

“Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Academic Year: 2022-2023

Continuous Internal Evaluation (CIE)

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Gita.

Dr. G. K. Sontakke

Head,

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Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23

Date- 20/09/2022

NOTICE

All the students of B.Sc. III are hereby informed that your open book test of B.Sc. III, Semester V for paper Animal Biotechnology is scheduled on 27/09/2022. As per the part of continuous internal evaluation attendance is compulsory to all.

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Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23
Open Book Test- B. Sc. III
Name of paper- Animal Biotechnology

Date: 27/09/2022

Marks: 10

Question Paper

Question: Explain the Semiconservative method of DNA replication.



Teacher In charge

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic year-2022-2023

Attendance

Date- 27/09/2022

Sr. No.	Roll No.	Name of Student	Attendance
1.	8436	Alman Adesh Ajit	P
2.	8437	Chougule Sahil Firoj	P
3.	8438	Darekar Vishakha Vishwanath	P
4.	8439	Davare Sarita Balu	P
5.	8440	Chavan Devendra Somnath	P
6.	8441	Gadkari Rifa Farukh	P
7.	8442	Garde Janhavi Alhad	P
8.	8443	Gije Nandini Ravindra	P
9.	8444	Jadhav Sangram Pandurang	P
10.	8445	Khot Darshankumar Sarjerao	P
11.	8446	Mane Payal Ashok	P
12.	8447	Patil Dakshata Anil	P
13.	8448	Patil Pragati Tanaji	P
14.	8449	Patil Priya Prakash	P
15.	8450	Patil Rutuja Chandrakant	P
16.	8451	Patil Sachin Uttam	P
17.	8452	Patil Sanika Suryakant	P
18.	8453	Pujari Supriya Rama	P
19.	8454	Rathod Shubham Jayram	Ab
20.	8455	Shinde Pragati Sakharam	P
21.	8456	Shinde Tushar Popatrao	Ab
22.	8457	Singh Shweta Raviranjan	P
23.	8458	Sutar Vaishnavi Rajendra	P
24.	8459	Wakrushe Omkar Vitthal	Ab
25.	8511	Khot Sandhyarani Jayavant	P
26.	8512	Patil Snehal Nanaso	P
27.	8513	Tadavalekar Tejasvinee Ananda	P
28.	8514	Kamble Arati Shivaji	P



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Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic year-2022-2023

Marksheet

Date- 27/09/2022

Sr. No.	Roll No.	Name of Student	Mark
1.	8436	Alman Adesh Ajit	08
2.	8437	Chougule Sahil Firoj	09
3.	8438	Darekar Vishakha Vishwanath	08
4.	8439	Davare Sarita Balu	07
5.	8440	Chavan Devendra Somnath	05
6.	8441	Gadkari Rifa Farukh	07
7.	8442	Garde Janhavi Alhad	07
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9.	8444	Jadhav Sangram Pandurang	09
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17.	8452	Patil Sanika Suryakant	05
18.	8453	Pujari Supriya Rama	06
19.	8454	Rathod Shubham Jayram	Ab
20.	8455	Shinde Pragati Sakharam	07
21.	8456	Shinde Tushar Popatrao	Ab
22.	8457	Singh Shweta Raviranjan	10
23.	8458	Sutar Vaishnavi Rajendra	09
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Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE (Autonomous), KOLHAPUR

Class B.Sc III Zoology Roll No. _____

Suppliment No. Open book test Subject Zoology

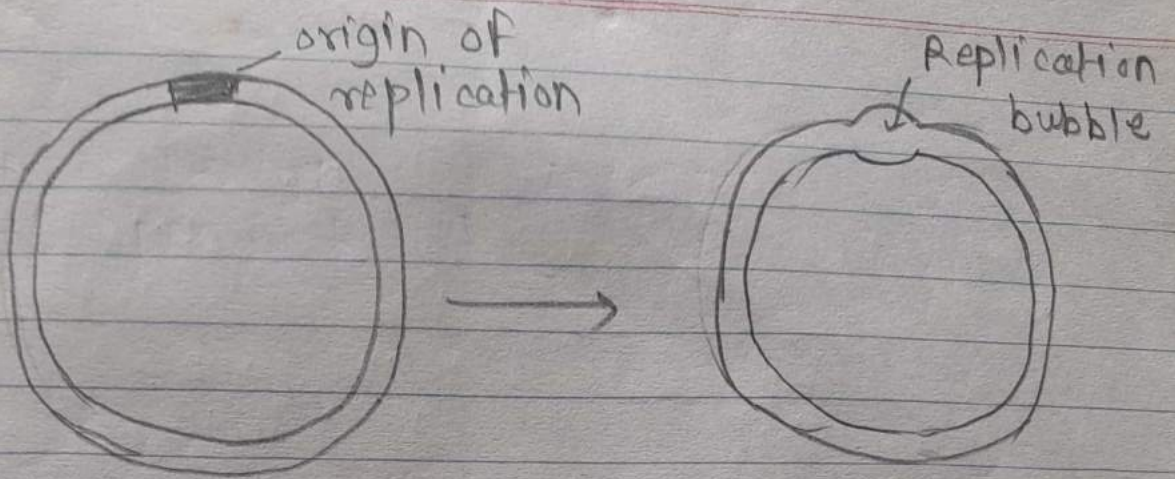
Test / Tutorial No. _____

DNA replication in prokaryotic organisms -

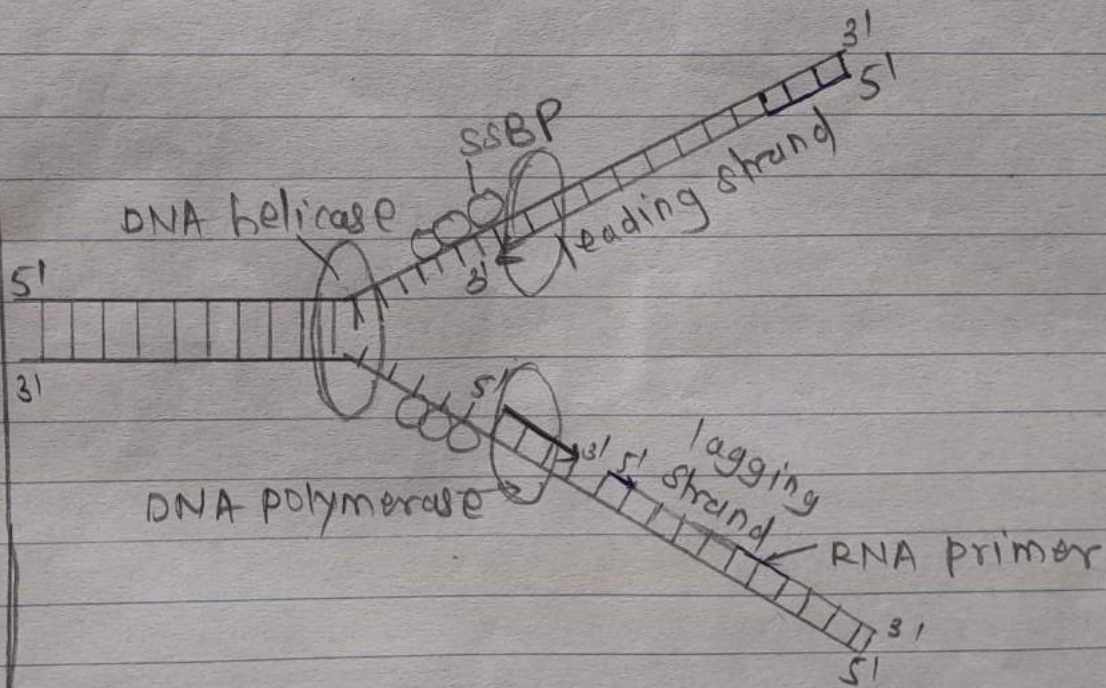
- 1) DNA replication has been extremely well studied in prokaryotes because of the small size of the genome & it has single circular chromosome.
- 2) DNA replication employs a large number of protein & enzymes.
- 3) Three main types of polymerase are known :- DNA Pol I, DNA Pol II & DNA Pol III.
It is now known that DNA Pol III is enzyme required DNA synthesis. DNA Pol I & DNA Pol II are primarily required for repair.
- 4) They are specific nucleotide sequence called origin of replication where replication begins.
- 5) It is approximately 245 base pair long & is rich in AT sequences.
- 6) An enzyme called Helicase unwinds the DNA by breaking the hydrogen bonds between the nitrogenous base pairs.
- 7) As the DNA opens up, Y-shaped structure called replication fork.
- 8) Single-strand binding protein coat the single strand of DNA near the replication fork.

- 8) DNA polymerase is able to add nucleotide only in 5' to 3' direction.
- 9) RNA primase, synthesized an RNA primer that is about five to ten nucleotides long & complementary to the DNA.
- 10) Continuously synthesized strand known as leading strand.
- 11) The other strand, complementary to the 5' to 3' parental DNA, is extended away from the replication fork, in small fragments known as Okazaki fragments.
- 12) Topoisomerase prevents the over-winding of the DNA double helix ahead of the replication fork as the DNA opening up.
- 13) RNA primers are replaced by DNA pol I.
- 14) The two forks move in opposite direction around the circular chromosome & finally move towards the site opposite to the initiation site, This region known as the replication terminus.
- 15) The replication terminus contains series of sites called termination 'Ter' sites.
- 16) Ter sites sequence recognized & bound by Tus protein.
- 17) Once the chromosome has been completely replicated, the two DNA copies move into two different cells during cell division.

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circular prokaryotic DNA



Shri Swami Vivekanand Shikshan Sanstha's
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Department of Zoology
Academic Year 2022-23
Surprise Test- B. Sc. I
Name of paper- Animal Diversity

Date: 04/10/2022

Marks: 20

Question Paper

Q. Attempt any two of the following

1. Give detailed account on characteristics of class Amphibia
2. Give detailed account on characteristics of class Pisces
3. . Give detailed account on parental care Amphibia



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Department of Zoology
Academic Year -2022-2023

Attendance

Date:04/10/2022


Sr. No.	Roll No.	Name of students	Attendance
1	7354	Arekar Avadhut Sudhakar	P
2	7355	Aware Malhari Rameshwar	P
3	7356	Bansode Ajay Sanjay	P
4	7357	Bansode Dennis Alias Ronak Sharad	P
5	7358	Bhosale Karan Anil	P
6	7359	Bhosale Sourabh Subhash	P
7	7360	Bodekar Gururaj Sunil	P
8	7361	Borchate Aoudumber Dattatray	P
9	7362	Chapate Kaushal Balasaheb	P
10	7363	Chougale Sanika Vishnu	P
11	7364	Chougale Vaishnavi Sardar	P
12	7365	Chougale Vaishnavi Shivaji	P
13	7366	Chougule Anandkumar Sambhaji	P
14	7367	Chougule Pranav Anil	P
15	7368	Chougule Samruddhi Laxman	P
16	7370	Dadarne Aditya Ajit	P
17	7371	Dange Sahil Bandu	P
18	7372	Desai Shafiya Juwel	P
19	7373	Desai Surekha Tanaji	P
20	7374	Desai Tamanna Sameer	P
21	7375	Desai Yash Sangram	P
22	7376	Deshpande Vedant Harsish	P
23	7377	Gavade Aarti Bhimrao	P
24	7378	Gavali Aditya Sukumar	P
25	7379	Gawade Harshad Mashnu	P
26	7380	Gawade Sairaj Santosh	P
27	7381	Ghatage Pradnya Bajrang	P
28	7382	Ghatage Rutuja Avinash	P
29	7383	Havaladar Pruthviraj Rajkumar	P
30	7384	Hegade Abhishek Chandrakant	P
31	7385	Hirave Pradnya Uttam	Ab
32	7386	Jadhav Omkar Sambhaji	P
33	7387	Jadhav Prathamesh Tanaji	P
34	7388	Jadhav Sahil Shivaji	P
35	7389	Jathar Prasad Balavant	P
36	7390	Kalake Reedam Sanjay	P
37	7391	Kalebere Shraddha Sachin	P
38	7392	Kamate Prem Dipak	P
39	7393	Kamble Ganesh Bhagoji	Ab

40	7394	Kamble Pratibha Varun	P
41	7395	Kamble Pratik Murlidhar	P
42	7396	Kamble Rutuja Vishal	P
43	7397	Kamble Sumit Babaso	P
44	7399	Kamble Vaibhav Babaso	P
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50	7405	Kukade Priyanka Sandeep	P
51	7406	Kumbhar Vaishnavi Shankar	P
52	7407	Langade Sanika Baban	P
53	7408	Mali Manasvi Anil	P
54	7409	Maner Anam Balechand	P
55	7410	Mangave Apurva Balaso	P
56	7411	Mirgal Atharv Santosh	P
57	7412	Mitake Komal Anil	P
58	7413	Momin Muskan Javed	P
59	7414	Momin Owes Amjadhusen	P
60	7415	Mude Tanishq Anil	Ab
61	7416	Mulla Mahamadkaif Shahanul	P
62	7417	Nalavade Madhavi Vijay	P
63	7418	Nawale Uday Dinkar	P
64	7419	Nayakavadi Ashiya Riyaj	P
65	7420	Nikam Pawan Sandip	P
66	7421	Nimbalkar Avadhut Dadasaheb	P
67	7422	Nishad Ritu Ramhari	P
68	7423	Pal Manali Achchelal	P
69	7424	Patale Aakansha Ananda	P
70	7425	Patil Aditya Ambaji	P
71	7426	Patil Arati Maruti	P
72	7427	Patil Maithili Sanjay	P
73	7428	Patil Namrata Nagesh	P
74	7429	Patil Prathmesh Ramesh	P
75	7430	Patil Rishikesh Ashok	P
76	7431	Patil Riya Dattatray	P
77	7432	Patil Sakshi Bharat	P
78	7433	Patil Santosh Anil	P
79	7434	Powar Pranali Vilas	P
80	7435	Patil Swapnil Satish	P
81	7436	Powar Aishwarya Babaso	P
82	7437	Powar Aviraj Rajendra	Ab
83	7438	Powar Sanika Baburao	P
84	7439	Powar Sanika Pandurang	P
85	7440	Raje Shruti Sudarshan	P
86	7441	Rode Patil Karansinh Sanjay	P
87	7442	Samudre Vaibhav Ravindra	P

88	7443	Sathe Vaishnavi Shankar	P
89	7444	Sayyad Afroja Aslam	P
90	7445	Shaikh Rijwan Firoj	P
91	7446	Shaikh Shaikh Ahefaz Shaikh Ansar	P
92	7447	Shaikh Suhana Tipusultan	P
93	7448	Shelar Yash Dilip	P
94	7449	Shinde Sairaj Jaywant	P
95	7450	Shingare Sandesh Yashwant	P
96	7451	Shirale Manasi Vinod	P
97	7452	Sing Priya Gopal	P
98	7453	Thorat Aniket Hirojirao	P
99	7454	Tope Priti Pravin	Ab
100	7455	Ulape Tanveer Uday	P
101	7456	Ustad Rifat Nasirkhan	P
102	7457	Vadd Shruti Yashwant	P
103	7458	Varute Omkar Sambhaji	P
104	7459	Yadav Aditya Amar	P
105	7460	Zinrange Rupali Uttam	P
106	7553	Ranmale Samruddhi Subhash	Ab
107	7558	Shete Rohit Jeevan	P
108	7560	Sharma Sejal Vikasdutt	P
109	7561	Mishra Shambhavi Mukeshkumar	P
110	7565	Mansuri Sahida Allauddin	P
111	7566	Chougale Vinay Vijay	P
112	7570	Jadhav Anosh Rohit	P
113	7571	Jadhav Suyash Kuber	P
114	7572	Patil Rutika Appaso	P
115	7578	Nikram Samarth Ramdas	P
116	7579	Gongane Snehal Mamdkumar	P
117	7577	Patil Dhanashree Ravasaheb	P
118	7460	Bagwan Heena Shafik	P
119	7461	Desai Sushant Kadappa	P
120	7462	Dhuri Sanika Santosh	P
121	7463	Ekshinge Vrushali Shivaji	P
122	7464	Gade Prajwal Balu	P
123	7465	Kaji Afrin Javed	P
124	7466	Kambale Sanika Sanjay	P
125	7467	Kamble Adarsh Dipak	P
126	7468	Kashid Dhanshri Uttam	P
127	7469	Karunakar Mudita Satyapriy	P
128	7470	Kazi Sadiya Zakirhusen	P
129	7471	Kengar Ashish Dattatray	P
130	7472	Kuchekar Swapnil Babu	P
131	7473	Kumbhar Diksha Raghunath	P
132	7474	Kundale Shruti Milind	P
133	7475	Lavhate Sneha Maruti	P
134	7476	Mandekar Rutuja Mhataru	P
135	7477	Patil Neeta Baliram	P

136	7478	Patil Pradnya Rajendra	P
137	7479	Patil Rutuja Sardar	P
138	7480	Patil Shreya Bajirao	P
139	7481	Patil Snigdha Sunil	P
140	7482	Patil Vardhani Milind	P
141	7483	Sayyad Anjum Tanveer	P
142	7484	Shewale Yogesh Sujit	P
143	7485	Sonawane Niharika Deepak	P
144	7486	Vora Kritika Bharat	P
145	7487	Suryawanshi Aditi Vinod	P
146	7488	Unhale Priyanka Shivaji	P
147	7554	Attar Saniya Salim	P
148	7555	Awate Gayatri Anil	P
149	7556	Yedage Sneha Kamraj	P
150	7562	Wadhwa Mahek Vinod	P
151	7564	Amate Samruddhi Kundalik	P
152	7489	Abrange Vaishnavi Vinod	P
153	7490	Aivale Pooja Birdev	P
154	7491	Amane Shantanu Krishnat	P
155	7492	Ambi Aditya Babasaheb	P
156	7493	Bune Manasi Krishnat	P
157	7494	Chougale Ashlesha Krishnat	P
158	7495	Chougule Sanika Vishnu	P
159	7496	Dhekale Vasudha Vasant	P
160	7497	Dindayal Prabodhini Raju	Ab
161	7498	Dinde Ankita Rangrao	P
162	7499	Gaikwad Divya Sanjay	P
163	7500	Gaikwad Nikita Nandkumar	P
164	7501	Gosavi Akash Laxman	P
165	7502	Gulabani Bhakti Amar	P
166	7503	Gurav Mansi Sunil	P
167	7504	Hajare Aishwarya Ganesh	P
168	7505	Jadhav Karan Dipak	P
169	7506	Jadhav Shruti Shivraj	P
170	7507	Jasud Rutuja Tanaji	P
171	7508	Kachare Ishwari Pradeep	P
172	7509	Kamat Sanskruti Santosh	P
173	7511	Kamble Aryan Anil	P
174	7512	Khanvilkar Anjali Hemant	P
175	7513	Kharade Pratiksha Sharad	P
176	7514	Kharade Sanchit Sachin	P
177	7515	Khot Vaishnavi Jitendra	P
178	7516	Koli Vedanti Vijay	P
179	7517	Korane Harshad Mahesh	P
180	7518	Kulkarni Sai Vivek	P
181	7519	Ligade Smeet Sunil	P
182	7520	Mane Rohan Baban	P
183	7521	More Rutuja Rajendra	P

184	7522	Mujawar Aabida Altaf	A
185	7523	Mujawar Mahek Parvej	P
186	7525	Murti Vanshita Sanjay	P
187	7527	Parulekar Diksha Devdatta	P
188	7528	Patil Avantika Arun	P
189	7529	Patil Sakshi Satappa	P
190	7530	Patil Samruddhi Sanjay	P
191	7531	Patil Sharwari Yuvraj	P
192	7532	Patil Snehal Vijay	P
193	7533	Patil Suhani Sadashiv	P
194	7534	Patil Tejas Tukaram	P
195	7535	Pol Payal Anil	P
196	7536	Powar Diya Kiran	P
197	7537	Prabhu Savali Shivaji	P
198	7538	Sanadi Firdos Shakil	P
199	7539	Shaikh Mushfira Balu	P
200	7540	Shelke Yogesh Balu	P
201	7541	Shewale Prithviraj Subhash	P
202	7542	Shinde Nandeeni Nivas	P
203	7543	Todkar Nirjara Shivaji	P
204	7544	Vaze Sai Abhijit	P
205	7545	Wadkar Samrudhi Dhanaji	P
206	7546	Yadav Sushant Harishchandra	P
207	7547	Yatam Ashutosh Bhagvan	P
208	7548	Hardikar Yogi Ashutosh	Ab
209	7559	Athale Arjun Asit	P
210	7568	Sonule Sushant Krishnat	P
211	7573	Bhosale Vedika Sudhir	P
212	7575	Patil Gayatri Tanaji	P
213	7576	Mali Prachi Sanjay	P


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Marksheet


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39	7393	Kamble Ganesh Bhagoji	Ab

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41	7395	Kamble Pratik Murlidhar	08
42	7396	Kamble Rutuja Vishal	14
43	7397	Kamble Sumit Babaso	10
44	7399	Kamble Vaibhav Babaso	08
45	7400	Karale Rohini Balaso	17
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61	7416	Mulla Mahamadkaif Shahanul	10
62	7417	Nalavade Madhavi Vijay	11
63	7418	Nawale Uday Dinkar	15
64	7419	Nayakavadi Ashiya Riyaj	12
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74	7429	Patil Prathmesh Ramesh	15
75	7430	Patil Rishikesh Ashok	10
76	7431	Patil Riya Dattatray	10
77	7432	Patil Sakshi Bharat	15
78	7433	Patil Santosh Anil	12
79	7434	Powar Pranali Vilas	12
80	7435	Patil Swapnil Satish	14
81	7436	Powar Aishwarya Babaso	12
82	7437	Powar Aviraj Rajendra	Ab
83	7438	Powar Sanika Baburao	14
84	7439	Powar Sanika Pandurang	10
85	7440	Raje Shruti Sudarshan	15
86	7441	Rode Patil Karansinh Sanjay	14
87	7442	Samudre Vaibhav Ravindra	10

88	7443	Sathe Vaishnavi Shankar	07
89	7444	Sayyad Afroja Aslam	07
90	7445	Shaikh Rijwan Firoj	16
91	7446	Shaikh Shaikh Ahefaz Shaikh Ansar	10
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96	7451	Shirale Manasi Vinod	03
97	7452	Sing Priya Gopal	08
98	7453	Thorat Aniket Hirojirao	07
99	7454	Tope Priti Pravin	Ab
100	7455	Ulape Tanveer Uday	08
101	7456	Ustad Rifat Nasirkhan	09
102	7457	Vadd Shruti Yashwant	10
103	7458	Varute Omkar Sambhaji	12
104	7459	Yadav Aditya Amar	13
105	7460	Zinrange Rupali Uttam	14
106	7553	Ranmale Samruddhi Subhash	Ab
107	7558	Shete Rohit Jeevan	08
108	7560	Sharma Sejal Vikasdudd	09
109	7561	Mishra Shambhavi Mukeshkumar	07
110	7565	Mansuri Sahida Allauddin	13
111	7566	Chougale Vinay Vijay	10
112	7570	Jadhav Anosh Rohit	08
113	7571	Jadhav Suyash Kuber	12
114	7572	Patil Rutika Appaso	10
115	7578	Nikram Samarth Ramdas	09
116	7579	Gongane Snehal Mamdkumar	12
117	7577	Patil Dhanashree Ravasaheb	10
118	7460	Bagwan Heena Shafik	16
119	7461	Desai Sushant Kadappa	09
120	7462	Dhuri Sanika Santosh	15
121	7463	Ekshinge Vrushali Shivaji	17
122	7464	Gade Prajwal Balu	08
123	7465	Kaji Afrin Javed	09
124	7466	Kambale Sanika Sanjay	09
125	7467	Kamble Adarsh Dipak	10
126	7468	Kashid Dhanshri Uttam	08
127	7469	Karunakar Mudita Satyapriy	13
128	7470	Kazi Sadiya Zakirhusen	16
129	7471	Kengar Ashish Dattatray	08
130	7472	Kuchekar Swapnil Babu	10
131	7473	Kumbhar Diksha Raghunath	07
132	7474	Kundale Shruti Milind	07
133	7475	Lavhate Sneha Maruti	16
134	7476	Mandekar Rutuja Mhataru	17
135	7477	Patil Neeta Baliram	18

184	7522	Mujawar Aabida Altaf	17
185	7523	Mujawar Mahek Parvej	10
186	7525	Murti Vanshita Sanjay	14
187	7527	Parulekar Diksha Devdatta	13
188	7528	Patil Avantika Arun	10
189	7529	Patil Sakshi Satappa	12
190	7530	Patil Samruddhi Sanjay	10
191	7531	Patil Sharwari Yuvraj	12
192	7532	Patil Snehal Vijay	10
193	7533	Patil Suhani Sadashiv	14
194	7534	Patil Tejas Tukaram	12
195	7535	Pol Payal Anil	09
196	7536	Powar Diya Kiran	12
197	7537	Prabhu Savali Shivaji	13
198	7538	Sanadi Firdos Shakil	08
199	7539	Shaikh Mushfira Balu	15
200	7540	Shelke Yogesh Balu	11
201	7541	Shewale Prithviraj Subhash	13
202	7542	Shinde Nandeeni Nivas	08
203	7543	Todkar Nirjara Shivaji	08
204	7544	Vaze Sai Abhijit	13
205	7545	Wadkar Samrudhi Dhanaji	12
206	7546	Yadav Sushant Harishchandra	08
207	7547	Yatam Ashutosh Bhagvan	09
208	7548	Hardikar Yogi Ashutosh	Ab
209	7559	Athale Arjun Asit	10
210	7568	Sonule Sushant Krishnat	09
211	7573	Bhosale Vedika Sudhir	14
212	7575	Patil Gayatri Tanaji	15
213	7576	Mali Prachi Sanjay	13


Dr. G. K. Sontakke
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 Department of Zoology
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Zoology

Name - Urushali Shivaji Ekshinge

Roll No. 7464

GoodLuck	Page No.
Date	4 10 22

(14)

Q Give detail ⁷⁴⁶³ account on

1) General characters of class Amphibia -

- 1) Animals of class amphibia are live on land as well as water.
- 2) developement in amphibians is indirect.
- 3) Skin is moist & presence of glandular substance.
- 4) heart is 3 chamberd.
- 5) This animals are cold blooded.
- 6) Respiration is by gills in larvae & by lungs in adult stage.
- 8) they are ureotellic.
- 9) neck & tail is absent.
- 10) they are billaterally symmetrical.
- 11) exoskeleton is absent.
- 12) They are unisexual.

2) General characters of class pisces. -

- 1) They are cold blooded animals.
- 2) body is spindle shaped.
- 3) presence of scales on body for the protection.
- 4) Respiration through the gills.
- 5) Locomation by fins & tail.
- 6) They are aquatic. found in marine as well as fresh water.
- 7) Some are herbivorous & some are carnivorous.
- 8) heart is two chamberd.
- 9) Venous heart is present.
- 10) excretion of Ammonia & Urea by kidney.
- 11) They migrate for breeding purpose.
- 12) Fertilization is internal or external.
- 13) development is direct.

3) Parental care in Amphibia -
parental care is 50-50%

① protection by nest, nurseries / shelter.

1. Selection of sites -

They lay eggs in moist area
or near water body.
and over the leaf near to water body.

2. defending eggs -

they allow the entry of only female
or their own species only.

3. direct development -

larval stage absent.

4. Mud nest -

prepare their nurseries from mud by
mud near water bodies.

5. foam nest -

female form cavity into frodieas
secretion & lay eggs into it.

② Direct caring / protection.

1. Some animals are carry their eggs
on putting on neck.

2. some are carry their eggs by folding
their body

3. Some animals are carry eggs on
their back.

4. Some are protect their eggs by taking
them in stomach & through the mouth.

they hatched the larva.
5. they direct form the adult form.

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23

Date- 04/11/2022

NOTICE

All the students of B.Sc. III are hereby informed that your open book test of B.Sc. III, Semester V for paper Animal Biotechnology is scheduled on 07/11/2022. As per the part of continuous internal evaluation attendance is compulsory to all.

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Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23
Open Book Test- B. Sc. III
Name of paper- Animal Biotechnology

Date: 7/11/2022

Marks: 10

Question Paper

Question: What is rDNA technology? Explain it in production of insulin.



Teacher In charge

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic year-2022-2023

Attendance

Date- 07/11/2022

Sr. No.	Roll No.	Name of Student	Attendance
1.	8436	Alman Adesh Ajit	P
2.	8437	Chougule Sahil Firoj	P
3.	8438	Darekar Vishakha Vishwanath	P
4.	8439	Davare Sarita Balu	P
5.	8440	Chavan Devendra Somnath	P
6.	8441	Gadkari Rifa Farukh	P
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8.	8443	Gije Nandini Ravindra	P
9.	8444	Jadhav Sangram Pandurang	P
10.	8445	Khot Darshankumar Sarjerao	P
11.	8446	Mane Payal Ashok	P
12.	8447	Patil Dakshata Anil	P
13.	8448	Patil Pragati Tanaji	P
14.	8449	Patil Priya Prakash	P
15.	8450	Patil Rutuja Chandrakant	P
16.	8451	Patil Sachin Uttam	AB
17.	8452	Patil Sanika Suryakant	P
18.	8453	Pujari Supriya Rama	P
19.	8454	Rathod Shubham Jayram	P
20.	8455	Shinde Pragati Sakharam	P
21.	8456	Shinde Tushar Popatrao	AB
22.	8457	Singh Shweta Raviranjan	P
23.	8458	Sutar Vaishnavi Rajendra	P
24.	8459	Wakrushe Omkar Vitthal	P
25.	8511	Khot Sandhyarani Jayavant	P
26.	8512	Patil Snehal Nanaso	P
27.	8513	Tadavalekar Tejasvinee Ananda	P
28.	8514	Kamble Arati Shivaji	P



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Department of Zoology
Academic year-2022-2023

Marksheet

Date-07/11/2022

Sr. No.	Roll No.	Name of Student	Mark
1.	8436	Alman Adesh Ajit	07
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28.	8514	Kamble Arati Shivaji	07


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Name: Khot Sandhyarani Jayavant

Date: 07/11/2022



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Signature of Jr. Super.

वितेकानंद कॉलेज (स्वायत्त) कोल्हापूर.

परीक्षेच्या

या विषयाच्या प्रयोग परीक्षा

Practical Examination in

Zoology

at the

B.Sc. III

Examination

उमेदवाराचा आसन क्रमांक

(Candidate's Seal No.)

8511

विभाग

(Section)

Animal Biotechnology

उमेदवारांना सूचना

- प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
- उपकरणांच्या बापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
- कोणताही विद्युतप्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्या नंतर, पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
- सर्व निरीक्षणे कोष्टकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे शक्य तितक्या सुवाचपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
- प्रारंभिक किंवा अंतिम निरीक्षणात संख्यावाचक आकडे एकावर एक लिहू नयेत. जर लिहिलेला कोणताही आकडा नको असेल तर त्यावर एक रेष ओढून पाहिजे असलेला आकडा त्याच्याजवळ लिहा.
- प्रयोगशाळेतून बाहेर पडण्यापूर्वी आपले टेबल चांगल्या स्थितीत आहे याची खात्री करा.

INSTRUCTIONS TO CANDIDATES

- Read the question carefully and perform the experiment as required.
- If there be anything the apparatus that you do not know, ask the examiner or the laboratory assistant to help you
- Before doing any electrical experiment, it is absolutely essential that you make a neat working sketch of all apparatus actually provided and of the necessary connection, and obtain the examiner's permission to proceed.
- Express all observations in a tabular form.
It is also desirable that all intermediate calculations and results should be entered as neatly and clearly as possible
- No numerical figures should be written over either in the preliminary or final observations. If any figure is thought to be discarded it should be run through and the desired figure written near to it.
- Please see that your table is in good order before you leave the laboratory.

(येथून लेखनास सुरवात करा.) (Begin writing here.)



Section	Q. No.											
	Marks											

Q. No.

Q. No.

Q.1 What is rDNA technology? Explain it in production of insulin.

→

- rDNA technology :-

rDNA technology means Recombinant DNA technology.

The technology used for producing artificial DNA through the combination of different genetic materials from different sources is referred as rDNA technology.

- Production of Insulin by rDNA technology :-

- Insulin is a hormone produced by β cells of islets of Langerhans of pancreas.

There are 7 steps used to production of Insulin-

Step - I : Isolation of gene of interest
(Insuline gene)

Step - II : DNA library and chemical synthesis of chain A & chain B and PCR

Section	Q. No.												
	Marks												

प्र. क्र.

Q. No.

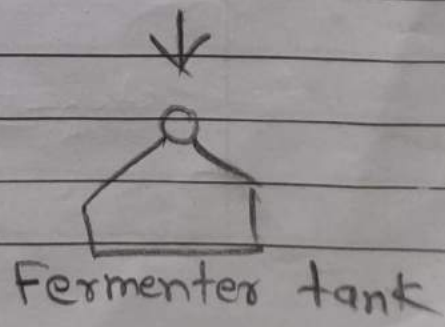
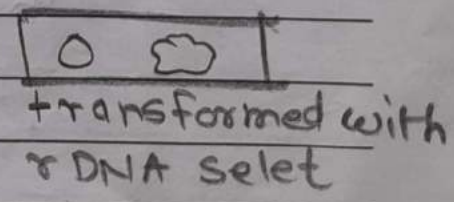
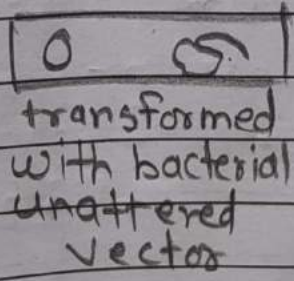
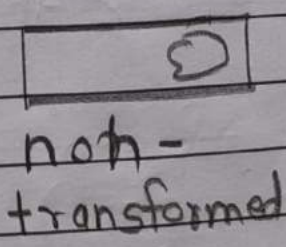
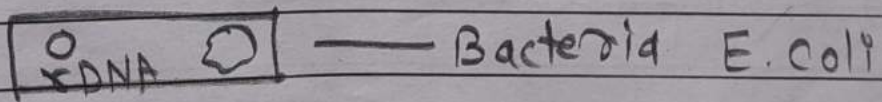
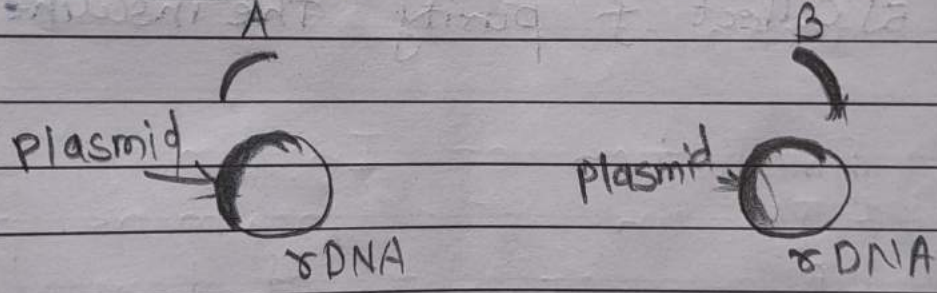
Step-III : Restriction digestion by restriction endonuclease - vector (plasmid)

Step-IV : Selection and Intertion of γ DNA in host. (Transformation)

Step-V : Put Bacteria in fermentation tank

Step-VI : Synthesis of Insulin

Step-VII : Purification of Insulin



Section	Q. No.												
	Marks												

प्र. क्र.

Q. No.


- Steps of insuline production from genetically engineered bacteria :
- 1] Obtain the gene for insuline from human DNA.
 - 2] Insert the gene into bacterial cells. (restriction endonuclease, vector, transformation).
 - 3] Select the cells that have the desired gene.
 - 4] Induce the bacterial cells to express the inserted to produce insuline.
 - 5] collect & purify the insuline.

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23

Date- 01/02/2023

NOTICE

All the students of B.Sc. III are hereby informed that your Unit test of B.Sc. III, Semester VI for paper Immunology is scheduled on 06/02/2023. As per the part of continuous internal evaluation attendance is compulsory to all.


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Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic Year 2022-23
Unit Test- B. Sc. III
Name of paper- Immunology

Date: 06/02/2023

Marks: 10

Question Paper

Q. Attempt any one of the following

1. Explain in detail Type I and Type II hypersensitivity.
2. Explain any two autoimmune diseases



Teacher In charge

unday
1/20/2023

Unit test B3c III Department of zoology.

1 Explain in detail Type I & Type II hypersensitivity.
under certain circumstances, the inflammatory response can have deleterious effect resulting in significant tissue injury, serious disease or even ~~both~~ death. such damaging response is termed as hypersensitivity.

Type I / IgE mediated hypersensitivity -

- 1) A type I hypersensitivity reaction induced by some antigens referred as allergens, such as insect venom, food, pollen.
- 2) can induce the formation of IgE antibodies in response to allergen specific T_H2 cells in individuals with a corresponding predisposition.
- 3) The IgE antibodies bind with Fc receptors to mast cell & blood basophils. Mast cell & basophils coated by IgE said to be sensitized.
- 4) If the individuals is re-exposed to the allergen, cross-linkage of the membrane-bound IgE on sensitized mast cells & basophils causing degranulation of these cells.
- 5) This results in the immediate release of mediators, which induce vasodilation, smooth-muscle contraction, mucus secretion, edema.
- 6) they are frequently proteases & are active at very low doses.

Type II / Antibody mediated cytotoxic reaction:

- 1) In type II, the antibodies produced by the immune response bind to antigen on the patient own cell surfaces.
- 2) ~~Activated~~ The antigens recognized in this way either be intrinsic or extrinsic.
- 3) Type II hypersensitivity reaction refers to an antibody mediated immune reaction in which antibodies are directed against cellular or extracellular matrix antigens with the

resultant cellular destruction, functional loss or damage to tissue.

Example) -

1) Transfusion reaction:

- If a type A individual transfused with blood containing type B cells a transfusion reaction occurs in which the anti B isohemagglutinins bind to the B blood cells & mediate their destruction.
- It destroys foreign RBC by complement-mediated lysis triggered by IgG.

2) Drug-induced hemolytic anemia:

- Drugs such as aspirin & antibiotics such as penicillin & streptomycin can bind or adsorb to the surface of RBC's.
- These interactions are similar to hapten-carrier complex which progress into anemia.

3) Hemolytic Disease of the Newborn:

- It occurs via maternal IgG antibodies crossing the placenta.
- In severe cases causes erythroblastosis fetalis.
- Most commonly develops in Rh- mother with Rh- fetus.
- Exposure to Rh+ fetal RBC's stimulates prod of memory.
- Treatment centers on anti-Rh antibodies (Rhogam).

Shri Swami Vivekanand Shikshan Sanstha's
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Department of Zoology
Academic year-2022-2023

Attendance

Date- 06/02/2023

Sr. No.	Roll No.	Name of Student	Attendance
1.	8436	Alman Adesh Ajit	P
2.	8437	Chougule Sahil Firoj	P
3.	8438	Darekar Vishakha Vishwanath	P
4.	8439	Davare Sarita Balu	P
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Vivekanand College, Kolhapur (Autonomous)
Department of Zoology
Academic year-2022-2023

=====

Marksheet

Date- 06/02/2023

Sr. No.	Roll No.	Name of Student	Mark
1.	8436	Alman Adesh Ajit	07
2.	8437	Chougule Sahil Firoj	06
3.	8438	Darekar Vishakha Vishwanath	07
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