SEMINAR REPORT -MBBS 2024 BATCH

The Department of Physiology, under the dynamic leadership of **Dr. Jeneth Berlin Raj, MBBS, MD, PhD (Professor & Head)**, has been periodically conducting **seminars as part of the Student Enrichment Programme (SEP)** for the Phase I MBBS 2024 batch. These seminars are aimed at nurturing academic curiosity, fostering self-directed learning, and strengthening communication and presentation skills among budding medical professionals.

Structure and Facilitation

Topics were allotted well in advance, and each student was guided by an assigned faculty facilitator:

- **Dr. Jeneth Berlin Raj** – Professor & HOD
- **Dr. Anebaracy** – Professor
- **Dr. Vishnu Priya** – Associate Professor
- **Dr. Nithya** – Tutor

Facilitators mentored students by offering guidance, constructive feedback, and academic support to refine their presentations. Each student was allotted **10–15 minutes** for delivery, depending on the depth of the topic. Sessions were made interactive, with presenters engaging in **peer-to-peer questioning** and discussions, while faculty members posed additional thought-provoking questions to assess understanding.

Academic and Skill Development Outcomes

Every seminar concluded with **faculty feedback**, enabling students to recognize their strengths and identify areas for improvement. Presenters were assessed and scored on a **10-point scale**, motivating them to strive for academic excellence. Importantly, the program enhanced essential skills such as **critical thinking, evidence-based reasoning, public speaking, and teamwork.**

Thematic Coverage

Seminars were held **monthly as 2-hour sessions**, covering major physiological systems including General Physiology, Hematology, Nerve-Muscle Physiology, Cardiovascular System, Gastrointestinal System, Renal Physiology, and other clinically relevant areas. Students were encouraged to refer to **clinical journals, recent research articles, and authentic publications**, thereby aligning their presentations with the **latest trends in medical science.**

Illustrative Topics Presented

- Aquaporins
- Gain in Feedback System

- Cell Membrane Proteins
- Artificial Blood
- Blood Banking
- Muscle Proteins
- Summation of Muscle Contraction
- Atrial & Ventricular Arrhythmias
- Heart Block
- Gastrin & Cholecystokinin
- Renal Splay
- Tubuloglomerular Feedback

Encouraging Impact

The SEP seminar series not only deepened students' conceptual understanding of Physiology but also instilled **confidence, curiosity, and a spirit of inquiry.** By creating a platform where students learn both as presenters and as active participants, the program has evolved into a **holistic academic exercise**. It bridges theory with clinical application and prepares students for **lifelong learning** in their medical journey.

The department remains committed to sustaining this initiative, fostering an environment where every student is encouraged to **explore, question, and excel.**

DATE	SYSTEM	TOPIC	Presenters Name and Roll No
22.11.24	Gen.Phy	Gain in feedback system	Aishwarya Lakshmi (6)
		Cell membrane proteins	Deepthi. K (24)
		Molecular motors	Ashwin. V (15)
		Na^+– K^+ ATPase Pump	Joshua Prabakar (60)
		Aquaporins	Hemavathi (49)
		Concept of Osmotic pressure and its significance	Elavarasi (35)
		Types of Endocytosis	Kanishk. S (63)
		Rationale of selecting dye for measuring body fluid compartment	Lokesh Kumar. V (72)
		Stem cell & Cytokines for Hemopoiesis	Nithish. S (87)
		Natural killer cells	Priyanka (101)
29.11.24	Blood	Concept of agglutinogen and agglutinins	Ramyadharshini.M(107)
		Importance/Significance of knowing blood group	Sokitha U.G (122)
		Blood banking	Sumithra.P (131)
		Blood transfusion	Vaishnavi.T (142)
		Blood transfusion – Tests performed	Vishwa.S (150)
		Immediate and Late reaction of mismatched blood transfusion	Andril Aishwarya (10)

		Artificial blood	Aruna Sankar.M (14)
		Erythroblastosis Foetalis	Dhanvanth Raj L.P (29)
21.12.24	CVS	Stannius ligature and its clinical application (vagal tone, IVR)	Vincy .C (148)
		Conducting system of heart	Aaqil Mohamed M (1)
		Action potential of ventricular muscle	Vinoth B (149)
		Action potential of SA nodal tissue	Aarthi P (02)
		Staircase phenomenon and its clinical implication	Abhinaya sri I (3)
		Length tension relationship & its clinical implication	Vigneshwar K (147)
		Load-velocity relationship & its clinical implication	Abinaya D (04)
		Left ventricular pressure-volume changes	Vel pandiar PR (146)
		ECG waves & its physiological basis	Aishwarya K (05)
		Heart block	Vedullapalli medhaashritha (145)
		Atrial arrhythmias	Ajitha K (07)
		Ventricular arrhythmias	Varshitha S U (144)
		ECG changes in Myocardial infarction.	Akila D (08)
		Iconic changes (K^+ & Ca^{2+}) inECG	Varsha KS (143)
		Bernoulli's principle	Amritha A (9)
		Laminar flow & turbulent flow	Theebigaa KM (141)
		Windkessel effect	Thayalini V (140)
03.01.25	CVS	Homometric and Heterometric regulation of Cardiac output	Naveen Perumal M (81)
		Measurement of Cardiac output	Navinitha M (82)
		Lymphatic circulation	Nikshitha PreethaYF(83)
10.01.25	CVS	Baroreceptors	Muthu selvan M (76)
		Role of baroreceptors in short term regulation of BP	Muhammad Arshadh N (77)
		Role of Cardiac receptors in maintaining BP	Mythili S (78)
		Chemoreceptor reflex in BP regulation (CNS Ischaemic response)	Narmadha V (79)
		Role of Kidneys in maintaining BP (RAA System)	Naveen kumar N (80)
		Hypovolemic shock and its compensatory mechanism	Nisha Nanthini R(84)
		Anaphylactic shock	Nishitha S (85),
		Irreversible shock	Nithish Anandan N (86)

21.02.25	NMP	Muscle proteins (Structure, Functions and applied)	Thanishka K S (139),
		Role of Sarco tubular system in muscle contraction	Tejo Krishna N M (138)
		Skeletal muscle contraction and relaxation	Tamilarasan S (137)
		Types of muscle contraction	Swetha M (136),
		Summation of muscle contraction	Swathika M (135)
19.04.25	GIT	Gastrin	Aniruddh Prashanth A (11)
		Cholecystokinin	Anjana K S (12)
		Secretin	Arjun Anandakumar (13),
		Somatostatin	Aswin R M (16)
		Gastric inhibitory polypeptide (GIP)	Badma Vebushini M (17)
		Motilin	Balakrishnan P (18)
		Histamine	Balasastha S (19)
		Vasoactive intestinal polypeptide (VIP)	Ben Joshvin V (20)
		Ghrelin	Bharath Kumar R S (21)
		Neurotensin, Pancreatic polypeptide & Peptide YY	Darshan K (22)
27.06.25	Renal	Tubuloglomerular feedback	Nithyashree I (88)
		Glomerulotubular balance	Nivetha TK (89)
		Filtration coefficient	Nivetha V (90)
		Concept of renal clearance	Ramyadharshini M (107)
		Renal Splay	Lishanti Varshini S (71)
		Glucose handling by nephron	Pragadeeshwar Saravanan (93)
		Sodium handling by nephron	Prathikshun TM (94)
		Role of Kidney in Acid base balance	Praveen A (95)
		Role of Loop of Henle as counter current multiplier	Preethiga R (96)
		Role of Vasa recta as Counter current exchanger	Preethi B (97)


INTESTINAL CELLS
Human Intestinal Cells
Functions
Inducing ES cells
NK CELLS
Defense against intracellular pathogens
Introduction