MICROBIOLOGY

Vocabulary

Give definitions of each word or phrase:

microbiological inspection
crude drugs
fungus (*pl* fungi)
mold fungi
yeastlike fungi
pathogenic microorganism

bacteriological control
bacterium (*pl* bacteria)
saprophytic bacteria
microbal cell
smear

vaginal discharge
microorganism of flagellates
class
serum drug
Staphylococcus aureus
(S.aureus)
to inoculate
gram-positive diplococci
causative agent
microscopic mites
pertussis

microbial contamination
faecal contamination of water
infectious type *B* hepatitis
sanitary meaningful
microorganisms
bacillus (*pl* bacilli)
tuberculous bacilli
rabies
nonchromosomal hereditary
elements
septicopyaemia
microscopy exam

Task 1. Fill in the missing letters.

1. _e_stlike _____
2. C_ _sative _____
3. Sm_ _r _____
4. T_b_rcul_ us _____
5. Pert_s_is _____
6. Baci_l_s _____
7. Rab_ _s _____

Task 2. Unscramble the following words.

1. y-h-e-r-e-t-a-r-d-i _____
2. a-r-s-a-i-t-y-n _____
3. e-t-i-n-a-o-l-c-u _____
4. i-f-g-u-n _____
5. u-s-e-m-r _____
6. l-m-i-a-r-c-b-o _____
7. i-c-s-a-t-h-y-p-r-p-o _____

Task 3. Match the words from column A with ones from column B to make a word combination.

Column A	Column B
1 microbiological	a) exam
2 microorganism	b) microorganisms
3 microscopy	c) diplococci
4 nonchromosomal	d) of flagellates class
5 sanitary meaningful	e) control
6 gram-positive	f) inspection
7 bacteriological	g) hereditary elements

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Task 4. Fill in the gaps using the words from the box.

infectious type B hepatitis	*serum drugs*	*vaginal discharge*
microscopic mites	*staphylococcus aureus*	
faecal contamination of water		*microbial contamination*

1. The menstrual flow is a _____, which are very common, most women have them.
2. _____ is a gram-positive, round-shaped bacterium that is a member of the normal flora of the body, frequently found in the nose, respiratory tract, and on the skin.
3. We all almost certainly seem to have Demodex living on our faces. You can't see them, but they're there. They are _____, eight-legged creatures rather like spiders. Almost every human being has them.
4. The _____ resources is the main reason for endemic intestinal and infectious disease in Georgia.
5. Measurements of _____ concentrations are most often useful during prophylactic drug therapy, in patients with major pharmacokinetic disturbances, and when patients show unusual and unexplained sensitivity or resistance to therapy with a drug.
6. The reagents have to be sealed immediately after use to avoid evaporation and _____.
7. The _____ cannot be spread by holding hands, sharing eating utensils, kissing, coughing, sneezing, or breastfeeding. The infection can be diagnosed 30 to 60 days after exposure.

Task 5. Read the text.

MICROBIOLOGY

Microbiology is the study of microscopic organisms that are either single-celled (unicellular), cell colony (multicellular) or acellular (lacking cells). The science includes many sub-disciplines like virology, mycology, parasitology and bacteriology.

Microbiologists study bacteria, archaea, algae, fungi, protozoa, and viruses. They research eukaryotic microorganisms which possess membrane-bound cell organelles and include fungi and protists, whereas prokaryotic organisms are conventionally classified as lacking membrane-bound organelles and include eubacteria and archaebacteria. Microbiologists traditionally rely on culture, staining,

and microscopy. However, less than 1% of the microorganisms present in common environments can be cultured in isolation using current means.

Historians are unsure who made the first observations of microorganisms, but the microscope was available during the mid-1600s, and an English scientist named Robert Hooke made key observations.

He observed strands of fungi among the specimens of cells he viewed. In the 1670s and the decades thereafter, a Dutch merchant named Anton van Leeuwenhoek made careful observations of microscopic organisms, which he called animalcules. This scientist revealed the microscopic world to scientists of the day and is regarded as one of the first to provide accurate descriptions of protozoa, fungi, and bacteria.

The development of new experimental techniques and ability to sequence organisms without actually culturing them in the laboratory has revealed diversity and complexity in the microbial world not previously known. Today microbiologists can easily innovate new diagnostic kits (e.g. pathogen detecting, antigen detecting, receptor detecting etc), and discover new drugs with antibiotic sensitivity tests, zone of inhibitions etc. Hundreds of enzyme properties, antibiotic properties within microorganisms are being detected daily and are applied in many fields like Medical, Diary, Pharmaceutical, Industrial, Clinical, research, water industry, agriculture, nanotechnology, chemical etc.

Task 6. Answer the questions:

1. What is microbiology?
2. What sub-disciplines does microbiology include?
3. What microorganisms do microbiologists study?
4. Who first provided accurate descriptions of protozoa, fungi, and bacteria?
5. What can microbiologists innovate and discover today?

Task 7. Match the words from column A with synonyms from B.

Column A	Column B
1 unicellular	a) to contain
2 multicellular	b) exact
3 include	c) pluricellular
4 lacking	d) to trust
5 to rely on	e) to find
6 to discover	f) to consider
7 to regard	g) monadiform
8 accurate	h) missing
9 to apply	i) to use

Task 8. Choose the correct variant:

1. _ Microbiology is the study of microscopic organisms that are either

_____

a) unicellular, multicellular or having excess of cells.
b) homocells, lacking cells or possess membrane-bound cell organelles.
c) single-celled, cell colony or acellular.

2. Less than 1% of the microorganisms present in common environments can _____

a) be cultivated in fresh air using current means.
b) be cultured inside the laboratory using current means.
c) be grown in isolation using current means.

3. Anton van Leeuwenhoek made careful observations of ____

a) animalcules.
b) fungi.
c) protozoa.

4. Microbiologists can NOT _____

a) discover new drugs.
b) detect pathogens.
c) do operations.

Task 9. Put the words in the correct order to create a sentence:

1. The science/ many sub-disciplines/ includes / like virology/ mycology/ and bacteriology/ parasitology.

_____

_____

2. Microbiologists / rely on / traditionally/ and microscopy / culture/ staining.

_____

_____

3. are unsure/ Historians/ the first observations /who made/ of microorganisms/ but the microscope/ during the mid-1600s/ was available.

_____

_____

4. enzyme properties / Hundreds of/ within microorganisms/ antibiotic properties/ daily/ are being detected/

_____

_____

PHARMACOLOGY

Vocabulary

Give definitions of each word or phrase:

acetylsalicylic acid

acute heart failure

acute poisoning

adipose tissue redistribution

amebic dysentery

anesthetic

angiotensin

antiarrhythmic medicine
anti-inflammatory effect
antiplatelet
antipyretic
anxiolytic action
blood vessels
cardiac glycoside intolerance
chemotherapeutic agent
clonidine
to complain
conductive
contraindication
derivative
disorder
to eliminate
excitation
forced diuresis
gastric (peptic) ulcer
herpes
hypnotic
increase
indications
inhibition
meiosis
muscarinic receptor
myotropic
to relieve
stenocardia
suppression

Task 1. Fill in the missing letters.

1. H_pn_ti_ _____
2. D_so_d_r _____
3. Po_s_ni_g _____
4. Me_os_s _____
5. _ompla_n _____
6. A_et_lsalic_lic _____
7. E_cita_ion _____

Task 2. Unscrable the following words.

1. i-e-i-n-a-t-e-m-l _____
2. b-i-n-o-i-t-i-n-h-i _____
3. p-m-y-c-o-t-o-i-r _____
4. p-s-u-p-e-s-i-n-s-o-r _____
5. o-m-l-i-n-c-p-a _____
6. c-u-l-r-e _____
7. h-i-n-e-s-t-c-e-t-a _____

Task 3. Match the word from column A with ones from column B to make a word combination

Column A	Column B
1 acute	a) tissue
2 gastric	b) vessels
3 acetylsalicylic	c) action
4 anxiolytic	d) heart failure
5 blood	e) ulcer
6 adipose	f) diuresis
7 forced	g) acid

Task 4. Fill in the gaps using the words from the box.

antiarrhythmic medicine amebic clonidine antipyretic relieve herpes derivative

1. The man with high temperature has been prescribed _____ medicine.
2. A patient with a heart rhythm disorder should be given _____.
3. What chemotherapeutic agent is a drug of choice for treatment of_____?
4. What drug is more advisable for the patient with_____ dysentery?
5. A patient with hypertensive crisis has been given an intravenous injection of_____.
6. Diazepam used in patients with neurosis is _____of benzodiazepine.
7. The student asked the pharmacist to recommend him the drug to _____allergic rhinitis symptoms.

Task 5. Read the text.

PHARMACOLOGY

Pharmacology is the branch of medicine and pharmacy concerned with the study of drug action, where a drug can be broadly defined as any man-made, natural, or endogenous (from within body) molecule which exerts a biochemical or physiological effect on the cell, tissue, organ, or organism. More specifically, it is the study of the interactions that occur between an organism and chemical agents that affect normal or abnormal biochemical and physiological function. If substances have medicinal properties, they are considered pharmaceuticals.

The field encompasses drug composition and properties, synthesis and drug design, molecular and cellular mechanisms, organ/systems mechanisms, signal transduction/cellular communication, molecular diagnostics, interactions, toxicology, chemical biology, therapy, and medical applications and antipathogenic capabilities. The two main areas of pharmacology are pharmacodynamics and pharmacokinetics. Pharmacodynamics studies the effects of a drug on biological systems, and

Pharmacokinetics studies the effects of biological systems on a drug. In broad terms, pharmacodynamics discusses the interaction of chemical agent with biological receptors, and pharmacokinetics discusses the absorption, distribution, metabolism, and excretion (ADME) of chemical substances from the biological systems. Pharmacology is not synonymous with pharmacy and the two terms are frequently confused.

Pharmacology, a biomedical science, deals with the research, discovery, and characterization of chemical agents which show biological effects and the elucidation of cellular and organismal function in relation to these agents.

Task 6. Answer the questions:

1. What is pharmacology?
2. What substances are considered pharmaceuticals?
3. What does pharmacology encompass?
4. What are the two main areas of pharmacology?
5. What does pharmacodynamics study?

Task 7. Match the words from column A with synonyms from column B.

Column A	Column B
1 concerned	a) widely
2 broadly	b) to circumscribe
3 to encompass	c) law
4 occur	d) interested
5 to consider	e) uses
6 applications	f) to regard
7 capabilities	g) to happen
8 elucidation	h) explanation
9 principle	i) abilities

Task 8. Which of the following statements are true and which are false?

1. Pharmacology is the study of the interactions that occur between an organism and chemical agents that affect normal or abnormal biochemical and physiological function.

2. If substances don’t have medicinal properties, they are considered pharmaceuticals.

3. Pharmacokinetics studies the effects of biological systems on a drug.

4. Pharmacology is synonymous with pharmacy.

5. Pharmacology deals with the research, discovery, and characterization of chemical substances.

Task 9. Put the words in the correct order to make up a sentence:

1. the branch /of medicine/ the study/ action / is/ Pharmacology/ concerned with / of drug.

_____

_____

2. have/properties/they/ medicinal/ are considered/ If substances pharmaceuticals.

_____

_____

3. is not/ synonymous /and / terms/ confused/ Pharmacology/ with pharmacy/ the two/ are frequent.

_____

_____

4. a biomedical science /Pharmacology/the research/ and/ discovery/ characterization/ of chemical substances/deals with/ which / biological effects/ show.

_____

_____

5. contrast / The primary/ their/ between /distinctions/ between/ direct-patient /care/ the two/ is.

_____

_____