Report on Add-on Certificate Course on "Biological Technique-Microtomy" in collaboration with Z.S.I. Dehradun from 19th June to 24th June 2023

Department of Zoology, Dolphin (PG) Institute of Biomedical & Natural Sciences, Dehradun held Add-on Certificate Course on "Biological Technique-Microtomy" in collaboration with Z.S.I. Dehradun from 19th June 2023. The resorce persons for the course were Dr. Gaurav Sharma, Scientist E, ZSI, Dehradun, Dr. Aftab Ahmad, Scientist D, ZSI, Dehradun, Dr. Beena Joshi Bhatt Associate Professor & Head, Department of Zoology, Dolphin (PG) Institute of Biomedical & Natural Sciences, Dehradun and Dr. D. K. Bhardwaj, Associate Professor, Department of Zoology, Dolphin (PG) Institute of Biomedical & Natural Sciences, Dehradun The BOS of the course was held on 13th June 2023.

Microtome has been derived from the Greek words, mikros meaning "small", and temnein, meaning "to cut". Microtome is an instrument with the help of which sections of tissues are cut and the process of cutting thin sections is known as Microtomy. Many undergraduate science students are unable to learn this technique due to unavailablity of microtome and chemicals in their labs. The aim of this study was to reach to the students and train them in microtomy. After completion of this course participants will be technically and critically trained with microtomy and histology.

On day1, 19th June 2023 students learnt the basic, history and importance of microtomy. After that they studied about the equipments and chemicals required for microtomy. Then they prepared the Bouin's fluid and fixed the animal tissues on it.

On second day, 20^{th} June 2023 participants washed the fixed sample in Bouin's fluid in ascending series of alcohol i.e. 10%, 30%, 50%, 70%, 90% and 100%. After the whole procedure they prepared the wax block.

On third day, i.e. 21^{st} June 2023 participants trimmed their blocks. After trimming they started the process of section cutting using the microtome.

On fourth day, i.e. 22^{nd} June 2023 participants learnt the principle, stain and procedure of double staining. They stainned their slides using coplling jars and prepared the permanent slides.

On fifth day, i.e. 23^{rd} June 2023 participants visited ZSI. The students viewed their slides under highly magnified microscopes including electron microscope.

On sixth day i.e. 24th June 2023 analysis of slides and assessment of participants were done. This was followed by certificate distribution to the participants.



FIG. 1: BOS OF ADD-ON COURSE HELD ON 13th JUNE 2023



Fig.2: Day 1; Preparation of Bouin's fluid & fixation of tissues

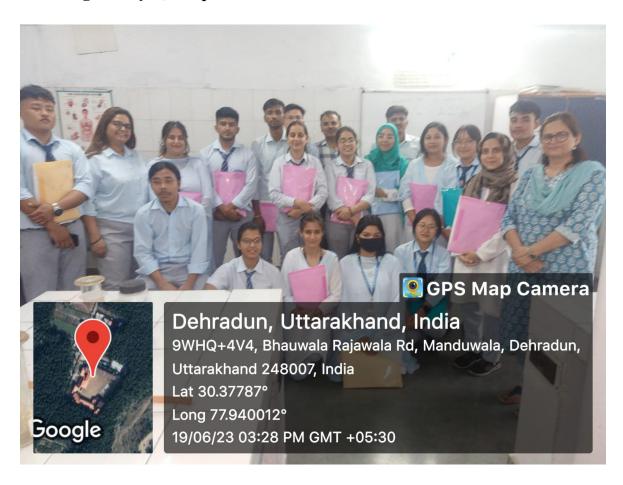


Fig.3: Day 1; Mannual Kit Distribution





Fig.3: Day 2; Block Preparation





Fig.4: Day 3; Cutting of Blocks under Microtome



Fig. 5: Day 4; Double Staining of Slides



Fig. 6: Day 5; Visit to ZSI and Visualisation of Slides



Fig. 7: Evaluation of Participants and Valedictory Session

.No.	Manduwala, Dehradun ATTENDANCE SHEET Add-On Course on "Biological Technique - Microtomy" in Colloboration with 2.8.1, Dehradun Organized by Dept. of Zoology on 19th to 24th June, 2003 [9-6-2002 3]				Dolphin (PG) Institute of Biomedical & Natural Sciences, Manduwala, Dehradum Add-On Course on THERDINGE SHEET Add-On Course on the Course of				Dolphin (PG) Institute of Biomedical & Ratural Sciences, Manduwals, Dehndu Add-On Course on "Biological Technique". Microtomy" in Colloboration with "Only of the Page Angle by Bept. of Zoology on 19" to 24" June, 2023				
	hokerh Singh Bhandari	Department		S.No.	Name	Department	Sig.	S.No.	Name	Department	Sig.		
10 11 12 13 14 15	Rimon Affect Assist Assist Assist Solution Solut	Ger Till Tiled seen Pathology (200 Aco) M.S. Zoology Seen 1) 11 11 12 13 14 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Gelding	5. 6. 28 8 . 10 10 11 12 12 17 18 . 15 . 16 . 17	whether Strings Bhander Himmon Afford Star December Sharens School Sharens School Sharens Shar	MSc rollegy Soun 14 mV 14 6 h 11 11 11 11 11 11 11 11 11	History	2. 3. 4. 5. 6. 9. 10	Artek Kunser Geogram Relity Ray Robert Stage	Remoteray AN 4: Parallely Mans net) Mr. Robley De Den 11 11 11 11 11 11 11 11 11	Later Livery Region (Guille Guille		

lo.	Add-On Course on "Biological Technique Nicrotomy" in Colloboration with 2.8.1, Dehradun Organized by Dept. of -2-5, Dept. of -			Dolphin [PG] Institute of Biomedical & Natural Sciences, Manduwala, Dehradun Add-On Course on "Biological Technique - Microtomy" in Colloboration with Z.S.I., Dehradun Organized by Dept. of					Dolphin (PG) Institute of Biomedical & Natural Sciences, Mandawala, Dehradun ATTENDENCE SHEET Add-On Courses on Biological Technique - Microtomy' in Collaboration with 15			
1	Ankit Kumor Catyan	Pathology 3rd Yr	sank.	Zoology on 19th to 24th June, 2023				Zoology on 10th to 24th Inne 2002				
6	Helly Ray	Date of a suc tard		S.No.	Name	Department	Sig.	S.No.	Name		24-6-2	
5.4	Lukery Since De 1	Turner of Orienta Ser	Selitoria	1.	Ankit Wanar Satyan	Postwiegy 3rd Vi	Anex	1.	Anamika Shaeme	Department	Sig.	
	Shivani Sharme	M.sc. Leology Had sun	duile.	Ω.	Adv. D.	Pathology Briggs and you	Adity	2.	Shirani Sharme	M.se. Zoology 31td &	in chanil	
	Shevani Shorme	Me Zorloydy Indsom	Shirm	3.	Adity Ray	To thelegy III	- WEY	_3.	Lokert Singh Bhandar	Mie Zoology Tud	Sen Livari	
	Southern Luciania	11 77	Cater	4.	Ananike Shawe	M.sc. Thology Dad Som	ghulo	4.	Add Digh Whanday	Box. TILT Strayo	ex Take	
	Mharuka		Berlin	5.	Shivari Sharme	2	Lievan	5	Adily Raj Apoli Gupte	Pathology (B.Sc. MIS 1 Mise Youlogy (B.Su	My Addy	
	Kanggam Toolton Cingh		u mylapa	6	Salaha Bramhalah	11	July	- 6	Penja Dheman	Mise Toology (I se	w) gutt	
	Jenny yaungsey at March		6	7.	Nihovi-ko	1/-	Nihoviko -	7	Sakari Bramhotza	MSC Michaeliology	(Ton) Pooja	
	Perja	Title Brienslighten And Som	leero	3	Kangjam Natson Singh	17	K.NEIem	-8	Nihasi Ha	With Simple age	m) Xelek	
i	Aastu'	ALS: Solary *	4	. 1.	Jerry Yalunghey A March	4	Jury	9	Asharit 4	Msc Zoology (Tise	m) Ninonih (m	
		KISC SHOULD *	Gueth.	12	Poeja	Mic Mioustiplingy and son	Peago	10 -	Thurquian sucre him	2 coolegy (use	en) Aglio	
3.	Janah deletri	MSc Zerley In	ful-	- 11-	tashi	HIS- Zoology 4	Gutta	11	Thengujan suaya bur Meanorabha Thousan	31 - 0	- the	
	1. Mourthorga Prehum	M 5, Zarlogy 2 resum		北	Jameste chlebri	M.Se 11 mlsen	tope	Tet-	Testos Stephen	"		
"	My Sugarde doute	11	Segretto	13	VI Munthanga Richury	M. St. zorby znisem	Mapline	13	Riman Rijaz	Pathology 12nd Year) W	
5	tordeda to atasi	"	Bridge.		My Sugardha Charlai		Sugardo	14.	Arreit Kumar Catyan	Patentagy (3rd Vr.)	-toka-ter	
6	Riman Rijaz	BMLT 2nd Year	Briefe	15	Riman Rijaz	BMLT and year	hu .	15	Kampjaro Welgon Sunah	M. Sc. Zoologg Lif 80m) k neisor	
١	Thinging are Slongs Dan'	H Se Teday	Q1 vc	16	Thursiyan Shaya Dun		RTC	16	V. Munthanga Pachuan	w # 4	Althor	
8	Memoratha Thomsam	. 0	- the atta	17	Megazial Ra Thousan	H M ANDROGY	Horovately	17	Ng. Suggedha annhai	[1 (1 co	Sugardo	
	Ashmita Maan	MSC Zoology	Ashmita		Ashmita Moon	1400	Ahhmita	18.		11 4 4h Sep-	n Brance	
				19	Ashmita Moon	MSC Zeology	annouta.	19.	. Jerry Yerryhey M. Mant	11 to 5 here		
											1	
\forall												
+				-								
+			-	-		20 000 000 000						
-			-				-					
					-		1					

Fig.8: Attendance Sheets











Fig. 9: Certificates



Fig. 10: Certificates













Fig. 11: Certificates