


**SHRI SHIVAJI EDUCATION SOCIETY AMRAVATI'S
SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR**

Department of Biotechnology

Skill-Based Certificate Course: Immunology & Immunodiagnostics

Session 2018-2019



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
DEPARTMENT OF LIFELONG LEARNING AND EXTENSION
Gurunanak Bhavan, University Campus, Amravati Road, Nagpur - 440 033. Phone : 2530860
E-mail : doll-rtnmu@gmail.com

Office of the Principal
S. J. E. S. Amravati's
Science College, Nagpur.
In word No. 2258 - Dt. 15/02/2019

To,
The Principal
S.S.E.S. Amravati's Science College,
Nagpur.

No. DOLLE/259/19
Dated : 14.02. 2019

**Subject : Sanction for Conducting Short Term Courses under
Jeevan Shikshan - Abhiyan on No Grant Basis.**

Sir/Madam,

With reference to your proposal for conducting Short Term courses indicated below under Jeevan Shikshan Abhiyan of this Department, I am to inform you that your proposal has been accepted by the Department and your College has been granted permission to conduct the course on the following conditions:

Details of the Course

Sr. No.	Name of the Course	Duration	No. of Candidates to be admitted	Fees to be Charged per Student	Fees to be Deposited With the Deptt.
1	Certificate Course in Immuno-Diagnostic	12 Weeks	25	2000/-	10%
2	Certificate Course in Forestry and wildlife Conservation	6 Weeks	10	2000/-	10%
3	Certificate Course in Environmental and Water Management	6 Weeks	20	1000/-	10%
4	Certificate Course in Biofertilisers and Biopesticides	12 Weeks	11	1500/-	10%
5	Certificate Course in Mushroom Cultivation	8 Weeks	14	500/-	10%
6	Certificate Course in Biodegradable Solid Waste Management	12 Weeks	22	1000/-	10%

Rules & Regulations of this Department regarding these courses should be strictly followed.

- This sanction is valid for this particular Batch only.
- Fees for the course should be charged as per the norms prescribed.
- Expenditure on the course should be incurred as per norms.
- Course should be started within a Month from the date of sanction.
Please communicate your acceptance within a month and submit Initial Report Along with list of students admitted.

To, Dr. Bobade Sir
for N/A
15/2-12/2019

Your's faithfully,
[Signature]
Director



+ *[Signature]*
Dr. Pranita Gulhare
Dept. of Biotechnology
Science College, Nagpur-44

**List of the Students: Skill Based Certificate Course- Immunology &
Immunodiagnosics**

(Session 2018-19)

Sr. No.	Name of Student	Signature
1)	Antara V Salodkar	<i>ASalodkar</i>
2)	Diksha D Gedam	<i>Dgedam</i>
3)	Harshali R Tumsare	<i>Tumsare</i>
4)	Jyoti B Sharma	<i>Jyoti</i>
5)	Kunjan V Nanwani	<i>Kunjan</i>
6)	Neha A Upshyam	<i>NUpshyam</i>
7)	Nikhil K Zade	<i>NZade</i>
8)	Nikita N Motwani	<i>NMotwani</i>
9)	Prajakta S Meshram	<i>Pmeshram</i>
10)	Pranali P Muneshwar	<i>PMuneshwar</i>
11)	Pranjali A Joshi	<i>Pjoshi</i>
12)	Pranjali K Tandulkar	<i>Ptandulkar</i>
13)	Pratiksha D Raut	<i>PR</i>
14)	Rashmi N Chopkar	<i>RChopkar</i>
15)	Rashmi V Dubey	<i>R. Dubey</i>
16)	Riya S Borikar	<i>Borikar</i>
17)	Sakshi R Chourasia	<i>SChourasia</i>
18)	Sakshi S Naik	<i>SNaik</i>
19)	Shreyash S Telang	<i>Shreyash</i>
20)	Shrutika S Nagpure	<i>Shrutika</i>
21)	Suchi B Rahangdale	<i>SRahangdale</i>
22)	Swarali R Patki	<i>SPatki</i>
23)	Urmila Watulkar	<i>Watulkar..</i>
24)	Vaishnavi I Wairagade	<i>Wairagade</i>
25)	Vishal R Kharchwal	<i>VKharchwal</i>




P. Gullane
Dr. Pranita Gullane
 Dept. of Biotechnology
 Science College, Nagpur-12,

**Mark List: Skill Based Certificate Course- Immunology &
Immunodiagnosics**

(Session 2018-19)

Roll No	Name of the Student	Marks Obtained out of 50 (Theory)	Marks obtained out of 10 (Internal)	Marks Obtained out of 40 (Practical)	Total
1.	Antara V Salodkar	44	10	31	85
2.	Diksha D Gedam	44	07	38	89
3.	Harshali R Tumsare	44	06	35	85
4.	Jyoti B Sharma	44	09	36	89
5.	Kunjan V Nanwani	44	06	35	85
6.	Neha A Upshyam	46	07	36	89
7.	Nikhil K Zade	44	10	37	91
8.	Nikita N Motwani	44	10	31	85
9.	Prajakta S Meshram	44	09	36	89
10.	Pranali P Muneshwar	46	09	32	87
11.	Pranjali A Joshi	44	10	34	88
12.	Pranjali K Tandulkar	42	10	32	84
13.	Pratiksha D Raut	40	10	34	84
14.	Rashmi N Chopkar	40	07	35	82
15.	Rashmi V Dubey	46	08	35	89
16.	Riya S Borikar	44	10	37	91
17.	Sakshi R Chourasia	44	09	37	90
18.	Sakshi S Naik	46	10	37	93
19.	Shreyash S Telang	45	10	38	93
20.	Shrutika S Nagpure	46	09	35	90
21.	Suchi B Rahangdale	38	08	37	83
22.	Swarali R Patki	36	10	33	79
23.	Urmila Watulkar	44	10	33	87
24.	Vaishnavi I Wairagade	44	10	36	90
25.	Vishal R Kharchwal	48	10	36	94




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Activity Report: Skill Based Certificate Course- Immunology & Immunodiagnostics (Session 2018-19)

The skill base certificate course syllabus for B.Sc First year, appear students. Fifteen weeks certificate course in IMMUNOLOGY AND IMMUNODIAGNOSTICS. A total of 25 students were enrolled to the course. The examination of course shall comprise of one theory paper of three hours carries 50 marks and practical of one-hour duration carries 50 marks. Internal assessment for the course based on one theory paper of 10 marks shall be conducted by university approved teachers. Internal assessment marks should be included in minimum passing marks of the students. Candidates are expected to pass separately in theory, internal assessment and practical examination.

Students require 40% marks in theory for passing including internal marks. Separate passing in practical examination is required, assignment submission is necessary to get internal marks. The structure of syllabus for certificate course along with distribution of marks is also displayed in the following table.

Course	Theory papers and Practicals	Marks			Total marks
		Theory	Internal assessment	Practical	
Certificate course in Immunology and Immunodiagnostics	1. Theory paper - Immunology and Immunodiagnostics	50	10		100
	2. Practicals based on course			40	
		Grand total			100

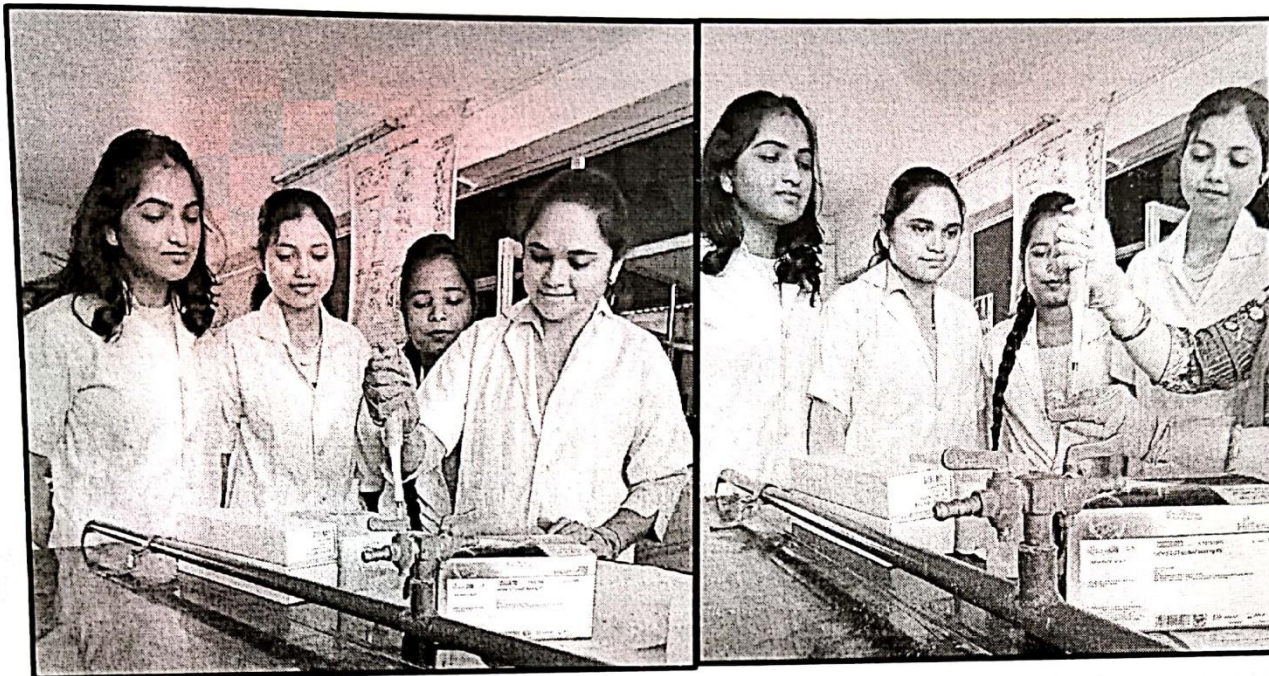
*Internal assessment -Based on student's attendance and performance during unit test exam and assignment.

Based on assignment plus activity conducted on kit based practical, the Internal assessment marks were given. For theory and practical, the objective mode of examination (M.C.Q.) was conducted.



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Science College, Nagpur-12.





Immunology & Immunodiagnostics Kit Based Hands on Training



Dr. Pranita Gulbani
Dr. Pranita Gulbani
Dept. of Biotechnology
Science College, Congress Nagar, Nagpur-465 012

Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Certificate Course Examination, Summer- 2019

Duration: 1hr

Name of Subject: Immunology and Immunodiagnostics

Max Marks: 50

Medium: English Marks Obtained:

Centre Name: Shri Shivaji Science College Congress Nagar, Nagpur

Date: 18/03/2019

Name of Student:

Year: B.Sc Group:

Note:

(1) Each question carries 2 marks

(2) No negative marking

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1. Which one of the following is the serological test for detection of salmonella infected typhoid fever?
 - a) Immunodiffusion
 - b) HCG test
 - c) ELISA
 - d) Widal test
 2. Which class of antibodies is the most abundant in blood ?
 - a) IgA
 - b) IgG
 - c) IgD
 - d) IgE
 3. Which of the following cells are primarily involved in cell-mediated immunity?
 - a) B cells
 - b) Helper T cells
 - c) Cytotoxic T cells
 - d) Plasma cells
 4. Hepatitis is an example of _____.
 - a) Subunit Vaccine
 - b) Killer Vaccine

- c) Toxoids Vaccine
 - d) Recombinant Vaccine
5. Which of the following statements is true about the IgM of humans?
- a) IgM can cross the placenta
 - b) IgM can protect the mucosal surface
 - c) IgM is produced by high-affinity plasma cells
 - d) IgM is primarily restricted in the circulation
6. Which immunoglobulin is primarily found in secretions such as saliva, tears, and breast milk?
- a) IgA
 - b) IgE
 - c) IgG
 - d) IgM
7. Which of the following is a characteristic of gram-negative bacteria?
- a) Retain crystal violet stain
 - b) Thick peptidoglycan layer
 - c) Lipopolysaccharide outer membrane
 - d) Purple color when stained
8. Which of the following is a method of microbial control that involves the use of high temperatures to kill microorganisms?
- a) Pasteurization
 - b) Filtration
 - c) Autoclaving
 - d) Irradiation
9. Which of the following is a type of symbiotic relationship in which both organisms benefit?
- a) Parasitism
 - b) Commensalism
 - c) Mutualism
 - d) Amensalism
10. Which of the following is NOT a component of the innate immune system?
- a) Macrophages
 - b) Natural killer cells
 - c) Memory cells
 - d) Complement proteins
11. Which term refers to the ability of a pathogen to cause disease?
- a) Virulence
 - b) Pathogenicity
 - c) Infectivity
 - d) Resistance

12. Who published the first report about the ability of antibody to clump cells based on the observation of agglutination of bacterial cells by serum-----
- Gruber and Durham
 - Nocard and Roux
 - Paul Ehrlich
 - Both b and c
13. How would you distinguish pseudomonas species from E-cloi?
- Gram staining
 - Morphology
 - Glucose fermentation Vs Respiration
 - All of the above
14. Streptomycin is obtained from
- Streptococcus species
 - Streptomyces griseus
 - Straphylococcus aureus
 - None of these
15. *Salmonella typhi* is causative organism of
- Undulent fever
 - Remittent fever
 - Dengue fever
 - Enteric fever
16. Spirochaelis are sensitive to
- Penicillin
 - Chloramphenicols
 - Erythromycin
 - Tetracyclins
17. Yellow fever is caused by
- Bunya virus
 - Calci virus
 - Arbo virus
 - None of these
18. Incubation period for infective Hepatitis disease
- 45 – 80 days
 - 15 – 35 days
 - 35 – 50 days
 - 5 – 15 days
19. Human papillomavirus causes following tumors:
- Hepatic carcinoma
 - Cervical cancer
 - Condyloma acuminatum*

- d) Plantar wart
20. A disease in which body's immune system attacks healthy cells
- a) Epidemic Diseases
 - b) Deficiency Diseases
 - c) Autoimmune Diseases
 - d) None of the above
21. Which of the following does not act as a protecting barrier for the body surface
- a) Skin
 - b) Mucus
 - c) Gastric
 - d) Salivary amylase
22. Cells involved in Innate immunity are _____
- a) Phagocytes
 - b) Macrophages
 - c) Natural killer cells
 - d) All of the above
23. How many types of antibiotics are there
- a) 2
 - b) 5
 - c) 6
 - d) None of the above
24. Which one of the following is a type of light chain
- a) Alpha
 - b) Gamma
 - c) Epsilon
 - d) Lambda
25. Monocytes differentiate into which kind of Phagocytic cells?
- a) Neutrophiles
 - b) B- cells
 - c) Macrophage
 - d) T-cells



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Rashtrasant Tukadoji Maharaj Nagpur University

Exam Name: Skill based Certificate Course Examination, Summer- 2019

Name of Subject: Immunology and Immunodiagnostics

Centre Name: Shri Shivaji Science College Congress Nagar, Nagpur

Date: 18/03/2023

Answer key

- 1) d) Widal test
- 2) b) IgG
- 3) c) Cytotoxic T cells
- 4) d) Recombinant Vaccine
- 5) d) IgM is primarily restricted in the circulation
- 6) a) IgA
- 7) c) Lipopolysaccharide outer membrane
- 8) c) Autoclaving
- 9) c) Mutualism
- 10) c) Memory cells
- 11) b) Pathogenicity
- 12) a) Gruber and Durham
- 13) c) Glucose fermentation Vs Respiration
- 14) a) Streptococcus species
- 15) d) Enteric fever
- 16) b) Chloramphenicols
- 17) c) Arbo virus
- 18) a) 45 – 80 days
- 19) b) Cervical cancer
- 20) c) Autoimmune Diseases
- 21) d) Salivary amylase
- 22) d) All of the above
- 23) c) 6
- 24) d) Lambda
- 25) c) Macrophage



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Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

[Established by Government of Central Provinces Education Department by Notification No. 513 dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016(Mah. Act No. VI of 2017)]

University Skill Development Centre
(under Board of Lifelong Learning and Extension)

Certificate

No.

Shri/Smt./Ku. *Diksha Gedam* is

awarded with Certificate on successful completion of the course titled

Immunology and Immunodiagnosiss in

session *2018-19* under *Jeevan Shikshan Abhiyan* conducted for

45 hours from *14/02/2019* to *26/04/2019* by the *Board of Lifelong*

Learning & Extension in collaboration with Department of Botany,

S.S.E.S. Amt's Science College Congress Nagar, Nagpur, 440012.

He/She has passed the Examination with *A* Grade

Total Credits Earned : 01

Mouore

Principal
SSES Amt's Science College
Congress Nagar, Nagpur-12

A. Bhalke

Course Co-ordinator
SSES Amt's Science College
Congress Nagar, Nagpur-12

Prattar

Director
Board of Lifelong Learning
and Extension, RTMNU, Nagpur