of Gram positive and Gram negative bacteria is known as broad spectrum antibiotic. For example, chloramphenicol.

S4. **Antacids:** These are the chemical substances which neutralize the excess acid and raise the pH to an appropriate level in the stomach. *e.g.*, Sodium hydrogen carbonate or a mixture of aluminium and magnesium hydroxide are some common antacids.

S5. **Disinfectants:** These are chemical substances used to kill micro-organisms in inaniate materials and are not safe to be applied to the living tissues.

Examples:

(a) 1% solution of phenol.

(b) Solution of *o*–, *m*– and *p*-methylphenols (cresols) in soapy water is called lysol and is used as a disainfectant.

Antiseptics: These are the chemical substances used to prevent the growth of microorganisms or to kill them and are safe to be applied on living tissues. These are applied to wounds and cuts. For examples (a) iodoform (b) tincture of iodine.

S6. Low level of noradrenaline is the cause of depression of human being.

Equanil is used for treatment.

S7. **Tranquilizers:** Those medicines which act on central nervous system and help in reducing anxiety and relieve tension on the nerves are called tranquilizers. For example, valium.

S8. Antibiocs which are effective against a single organism or disease are called limited spectrum antibiotics. For *e.g.*, Dysidazirine which is toxic towards certain strains of cancer cells.

S9. Tranquilizers are used in sleeping pills

S10. **Antiseptics:** These are the chemical substances used to prevent the growth of microorganisms or to kill them and are safe to be applied on living tissues. These are applied to wounds and cuts. For examples (i) iodoform (ii) tincture of iodine.

S11. **Antibiotics** are chemical substances (prepared wholy or partially by chemical synthesis) which in low concentration either kill or inhibit the growth of microorganisms by intervening in their metabolic processes.

e.g., Dysidaziring – Toxic towards cancer cells.

S12. Drugs interact with macro molecules like carbohydrates, proteins, nucleic acids and lipids present in the cell.

S13. Use of aspartame is limited to cold food and drinks because it is unstable at cooking temperature.

S14. **Phenol:** 0.2% solution of phenol acts as an antiseptic whereas 1% solution acts as a disinfectant.

S15. Narcotic analgesics are pain killers and induce sleep. If taken in high amount they produce coma, convulsions and ultimately, death for *e.g.*, Morphine.

S16. Disinfectants are chemicals which either kill or prevent the growth of microorganisms but not safe for living tissues. They are applied on floors, drainage system etc. For *e.g.*, 1% of phenol, low concentration of SO_2 etc.

S17. **Sweetening agent:** The substances which provide sweetness to the food without increasing the calories to the body are known as artifitial sweetening agents. Saccharin and aspartame are artificial sweetening agents.

S18. Artificial sweetening agents are required by diabetic persons and people who need to control intake of calories.

S19. Sodium benzoate-food preservative. Morphine-narcoti-analgesic equanil-tranquilizer.

S20. Chemicals which prevent the spoilage of food due to microbial growth are called food presrvatives. Table salt, sugar, vegetable oils are some commonly used food preservatives.

S21. Saccharin is the sweetener used in the preparation of sweets for a diabetic person.

S22. **Saponification:** Soaps containing sodium salts are formed by heating fat with aqueous sodium hydroxide solution. This reaction is known as saponification.

S23. Non-ionic detergents some detergents like esters of high molecular mass, formed by reaction between polyethylene glycol and stearic acid, are called non-ionic detergents. These detergents do no contain any ion in their constitution *e.g.*,

$$CH_3(CH_2)_{16}COO(CH_2CH_2O)_nCH_2CH_2OH$$

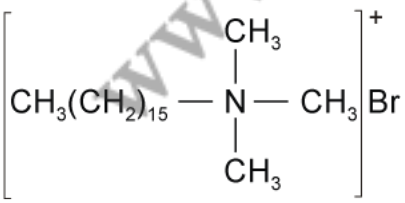
S24. **Synthetic detergents** are better than soaps because they form foam even in hard water whereas soaps do not. Some of the detergents give foam even in ice cold water.

S25. Chemical substances which improve cleansing property of water and helps in removal of dirt form skin, fabric or other materials are called detergents. *e.g.*, sodium dodecyl benzenes sulphonate (SDS).

S26. **Cationic detergents:** Detergents in which large part of molecules is cation are called cationic detergents.

These are quaternary ammonium salts.

e.g., Cetyltrimethyl ammonium bromide



S27. Soap has a hydrophobic part (hydrocarbon) that attracts dirt, grease oil, etc. whereas hydrophilic part (— COONa) attracts water that take oil, dirt and grease. Soaps do not work well with hard water because Mg^{2+} and Ca^{2+} ions of hard water react with soap to form megnetisum and calcium salts of fatty acids which are insoluble in water and form scum.

$$\underset{\text{Soap}}{2C_{17}H_{35}COONa} + CaCl_2 \longrightarrow 2NaCl + \underset{\text{Insoluble caldium stearate (soap)}}{(C_{14}H_{13}COO)_2Ca}$$

S28. Synthetic detergents: These are cleansing agents which have all the properties of soaps but actually do not contain any soap. These can be used both in soft and hard wate. *e.g.*, sodium *p*-dodecylbenzene-sulphonate.

S29. As the water contains dissolved Ca^{2+} ions, therefore it is hard water. Hence, synthetic detergents are preferred over the soaps for cleaning the clothes because calcium salts of detergents are soluble in water while calcium salts of soaps are insoluble. As a result, lot of soap is wasted.

S30. Alitame: Alitame is more stable than aspartame. It is very high potency sweetener. Its sweetness is difficult to control hence its use is limited.

It is 2000 times as sweet as cane sugar.

S31. Sweetening agent: The substances which provide sweetness to the food without increasing the calories to the body are known as artifitial sweetening agents. Saccharin and aspartame are artificial sweetening agents.

S32. (a) It is an antacid as it helps in removing acidity of stomach.

(b) **Phenol:** 0.2% solution of phenol acts as an antiseptic whereas 1% solution acts as a disinfectant.

S33. (a) **Disinfectants:** These are chemical substances used to kill micro-organisms in inaniate materials and are not safe to be applied to the living tissues.

Examples:

(i) 1% solution of phenol.

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(b) **Antacids:** These are the chemical substances which neutralize the excess acid and raise the pH to an appropriate level in the stomach. *e.g.*, Sodium hydrogen carbonate or a mixture of aluminium and magnesium hydroxide are some common antacids.

S34. (a) The drugs which prevents the interaction of histamine with the receptors where histamine exerts its effect are called antihistamines. *e.g.*, Synthetic drug brompheniramine (Dimetapp) and terfenadine (Seldane) acts as antihistamines.

(b) Chloramphenicol is an antibiotic.

S35. Drugs compete with the natural substrate for their attachment on the active sites of enzymes. Such drugs are called competitive inhibitors.

Some drugs do not bind to the enzyme's active site. These bind to a different site of enzyme which is called allosteric site. This binding of inhibitor at allosteric site changes the shape of the active site in such a way that substrate can not recognise it. If the bond formed between an enzyme and an inhibitor is a strong covalent bond and cannot be broken easily, then the enzyme is blocked permanently. The body then degrades the enzyme-inhibitor complex and synthesize the new enzyme.

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S38. (a) **Sweetening agent:** The substances which provide sweetness to the food without increasing the calories to the body are known as artifitial sweetening agents. Saccharin and aspartame are artificial sweetening agents.

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S39. (a) Proteins which play an important role of biological catalyst in the body are called enzymes. For *e.g.*, Invertase, Maltase etc.

(b) Drugs which are used to control birth rate are called antifertility drugs. *e.g.*, Norethindrone, novestrol.

S40. (a) Chloroxylenol and terpineol.

(b) **Antiseptics:** These are the chemical substances used to prevent the growth of microorganisms or to kill them and are safe to be applied on living tissues. These are applied to wounds and cuts. For examples (a) iodoform (b) tincture of iodine.

Disinfectants: These are chemical substances used to kill micro-organisms in inaniate materials and are not safe to be applied to the living tissues.

Examples:

(i) 1% solution of phenol.

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S41. (a) Proteins which play an important role of biological catalyst in the body are called enzymes. For *e.g.*, Invertase, Maltase etc.

(b) Analgesics are drugs that reduce pain without causing impairment of consciousness, metal confusion, incoordination or paralysis or some other disturbances of nervous system.

Example: Aspirin, Paracetamol, Morphine etc.

S42. (a) The antibiotic which is effective against a wide range of Gram positive and Gram negative bacteria is known as broad spectrum antibiotic. For example, chloramphenicol.

(b) Narcotic analgesics are pain killers and induce sleep. If taken in high amount they produce coma, convulsions and ultimately, death for *e.g.*, Morphine.

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Examples:

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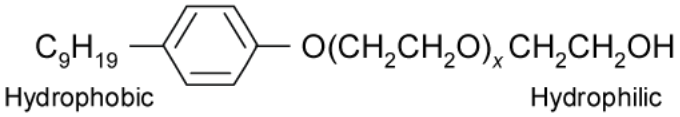
(b) Solution of *o*–, *m*– and *p*-methylphenols (cresols) in soapy water is called lysol and is used as a disainfectant.

Differences:

(a) Antiseptics are applied to theliving tissues and disinfectants are aplied to inanimate objects.

(b) Some substance can act as an antiseptics at low concentration and as disinfectant at high concentration.

S44.



Funcrtional groups: (a) — OH (hydroxy), (b) — O — (oxy).

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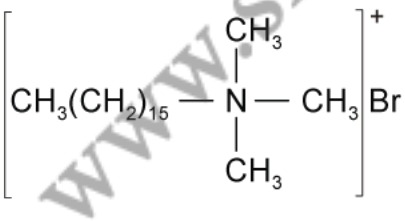
These are quaternary ammonium salts.

e.g., Cetyltrimethyl ammonium bromide



(b) **Anionic detergents:** A detergent whose large part of the molecule is anion is called anionic detergent.

These are sodium salts of sulphonated long chain alcohols or hydrocarbons.

e.g., sodium laurylsulphate

$$CH_3 — (CH_2)_{10}CH_2OSO_3^- Na^+$$

(c) Non-ionic detergents some detergents like esters of high molecular mass, formed by reaction between polyethylene glycol and stearic acid, are called non-ionic detergents. These detergents do no contain any ion in their constitution *e.g.*,

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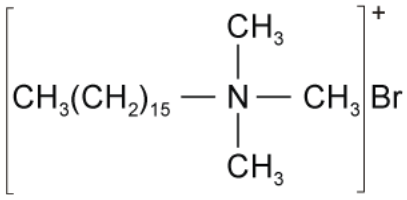

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S48. (a) We should not take medicine without consulting doctor because we don't know about that particular medicine that what would be its reaction and sideffect. May be a single medicine can cause death. it could be harmful for our life. So, don't take medicine without consulting of doctor.

(b) The antibiotic which is effective against a wide range of Gram positive and Gram negative bacteria is known as broad spectrum antibiotic. For example, chloramphenicol.

(c) Chloroxylenol and terpineol.

S49. (a) **Ranitidine:** Ranitidine is used as an antacid.

(b) **Paracetamol:** Paracetamol is used to bring down the body temperature during high fever.

(c) **Tincture of iodine:** Tincture of iodine is used as an antiseptic. It is 2-3% solution of iodine in alcohol and water.

S50. The antibiotic which is effective against a wide range of Gram positive and Gram negative bacteria is known as broad spectrum antibiotic. For example, chloramphenicol.

Chloramphenicol is a antibiotic and prescribed fofr typhoid, meningitis and pneumonia etc.

S51. Analgesic medicines: The chemical substances which are used to relieve pain without causing impairment of consciousness are called analgesic medicines.

There are two types of analgesic medicines.

(a) **Non narcotic drugs:** These are effective in relieving skeletal pain, preventing heart attack and viral inflammation etc. For *e.g.*, Aspiring and paracetamol.

(b) **Narcotic drugs:** These are recommendad for the relief in postoperative pain, cardiac pain, pains of terminal cancer, and child birth. These are morphine derivatives and habit forming.

S52. (a) **Brompheniramine:** Brompheniramine acts as antihistamine (antiallergic). It interferes with the natural action of histamine by competing with histamine for binding sites of receptor where histamine exerts its effect.

(b) **Aspirin:** Aspirin acts as an analgesic, *i.e.*, used to reduce pain and antipyretic, *i.e.*, brings down the body temperature. Aspirin inhibits the synthesis of compounds which stimulate inflammation in the tissue and cause pain.

(c) **Equanil:** Equanil is used for controlling depression and hypertension.

S53. (a) Analgesics are drugs that reduce pain without causing impairment of consciousness, metal confusion, incoordination or paralysis or some other disturbances of nervous system.

Example: Aspirin, Paracetamol, Morphine etc.

(b) **Antibiotics** are chemical substances (prepared wholy or partially by chemical synthesis) which in low concentration either kill or inhibit the growth of microorganisms by intervening in their metabolic processes.

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Disinfectants: These are chemical substances used to kill micro-organisms in inaniate materials and are not safe to be applied to the living tissues.

Examples:

(i) 1% solution of phenol.

(ii) Solution of *o*–, *m*– and *p*-methylphenols (cresols) in soapy water is called lysol and is used as a disainfectant.

(b) **Tranquilizers:** Those medicines which act on central nervous system and help in reducing anxiety and relieve tension on the nerves are called tranquilizers. For example, valium.

S56. Biodegradable detergents: Detergents having straight chain hydrocarbons are easily decomposed by micro organisms. These are called biodegradable detergents.

Example: Sodium 4-(1, 3, 5, 7 - Tetramethyloctyl) benzene sulphonate.

Non-biodegradable detergents: Detergents having highly branched hydrocarbon chains are not degraded by bacteria easily. These are called non-biodegradable detergents.

Example: Trimethyl stearyl ammonium chloride.

S57. (a) Disinfectants are chemicals which either kill or prevent the growth of microorganisms but not safe for living tissues. They are applied on floors, drainage system etc. For *e.g.*, 1% of phenol, low concentration of SO_2 etc.

(b) **Anionic detergents:** A detergent whose large part of the molecule is anion is called anionic detergent.

These are sodium salts of sulphonated long chain alcohols or hydrocarbons.

e.g., sodium laurylsulphate

$$CH_3 — (CH_2)_{10}CH_2OSO_3^- Na^+$$

S58. (a) (i) Dr. Satpal showed that a doctor should be sympathetic to the health needs of the society.

(ii) NHRC showed that government should provide medical care and financial assistance to rural population of India.

(b) Narcotic analgesics are chiefly used for the relief of pain of terminal cancer.

(c) Saccharin is an artificial sweetner which could be recommended to diabetic patients.

S59. The chemicals that give sweetness to the food but do not add any calorie to our body are called artificial sweninng agents.

e.g., Saccharine, aspartame.

Any artificial sweeing agent like asparthame, alitame, etc, can be added to the fgood consumed by diabetic parient.

S60. (a) The drugs which prevents the interaction of histamine with the receptors where histamine exerts its effect are called antihistamines. *e.g.*, Synthetic drug brompheniramine (Dimetapp) and terfenadine (Seldane) acts as antihistamines.

(b) **Phenol:** 0.2% solution of phenol acts as an antiseptic whereas 1% solution acts as a disinfectant.

S61. Anionic detergents: A detergent whose large part of the molecule is anion is called anionic detergent.

These are sodium salts of sulphonated long chain alcohols or hydrocarbons.

e.g., sodium laurylsulphate

$$CH_3 — (CH_2)_{10}CH_2OSO_3^- Na^+$$

Preparation: Alkyl hydrogen sulphate formed by treating long chain alcohols with concentrated sulphuric acid are neutralised with alkali to form anionic detergents.

$$CH_3(CH_2)_{10}CH_2OH \longrightarrow \underset{\text{Alkyl hydrogen sulphate}}{CH_3(CH_2)_{10}CH_2OSO_3H} \longrightarrow \underset{\text{Anionic detergents}}{CH_3(CH_2)_{10}CH_2OSO_3^- Na^+}$$

Uses: These are mostly used (i) for household wok (ii) in toothpaste.

S62. (a) (i) Mr. Deepak is very much concerned about the healthy life and he knows the benefits of doing yoga, meditation and physical exercise.

(ii) Mr. Deepak is very good friend and helped Mr. Angad to come out from tensions and anxiety.

(b) It is not adviasble to take sleeping pills without consulting doctor because if they have taken in doses higher than recommended, may produce harmful effects and act as poison and cause even death.

(c) Drugs which are used for the treatment of stress fatigue, mile and severe mental disease anxiety, irritability are called tranquilizers. *e.g.*, Equanil, chlordizepoxide.

S63. (a) Mr. Roy displayed responsibility and concern towards the health needs of students.

(b) Awareness regarding diabetes and depression can be spread by conducting workshops for students, teachers as well as parents, by health camps, seminars and through school magazines.

(c) **Tranquilizers:** Those medicines which act on central nervous system and help in reducing anxiety and relieve tension on the nerves are called tranquilizers. For example, valium.

(d) Use of aspartame is limited to cold food and drinks because it is unstable at cooking temperature.

S64. (a) Mr. Khanna is concerned and caring to his friend. He believes in living healty life by doing yoga, meditation, physical exercise etc.

(b) The substances which neutralize the excess acid and raise the pH to an appropriate level in stomach are called antacides *e.g.*, Ranitidine.

(c) No, it is not advisable to take antacides for a long period because they make the stomach alkaline and trigger the production of even more acid. Hence, causes more acidity. Moreover, it causes esophageal cancer.

S65. (a) Alitame and aspartame.

(b) Yes, sucralose can be purchased without doctor's consultation because Sucrakise oass through the human body unmetabolised without producing any calories.

(c) General awareness and responsibility knowledge of chemical.

S66. (a) Two values displayed by Mr. Lugani are:

(i) He showed concern about the health of students and banned junk food.

(II) He took the responsibility of improving the health of students and introduced half an hour compulasory physical activity in the morning assembly.

(b) Awareness about this issue can be spread by organizing awareness camps in our society, using social media etc.

(c) Chemicals used for the treatment of depression are called antidepressant drugs or tranquillizers. *e.g.*, phenelzine.

(d) Saccharin is the sweetener used in the preparation of sweets for a diabetic person.