Manoharbhai Shikshan Prasarak Mandal, Armori

## ASHTRAPITA MAHATMA GANUHI ARTS AND SCIENCE COLLEGE NAGBHID DIST - CHANDRAPUR

NAAC Reaccredited 'B+' Grade

In Collabration With

The National Acadamy Of Science [NASI], India, Nagpur Chapter

Certificate

This is to certify that, Mr./Mrs. Priyanshu A. Yermal war

of Government science College, Gadchiroli

has participated in

# STATE LEVEL STUDENT SEMINAR COMPETITION

On 26"February 2024, in Subject: Zoology/ Botany/ Chemistry/ Physics

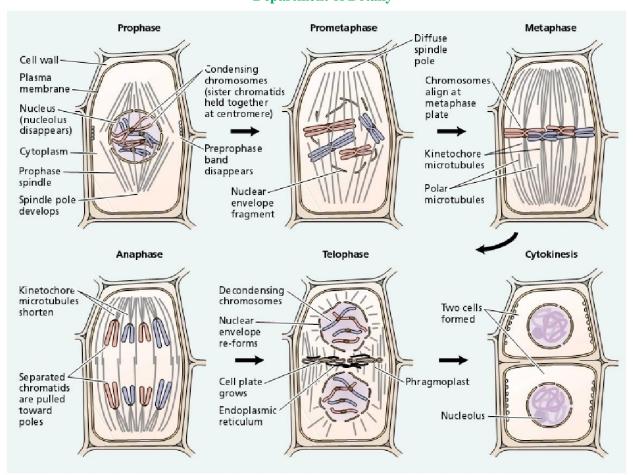
And Secured First/Second/Third/ Consolation Prize/Paticipated in event. His/Her Valuable Participation in the Competition hereby Acknowledged

Prof. N.S. Gajbhiye
Chairman
NASI, Nagpur Chapter



Dr. G. D. Deshmukh Principal R.M.G. College, Nagbhid

### Government Science College, Gadchiroli Department of Botany



### Mitosis and Meiosis Venn Diagram

### Mitosis

- Occurs in all organisms (except viruses)
- Creates all body (somatic) cells like blood cells
- Involves one cell division
- Produces two diploid (2n) daughter cells
- Daughter cells are genetically identical
- Creates a human cell with 46 chromosomes

### Similarities

- Occurs in plants and animals
- Starts with a diploid parent cell
- Produces new cells
- Cells undergo DNA replication
- Same basic steps

### Meiosis

- Occurs only in plants, animals, and fungi
- Creates only sex (germ) cells like sperm cells
- Involves two successive cell divisions
- Produces four haploid (n) daughter cells
- Daughter cells are genetically different
- Creates a human cell with 23 chromosomes



## GOVT. SCIENCE COLLEGE GADCHIROLI PG DEPARTMENT OF BOTANY LIST OF PROJECTS CARRIED OUT BY STUDENTS

M.Sc II (Botany) (CBCS), Sem IV Session: 2023-24

Sr. No	Name of Student	Title of Project	Type Lab Work /Field Work, Survey/ Other	Name of Supervisor	
1.	Miss. Rabina Samar Mandal	"Wild edible vegetables in chamorshi"	Field Work, Survey	Dr. P. S. Jakhi	
2.	Miss. Anjali Nandkishor Sonkusare	"Effects Of Organic Manures On Seed Germination in Some Vegetable Crops"	Lab Work	Dr. Shagufta. A. Sheikh	
3.	Miss. Punam Anandrao Nagpurkar	"Influence of organic manure on seed germination in some vegetable crops"	Lab Work	Dr. Shagufta A. Sheikh	
4.	Miss. Maheshwari Vikas Nandeshwar	"Study on Ethnobotanical Survey of Kurkheda tahshil"	Field Work, Survey	Mr. Amar S. Kuril	
5.	Miss. Sapana Dubraj Meshram	"Seed Germination of Pulses"	Lab Work	Miss. Priyanka M. Sahare	
6.	Miss. Ankisha Fakira Chaudhari	"Studies on plants used for purpose of fencing and agricultural implements by the local people of Gadchiroli tahshi."	Field Work, Survey	Dr. P.S.Jakhi	
7.	Miss. Mayuri waman Borkar	"Study of fruit marketing from Gadehiroli"	Field Work, Survey	Dr. Prashant S. Jakhi	
8.	Miss. Raksha Satywan Raut	"Agricultural seeds, Pesticides & Fertilizer available in kurkheda tehsil."	Field Work, Survey	Dr. P. S. Jakhi	
9.	Miss. Ragini Machhindranath Lakade	"studies on Dye yielding plants from gadchiroli district of Maharashtra."	Field Work, Survey	Mr. Amar S. Kuril	
10	Miss. Sejal Vinod Sakhare Supervisor Name -	"Documentation of wild and cultivated vegetables in Gadchiroli tehsil"	Field Work, Survey	Miss. Kalyani G. Khobragade	
11	Miss. Pallavi Shamrao Kadyami	"Aquatic plants diversity of Gadchiroli Tehsil"	Field Work, Survey	Mr. Amar S. Kuril	
12	Miss. Achal Homraj	"Documentation on thorny,	Field Work,		

	Chahande spiny and prickles plants of Gadchiroli Tahsil."		Survey	Mi B. Kalyani G. Khobragade	
13	Miss. Urvashi Gowardhan Uikey	"Biodiversity assessment of aquatic plants from few selected sites in Kurkheda tehsil, District Gadchiroli"	Field Work, Survey	Mr. Amar S. Kuril	
14	Miss. Revata Sitaram Sondarkar Supervisor Name: Priyanka M. Sahare  "Leaf epidermal studies of some species of Apocynaceae and Asteraceae"		Lab Work	Miss. Priyanka M. Sahare	
15 Gurnule ir S		"Checklist of plants available in premises of Government Science College, Gadchiroli."	Field Work, Survey	Dr. P. S. Jakhi	
16	"Qualitative studies o Agricultural diversity		Lab Work	Mr. Amar S. Kuril	

Date: - 28/04/do24

Principal
Govt. Science College
Godchiroff

### **OEE Result for Academic Year 2024-2025**

This is not the Merit List; it is only the result of the OEE 2024.

\* Serach Options:



Wise

Wise

Program Name User Name Application ID Wise

\* Enter User Name / Email ID:

AKANKSHAPATLE74@GMAIL.COM

### Result

egory	Domicile	University	Divyanag	Total Marks
5	Maharashtra	Other University	No	19.25

For Technical queries mail us from your registered e-Mail address at - CSPSupport@pun.unipune.ac.in OR call us at 020-71533899

º⁻o joaps.iitm.ac.in/dlRec

(5)

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**Applicant** Akanksha Jitendra Patle Name Status You have not submitted a valid Category Certificate. Until you upload a valid Category Certificate, you will be considered under **GENERAL** Category. The last date for submission of the Category Certificate is 31st March 2024.

Test Paper(s)	Marks Scored out of 100
Biotechnology (BT)	28.33



11	•	Page No
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$\parallel$		
	1	Government Science collège Gadchisoli
	· · · · · · · · · · · · · · · · · · ·	
		DEPARTMENT OF BOTANY
		"Internal assignment sybmission and
		seminar "Anthero culture"
		submitted by,
		Name: Tabish M. Pathan
	3.16	
	3 12	Class: Bsc. III yp, sem - VI
	· //	
		session: winter / summer - 2024-2025
مح		submitted to,
		Teacher incharge
	1.	Plant Biotah-t Thomas
	2.	
		20/2/27
		201311
	Sex	rinaro - Anthero culture Br. P.S. Jakhi
		Head Department Of Botany
	1	Shrikrupa

	Page No		Papero-I Page No
	Date/		Plant Biotechnology-IDate/
-			Tolory Brestermon
Tillow, of	" Selected advising quantifications .		
	DEPARTMENT OF LORAN	9.1	Embryogenesis (somaticand zygotic)
	1 (144) (1 4) 1 (141) (141) (141)		
			An embryo 15 defined as a plant in
to to	E crossing & formacion of landition	N.M.	its initial stage of development. Each embryo
	; Sundand High to the tablete.		posseses two distinct poles, one to form toot
	· Lie particults	14 14	and the other shoot, and is the product of
		1	Fusion of gametes. In some plant species,
	arated by grigist someth		embry o gre produced without the fusion
			of gametes and termed as auxual embryoge-
	Chast BoothEver some VE		nesis or adventitions embryomony.
			In an intact plants this type of emboryo
E-07.	#202-esulurs/ esquire: Colssas	100	genesis may occurs in sposophytic tissues like int-
			guments nucellar tissues or from unfertilized
	· orbothman ?		gametic cells. Apart from the normal cases
		1	of embryo formations such as zygotic emb-
	Teachers jacharence	. '	ryogenesis and adventitious embryony, insta-
		- 10/2000	hees of embayo formations from the tissues
	some and the trade of the	Sdf	culture in vitro were reported. This pheno-
		ogenetic-	menon termed as somatic embryogenesis
	1 - 410/10/- 100/ 100/ 100/ 100/ 100/ 100/ 10	77/12/11/2	was first observed by steward and his co-w-
		patrod )	Orkers (1958) in suspension cultures of carnot
	- D. M C.	Silverys	Followed by Reinert (1959). since then a
114	Crimpies - Augusto were bee Post soil	Jiccole!	humber of reports of embryo formation
mont	Flear Depre	Shrish	have been published.
	Salita Boton	-Mundid k	1
		The state of the s	methodoral Locationals and advisor and
	Shrikrupa		
A Majorica	эликгира	*	Shrikrupa

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max. At present with certain modifications			
Cell suspension and callus rultures of GIYTING-	1 3 50 3	the embayo like structures from cultured tissues.	
Gramboag in 1968, sac, soiginally designed for	247.25	Embryoid is generally used to denote	
The B5 medium Developed by O.L	Syprides	embay o where the origin is from a single cell	0000
B5 medium transpara	2.	from simatic cell lifters from that of zygotic	
THE STATE OF STABLE STABLES AND THE STABLES AN	7000	tion and development of an embay olike stars	
estables and all the sent of t	The Part of the Pa	potential. Despite this resemblance the origina	10-01
is used for cultivating plant cell, tissue and	£.	Situation pub sentiness us solvedue situations	77.75
Medium with high concentration of salts	Criptur	(es embryo like stayctures resembling the	
· cell, tissue and organ conture. in vitro.	13961	- Somatic embayogenesis in vitao paodu-	7 1 2
ments and vitamins for the growth of plant	20,300	Fig. Somatic embryogenesis stages	, 151 ch.
Medium (MS) provides all essential Macroele-	9.7%		
Cum (family - solanaceae). Myanshige and skoog	2000	Embryoid	6' 7
too in vites callus culture and Nicotiana toba-		017 7 000 00 00 00 00 00 00 00 00 00 00 00	
is established by murashige and skoog (1962)		planet it was the one of south of the state	
coupling. Murashige and skoog medium (Ms)		Callus	
assistant is pub senting salled, septem upbea			
skoog medium (MS) is used for micro propagation		of shrifts as toposts. Theres the	N. Healton
& opganogenesis, and systems. Murashi ge &	6.2	in sati in combayogenesis in some of the	
formulated a medium in 1962, to induce	31.40.41	1/ 1 1019 1050modic 110 111 10 101211	. 78.0
M yaashi ge and skoog (MS) originally	55.3	(18) and soft sold sold on media,	+
	· 271187	Explant in nutrient	30% 3
Muzashige and skoog medium (MS)	1.	M. 10 100 100 100 100 100 100 100 100 100	017075
THE PARTY OF THE P		THE THE THE THE STATE OF THE ST	7.
(MS, BS, NG)	C	Explant	
Major types of tissue culture media	Ø·2	コウラでは、ゴララコンション ひにいついてつであるる」 ト・ア	
The Court of the C	94964		
Mana			
Date/_/		- Viologooder de Date of	
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3.11 0 5	Despite being the first to	*	Seminate Date //
3.11 0 5	Despite being the first to	*	
201 13 15	Despite being the first to		Anthers culture
201 0 5			Anthero culture means plant
3.11 0 5	develope golden sice in century, in	1, 13, 7, 7	regeneration from the haploid milospore
	2017 a group of indian researcher	and f	Cells with the aim of haploid and dippid
. 7	reported that genes needed to produce	Des dal	plant.
1. 4. 5.	Golden Rice have uninycle sted effects	1	Anther culture was first reported
n l	When they inserted the engineered		in the 1970s through in methods by guta
10/10/10 1 D	DNA in the high yelding and agro-	HORSE	and mahashwaraj. From the plant botusa.
	comitating siperior Indian sice varity	( Januare	Anthero culture is a technique by
1 (1)	509 ma , it became pale and stunted	-F- 140	which the technique delveloping anthers
HATTA LA	he yell as were so reduced that it	Jun St.	at a precise and critical stage are excised
1132 6	was unsuitable for cultivation there	Carl die	aseptically from unopened flowers bud and
AF VINKER	has not been much progress since for	Ţ	gre cultured in a nytrient medium where
are d	hudoprent of golden vice in india.	John	the microspoes with cultured anther develop
Hippin -	Aller treet bodger as the aggist	hareto '	into cellus tissul or embayoids that
-F 1-17 1 4	His reduised on a corp. in 19	Decopy	gire rise to haploid plantlets eithers
1 123 1 1 1 1	क्रांगाल । उड़ाने विनिध्य कालने काला काला	161401 11	though oragano generis or embry ogenesis.
	200 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	19	From a ready and there a warder
The house	Control of the series of the s	•	pollen cuture
J 19			pollen or microspore (ultimo is an
	adia to many particles by better	35750	in vitro techniques by which the pollen going
	the condition of the property the		prefably at the Uninucleated Stage, are
THE STATE OF A	and convergence in Ripage 2146	1 79	Squeezed out aseptically from the intact
OO SE J	is treath to tempt patient p	1 -9	anther and then cultured on nutrient medium
1 / (2)	the training the contract actions		The microspores duelopinto embryoids or
	Colora La got Col Palagra	(20)	Callus tissue that gives to rise plantlets
		-	by emboyogenesis or organogenesis.
SI	hrikrypa		Shrikrupa

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•	Anthero Culturoe			TVENERY 2
	the selected flowers buds of young		- 4.50	Microspre Corelas
- ,	plants ape suroface sterilized and anthers	- <u>-                                  </u>	•	((0))
	removed along with their Filaments. The	Jan. 1		To a word
	anthers are excised under aseptic conditions			
1. 13	are conshed in 1 % acetocamine to test			
Trivia.	the stage of pollen and opment-	-641	6 N	, starting (Cala) and (Sala)
7 S 15	If they grow at the correct stage, each	( )	17.	polien
11.	anther is gently seperated (from the filament)		180	THE VIEW (CO)
	and the sutact anthers are subcaleted on a	640	1.0	10 (9) 11 (3) 11 (3) 11 (3) 12
£ 6 , 39°	nutrient medium injured anthers should not	(1)	4	HE TO CO CO CO PA
1 1	be used in cultures as their results in callying	v		
. 73-1,	of anther wall time.			- Visite of the State of the St
行生の七十	The anther cultures are maintained			(B33) 11 2 201 29 28
1 1 11 2	in alternating period of lightwill and	-bay	į j	muticellian police
Q1 - 3	darkness (6-12 hrs.) at 28°C. As the antheros	901	1 6	was shown and the man a first the action of the first the same of the first the
1000	profiferate other produce calling which laters		M	where o pollen well . Ve much knows:
	froms an embryo and then a hapleted plant			get ( Good of Jonate 1) 2)
	Security of the second		7	are the contract of the contra
*	Androgenesis:			De Fred
	Author/pollen Culture is referred			The second of th
	androgenesis (the male gametophyte		9	at sparting auto 200 Alasi of Callus
Smedia	microspere or imature pollen produces		1	assessment of the state of the state of
or Trade	haploid plant. The cultured microsposes			· Shadgoon & Black Lity on he
85 7 1	mainly kollow four distinct pathways			mal all of report the correptive
3 4.514	during initial stages of invito androgeness.			
	Ly the layer great of a progress of		f	g. Diagram showing the origin of sprophytes form pallen grains in an them culture.
	Shrikrupa	,		Shrikrupa

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	. Date//		Date//
\$			
1.	pathway I:		At the initial stages, the missospore
	The uninvolvate microspore undergoes		may follow any one of the four pathways
1	equal division to form two darghters (ells		described above. As the rell divide
	Of equal Size e.g. Daturainoxia.		the pollen grain becomes multicellulars
	· ·		and burst open - this multicellular moss
2'	Pathway II:		may form a cally which laters of efferentiates
	The division of uninucleate microspo-		into a plant (through callus phase) - Alternately
	res is unusual isesulting in the formation		the muticellan moss may produce the.
,	of regetative cell and generative cell.		plant through direct embyogensis.
	It is the regetative Cell that undergoes		
-	Further divisions to form (allus as embyo	*	Advantages of Anthers Culture
os d.	generative cell does not olivide.		
	Nicotinatobaccum	0	simple technique
3•	Pathway III:	e	Less time consuming
	In this case, the microspone und-	4	A high frequency of haploid plants,
	ergoes une and livisian. The embryos are	-	which is easily identified by their
	Formed from generative (ell regetative		smaller sterile flowers-
	cell des not divide.	•	Fasy to induce cell division immost
e-g	Hyos (yarnus Wigero.		species.
1.	0.11		
4.	Pethoay II:	•	No requirement for very high wevel
	Both generative and regetative	1	of expertise
	Cell divide Further the development		
- 2	of haploid plant /sparophyte.		John .
e·g	Datyra met al, Atropa belladana.		
	The cart of the same of the continues of the		
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