

"Education for Knowledge , Science and Culture".  
- Shikshanmaharshi Dr. Bapuji Salunkhe  
Shri Swami Vivekanand Shikshan Sanstha's  
Vivekanand College Kolhapur.( Autonomous)  
Department of Biotechnology ( Optional)

Date 01/10/2022

## Notice

All students from B.Sc II Biotechnology (Optional) there will be a Internal Exam On 06/10/2022 at Biochemistry lab at 2:30 pm. An attendance is compulsory for all as it is a part of Academics. So kindly be present on time.



A handwritten signature in blue ink, appearing to read "A. D. D. D.", written over the printed name of the Head of Department.

Head of Department

Head  
Department of Biotechnology (Optional)  
Vivekanand College, Kolhapur (Autonomous)

1	Sayali Pundlik lohar	<u>SPlahue</u>
2.	kritika B. Vora	<u>Wafar</u>
3.	Yogesh S. Shewale	<u>Yogesh</u>
4)	Diksha R. Kumbhar	<u>DK.</u>
5	Niharika D. Sonawane	<u>NS.</u>
6)	Sonam B. Dongare	<u>Sonam</u>
7)	shruti M. Kundale	S.M.Kundale.
8)	Gayatri A. Awate	<u>Gawate</u>
9)	Vrushali S. Ekshinge	<u>Vrushali</u>
10)	Sadiya Z. Kazi	<u>Sadi</u>
11)	Shreyo B. Patil	<u>Shreyo</u>
12.	Sneha M. Lavhate	<u>Sneha</u>
13.	<del>Diksha</del>	
13)	Mahek N. Wadhwa	<u>Mahek</u>
14)	Snigdha S. Patil	<u>Snigdha</u>
15)	Heena S. Bagwan.	<u>Heena</u>
16)	Mudita S. Karunakar.	M.S.K.
17.	Pradnya R. Patil.	<u>Pradnya</u>
18)	Priyanka Jhivaji Unhale	<u>Unhale</u>
19)	Aditi Vinod Suryawanshi	<u>AS.</u>
20)	Dhanashri Uttam Koshid	<u>DKoshid</u>
21)	<del>Sanam</del>	
22)	Siddhi Sanjay Katkar.	<u>Siddhi</u>



Vivekanand College, Kolhapur (Autonomous)

Department of Biotechnology (Optional)

B.Sc. I Optional Biotechnology

Internal examination

Paper I

Total marks -30

1. Choose the correct alternative and rewrite the sentences

1. ----- is an example of Fruit sugar.

a. Sucrose   b. Maltose   c. Fructose   d. Glucose

2. Carbohydrates are generally classified into ----- classes.

a. four   b. Six   c. Five   d. Three

3. ----- is bond present in carbohydrates.

a. Peptide   b. Glycosidic   c. Ester   d. Ether

4. Maltose is an example of ----- .

a. Disaccharide   b. Trisaccharide   c. Tetrasaccharide   d. Pentasaccharide

5. Sucrose contains ----- by which glucose is connected to fructose.

a.  $\alpha$ 1-2 glycosidic bond   b.  $\alpha$ 1-4 glycosidic bond   c.  $\beta$ 1-2 glycosidic bond   d. None

6. ----- subunits of starch.

a. Amylose and amylopectin   b. Amylohexen   c. Amylglucan   d. amylochloris

7. ----- is an example of disease caused by improper carbohydrate metabolism.

a. Diabetes mellitus   b. Anemia   c. Bronchial Asthma   d. Pneumonia

8. The term Diabetes mellitus is coined by----- .

a. Karl Ereky   b. Oscar   c. Michealis   d. Menton

9. ----- fiber is produced from cellulose.

a. Nylon   b. Rayon   c. Lyson   d. Chitosen



10. ----- is an example of anticoagulant.

- a. Chitin    b. Pectin    c. Heparin    d. Lignin

11. ----- is an example of sugar present in nucleic acid.

- a. Arabinose    b. Xylose    c. Lyxoses    d. Ribose

12. This type of diabetes mellitus is called autoimmune disease-----.

- a. Type 1a    b. Type 1b    c. Type 1c    d. Type 2

13. ----- is an example of milk sugar.

- a. Lactose    b. Sucrose    c. Maltose    d. Isomaltose

14. ----- is an instant energy source.

- a. Glucose    b. Fructose    c. Galactose    d. Maltose

15. In Carbohydrates aldehydic sugars are ends with -----.

- a. ose    b. ulose    c. lose    d. ase

### Paper II

1. Cell disruption method are classified into ----- group.

- a. Five    b. Six    c. Seven    d. eight

2. In Gram positive bacteria ----- are used to lyase the cell wall.

- a. Lysozyme    b. Pectinase    c. Liginase    d. chitinase

3. In fungal cell wall is degraded by -----.

- a. lyticase    b. pectinase    c. cellulose    d. chitinase

4. ----- method of cell disruption, ultra sound waves are used.

- a. Presses    b. Abrasives    c. enzymatic    d. Sonication

5. In sonication method more than ----- KHz sound waves are use to disrupt bacterial cellwall

- a. 30    b. 20    c. 35    d. 40



6. ----- is a technique used for separation and analysis of cell organelles and sub cellular fraction of cell.
- a. Electrophoresis   b. Centrifugation   c. Chromatography   d. Colorimetry
7. ----- is commonly used gradient material in density gradient centrifugation.
- a. Maltose   b. Lactose   c. Sucrose   d. Starch
8. By using ----- bacterial cellwall is disrupted in mortar and pestle
- a. Sand   b. Agar   c. lectin   d. Protein
9. RCF stands for ratio of mol. wt of substance in centrifugal field and -----.
- a. Centripetal   b. Centrifugal   c. Gravity   d. Rotational
10. In centrifugation angular velocity is presented by -----.
- a. RPM   b. RRE   c. DET   d. RCF
11. In Density gradient centrifugation ----- is used for separation.
- a. Density   b. Size   c. Buoyant   d. Mole.wt
12. Isopycnic centrifugation of type of ----- centrifugation.
- a. Sub cellular fractionation   b. Density   c. Molecular   d. Analytical
13. In an Analytical centrifugation separation is based on ----- .
- a. Density   b. Size   c. Buoyant   d. Refractive index
14. In ----- method of cell disruption pressure is applied
- a. Sonication   b. Presses   c. Enzymatic   d. Grinding with abrasive
15. Preparative centrifugation technique is developed by ----- .
- a. Svedberg   b. Cloude   c. Flemming   d. Stock



B.Sc.II Internal exam

1. 7540 Basare Prathamesh
2. 7541 Chengule Siddhi
3. 7542 Darvan Madhuri
4. 7543 Desai Shrenik
5. 7544 Dhavale Shradha
6. 7545 Dhisal Renu
7. 7546 Ghorpade Rupchand
8. 7547 Gillbile Sureshupa
9. 7548 Jangate Atul
10. 7549 Kadam Sayali
11. 7550 Knot Ankita
12. 7551 Kori Abhishek
13. 7552 More Supriya
14. 7553 Patil Rutuja
15. 7554 Patil Snehal
16. 7555 Patkare Asmita
17. 7556 Rathod Yukta
18. 7557 Sawant Siddhi
19. 7558 Sonawane Aelitya
20. 7559 Suryawanshi Dipali
21. 7560 Tanangi Anuruta
22. 7561 Vathase Soundarye
23. 7526 Kamble Karan
24. 7323 Kamble Digambar.



# Home Assignment - Biotechnology

~~Subject~~ -

## " Immunology "

Name: Karan Aramale Ramble

Roll No - 7526. Class - B.Sc. II (Biotech-opt)

Q.1.

c)  
→

### T-Lymphocytes

T-lymphocytes are part of the immune system and develop from stem cells in bone marrow. They help protect the body from infection and may help fight cancer also called T cells and thymocyte. Blood cells development

The T-lymphocytes are regulators of adaptive function, serving as primary effectors for cell-mediated immunity. Antigenic specificity is dictated by means of the TCR heterodimer receptor derived from recombination of gene segments.

Regulatory T cells are yet another distinct population of T-cells that provide the critical mechanism of tolerance where by immune cells are able to distinguish invading cells from 'self'.

This prevents immune cells from inappropriately reacting against one's own cells known as an autoimmune response. From this season these regulatory T-cells have also been called

"suppressor" T cells. These same regulatory T cells can also be co-opted by cancer cells to prevent immune response against tumor cells.



In the Thymus, the T cells experience a type of selection phenomena which most of the developing T cells (known as thymocytes) do not successfully pass and hence succumb. However those thymocytes which pass interact with the self-MHC molecules accept positive signals to survive and thymocytes possessing receptors obtain negative signals.

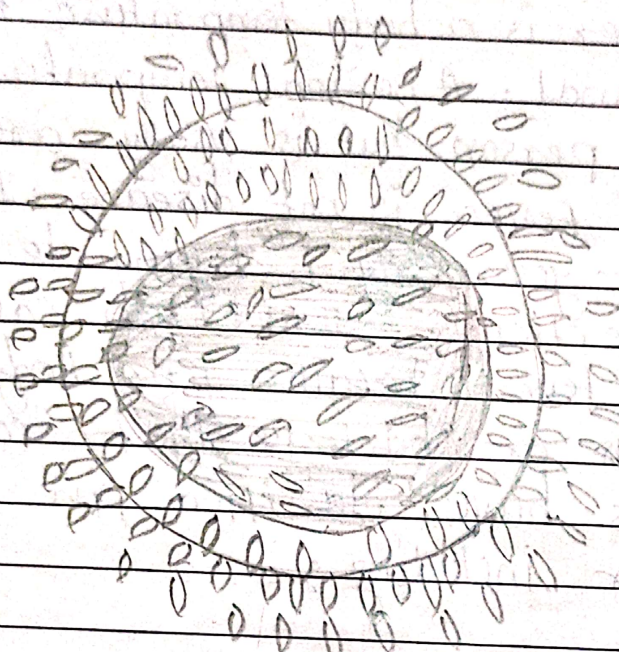
### T-cells types.

T cell that have not interacted with specific antigens are naive T cells these cells can interact APCs (antigen presenting cells) in the peripheral lymphoid organs these APCs make use of MHC molecule to present the antigen upon specific-antigen recognition T-cells grow and differentiated into effector T-cells of a specific category such cells interact with host cells to perform their roles.

These exist proteins proteins to differentiate main group of effector T-cells CD4 CD8 cells which the used either to find or as co-receptors when naive T cell interact with CD4 cells they turn T helper cells and with CD8 cells they turn

cytotoxic T cells also known as CD8+ cells have the primary job to kill toxic / target cells. upon recognition their purpose becomes the removal of virally infected cells bacteria and tumor fragment. through a process of called apoptosis, Apoptosis occurs when a cells internal organelles are destroyed causing it to die from the inside out T cells or T-lymphocytes are a major part of the immune system. They are cells specifically designed to fight infection they have not yet encountered.





T + Lymphocytes



Q.2.

c) Role of fever :-

→

A fever is a body temperature that is higher than normal. A normal temperature can vary from person to person, but is usually around  $98.6^{\circ}\text{F}$  ( $37^{\circ}\text{C}$ ). A fever is not a disease. It is usually a sign that your body is trying to fight an illness or infection. Infection causes most fevers you get. A fever because your body is trying to kill the virus or bacteria that caused the infection. \* Doctors have classified five main types of fever including:

- Intermittent fever. This fever has a fluctuating baseline between normal temperature and fever levels over the course of the day.
- Remittent fever
- Hectic fever
- Continuous fever
- Relapsing.

\* Role of fever.

You get fever because your body is trying to kill the virus or bacteria that caused the infection. Most of these bacteria and viruses do well when your body is at normal temperature. But if you have a fever, it is harder for them to survive. Fever also activates your body's immune system. Treatment depends on the cause of your fever. If the fever is very high, your health care provider may recommend taking an over-the-counter medicine, such as acetaminophen or ibuprofen. Adults can also take aspirin, but children with fevers should not take aspirin. It is also important to drink enough liquids to prevent dehydration.



## Humoral passive immunity:

Humoral passive Immunity or maternal passive immunity is Immunity passed along from mother to child. Before the child is born antibodies are passed through the placenta to protect the child from illness. After birth, an infant continues to receive passive Immunity from antibodies found in breast milk. Two types of Immunity exist - active and passive.

- Active Immunity occurs when our own immune system is responsible for protecting us from a pathogen.
- passive Immunity occurs when we are protected from a pathogen by Immunity gained from someone else.

passive Immunity can also be in the form of IgA and IgG found in human colostrum and milk of babies who are nursed. In addition to the IgA and IgG human milk also contains oligosaccharides and mucins that adhere to bacteria and viruses to interfere with their attachment to host cells.

Immunity is the state of protection against infectious disease conferred either through an immune response generated by immunisation.

### \* Key terms

- IgG Immunglobulin G is an antibody isotype
- IgA Immunglobulin A is an antibody isotype
- passive Immunity: The translocation of active humoral Immunity from one individual to another in the form of custom-made