MISSION STATEMENT
To be a leading institute in the progress of Medicine through the best medical education for future doctors, advanced clinical services and cutting edge research in a culture supporting compassion for the human suffering and commitment to serve the underprivileged.

ABOUT PALI
Pali city is the district-headquarter of Pali district. The district, consisting of ten tehsils, is ranked 225th in India (out of a total of 640) in terms of population. It has a population density of 165 inhabitants per square kilometre.

LOCATION
The Government Medical College, Pali is located right on the National Highway 62. Its nearest major city is Jodhpur, the second largest city of Rajasthan, about 70 km towards north, hardly one hour drive by this four lane National Highway.

GMC Pali is about 5 km from Rajasthan Roadways bus stand in Pali city and only 6 km from Marwar Railway Junction, which is connected with Jodhpur, Ajmer, Ahmedabad and Udaipur. The nearest airport is in Jodhpur.

INTRODUCTION
Government Medical College Pali was established in 2017 under the auspices of Rajasthan Medical education society (Raj-MES). The institute obtained permission from MCI to admit 100 students for MBBS course in the year 2018-2019. Dr. K. C. Agarwal, Ex-Principal and controller of JLN Medical College, Ajmer is the Principal and controller. Course is starting from August 2018.

The Pali district consists of ten tehsils. The district has a large population, bestowing it a ranking of 225th in India (out of a total of 640). This institute meets the long awaited need of a medical college with cutting edge health care facilities for the sizable populace of Pali district. Pali city is a peaceful city with rich history and traditions.

Sprawling secure college campus of 32 acres is placed right on the NH 62 imparting unique advantage to the institute of fast connectivity. Its hospital wing, equipped with many modern medical services, is located in the centre of Pali city. Pali city is the district headquarter. City is well connected through its road and railways network, linking it with Jodhpur, Ajmer, Ahmedabad and Udaipur. Hostel accommodation, mess, air conditioned library and sports facilities are available.

The foremost objectives of this institute are to offer highest quality medical education to the under graduate (M.B.B.S) students, to serve the underserved with premier medical care and add significantly to innovative medical research supported by the best and state of the art laboratories.

Government Medical College, Pali is committed to produce the best doctors with a passion to serve the mankind with competence, compassion and dedication.
Dear Students,

It is my great pleasure, as Principal and Controller of the Government Medical College, Pali (Rajasthan), to welcome you all to this college.

The college got the letter of permission (LOP) on 25th May 2018 from the Medical Council of India (MCI) to admit 100 M.B.B.S students selected from NEET for the session of 2018-19. The session is starting from August 2018.

You are the first batch of students of this college. I congratulate you on your commendable achievement in securing admission to the MBBS course. Your pursuit, passion and talent earned you this unique opportunity.

You are the future of medical profession. In Government Medical College Pali, our dedicated and talented faculty, excellent infrastructure, up-to-date library facilities, museums, well equipped laboratories and multitude of modern services in our high-patient-load hospital, will launch you at the forefront of this profession.

We assure you a secure and comfortable hostel stay in our sprawling campus. You will get all the help and support that you need from the faculty members to feel at-home. I encourage you to interact with and approach faculties for help at any time you want.

I want you to earnestly make use of the coming years in this institution and tap into your unlimited potential to significantly contribute to the society, not only as a competent and compassionate doctor but also as a quality researcher, an innovative teacher and a laudable public servant.

Since you are the pioneering batch, the onus of setting the traditions of this institute lies on your shoulders. I entrust you the responsibility to establish the ethos of hard work, decency, discipline, team spirit, attitude of service, excellence in all-range of extra-curricular activities and above all, the spirit of persistent top performance in this institute.

Strive hard and utilize this valuable training to make this institution proud of your accomplishments.

My best wishes to you for a bright and successful career ahead.
HISTORY OF PALI

Pali is historically known as Pallika i.e. a trading centre. Even today it is also a hub of a rich textile industry earning it the name of the Industrial city. The city of Pali developed on the bank of the river Bandi (Hemawas)—a tributary of the famous Luni (Lavanavaty i.e. salty) river both of which originate from the western slopes of the Aravalli hills.

The Aravalli Range which forms the eastern edge of the pali district, is the oldest fold mountains of India. Geologic evidences tell us that prehistorically Aravalli was much higher than the younger Himalayas, but has now weathered into stubs of shallow hills.

As a part of the prehistoric Arbuda province mentioned in ancient Indian literature, this area was known as Balla-Desh. Arbuda mountains, the current Mt. Abu, and Balla are mentioned both in Rik Vedas and the Mahabharata. The Pandavas of the Mahabharata may have stayed near Bali, a town just south of Pali city during their exile.

Archaeological relics including those excavated from the Luni river-bed some of which can be seen at the local Bangur museum, include pieces from Kushana Age. Kushan King Kannishka had conquered Rohat and Jaitaran areas in Pali district, around 120 AD. During the sixth century A.D., this area was ruled by Emperor Harshvardhana who had conquered most of the present area of Rajasthan including Bhinmal in neighbouring Jalore district which was the birthplace of the Sanskrit poet Magha and mathematician-astronomer Brahmagupta.

Rajput rulers emigrated from the surrounding areas and established a stronghold here to resist the invasions from North-West. Between 10th to 15th centuries, boundaries of Pali extended to adjoining Mewar, Godwad and Marwar. The 16th and 17th century witnessed a number of battles in areas surrounding Pali. Army of Shershah Suri was defeated by Rajput rulers in the battles of Giri-Sumel in 1544-1545 near Jaitaran. The greatest ruler of Mewar, Maharana Pratap was born in Dhan Mandi Pali. Mughal Emperor Akbar’s army had a series of battles with Maharana Pratap in Godwad area. After the Mughal conquest of almost whole Rajputana, Veer Durga Das Rathore of Marwar made heroic efforts to redeem the Marwar area from Aurangzeb, the last Mughal emperor. Pali has been a part of the Marwar kingdom until 1949, when the last ruling Maharaja acceded to join newly independent sovereign of India.
AFFILIATIONS

Affiliated University

Rajasthan University of Health Sciences,
Sector-18, Kumbha Marg, Pratap Nagar, Tonk Road,
Jaipur (Rajasthan)

Vice-Chancellor

Dr. (Prof.) Raja Babu Panwar
MD (Medicine), DNB (Cardiology)
Rajasthan University of Health Sciences
Sector-18, Kumbha Marg, Pratap Nagar, Tonk Road, Jaipur (Rajasthan)
INDIA 302033

Registrar

Shri Jaswant Singh, RAS
B.A. M.A. English (Lit.) and B.Ed
Contact No.- 0141-2791928
Email: ruhsreg@gmail.com

Contact of Hostel Chief Wardens

Boy’s Hostel:
Dr. Laxman Soni
Phone: 9509929626

Girl’s Hostel:
Dr. Priyanka Soni
Phone: 9509015326

Contact No.- 0141-2791928
Email: ruhsreg@gmail.com
The college campus ground sprawls across 32 acres. It is located in a green surrounding with Aravalli hills in the neighbourhood. In this new campus we have already started taking green initiatives planting plenty of trees.

Our four-storied college building houses four large lecture theatres, spacious examination halls, the council hall, the pre-clinical and para-clinical departments, the Dean’s office complex, the administrative section, the common rooms and the canteen, all perfectly in compliance with Medical Council of India (MCI) criteria.

The large, air-conditioned lecture halls are equipped with integrated and advanced audio-visual teaching aids including multi-media projectors. The laboratories of the pre- and para- clinical departments (Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Forensic Medicine, Community Medicine) and the Anatomy dissection hall, are all fully equipped with up-to-the-date equipments and accessories.

The safety of the whole campus is managed round the clock by security guards who are all ex-servicemen recruited through Rajasthan ex servicemen corporation limited (RESCO).
SPORTS FACILITY

Our college actively encourages all students to pursue various sports activities for their all-round development and well-being. The sports complex has badminton and volleyball courts along with a football cum cricket ground.

COMMON ROOMS

The common rooms have facilities for indoor games like table tennis, chess, carrom etc. They are also furnished with adequate seating arrangements and television viewing areas.

GYMNASIUIM

A healthy body is a critical ingredient to drive a healthy mind. Separate Gymnasium with multi-gym facilities will be provided for boys and girls.

OTHER FACILITIES

HOSTEL

There are separate Boys’ and Girl’s Hostels, each with 99 rooms. Hostel rooms are double seated, fully furnished with cots, student-table-chair sets, almirah etc. Each room is well-lit, well-ventilated and has an attached balcony. Every floor has sufficient number of bathroom complexes. There is a separate 50 room intern hostel.

MESS

The mess complex with its spacious dining halls and modern modular kitchen complexes will cater healthy and hygienic food to all the students. A mess committee consisting of faculties will oversee the quality of food.

LIBRARY

The fully air-conditioned and Wi-Fi enabled central library is aimed for the needs of both the faculty as well as the students. It flaunts a gamut of text and reference books on the medical subjects. It has subscription to most of the leading medical journals. It also has a computer facility with virtual library and e-classroom. The seating arrangement includes more than 60 workstations and additional seating spaces.

TRANSPORT

The college will have several commute and transport options for students. A shuttle from the campus to the nearby market will be made available twice weekly.
HOSPITAL SERVICES

The Bangur Hospital is affiliated to the Government Medical College Pali. The hospital was established on 13th Oct 1956 by donations given by several philanthropists of Pali city especially the owner of Umaid Mills, Mr. Bangur, as a humble 35 bedded hospital. Today the hospital, located in the heart of the city with a bed strength of 300 provides all modern amenities and services through its staff strength of 65 doctors, 120 nursing staff and 110 para-medical and supporting staff.

The dedicated staff handle around 1000 OPD and 150 in-patients on a daily basis. The Emergency trauma centre, ICU and PICU have skilled staff which has minimized referrals and critical care, is available to the residents within the city. The hospital has a well equipped laboratory, blood bank, dialysis unit, radiology unit (including CT machine), NCD centre, physiotherapy, oncology centre and mental health centre. A large number of patients within and around Pali are now turning to this hospital for better care.

Being a tertiary level Public health facility the hospital is a part of several National Programmes and State Government schemes which includes DOTS plus centre, ART centre, and an excellent maternal and child care centre. Through its units for Immunization, Antenatal care, Family planning services, dietary centre and Marriage counselling centre and a modern IVF centre, the community gets prompt and specialized care.

The hospital has two equipped ambulances for handling referrals. As this former district hospital gets upgraded to become the training ground for the new batch of medical students, several services are undergoing changes and adapting to their new responsible role of making skilled and seasoned young dynamic doctors. Around 12 ventilators and 6 dialysis units are available to save lives. All super specialities like neurosurgery, cardiology, nephrology etc are being opened to provide state of the art care. The blood bank is also being upgraded to enable component separation of blood within the facility.

It is envisioned that the medical students who will get trained here will have an excellent exposure in all specialities and will benefit from the large patient load and experienced faculty as they get chiselled to become budding doctors.
**DURATION OF COURSE**

The course of studies leading to conferring of degree of Bachelor of Medicine and Bachelor of Surgery (M.B.B.S.) of the Government Medical College Pali is of duration of a minimum of five and a half academic years including one year of compulsory internship.

**SESSION COMMENCEMENT**

The curricular session will commence on 1st August, 2018. There will be an orientation program for the admitted students.

**ATTENDANCE**

Attendance to MBBS theory and practical classes is compulsory. Every MBBS student must obtain at least 75% attendance in aggregate in theory classes and 80% in practical classes before they are permitted in professional examinations.

**Weekly Schedule**

<table>
<thead>
<tr>
<th>DAYS</th>
<th>LECTURE 8.00-9.00 am</th>
<th>PRACTICALS 9.00 – 10.45 am</th>
<th>BREAK 10.45 - 11.15 am</th>
<th>LECTURE 11.15 - 12.15 am</th>
<th>PRACTICALS 12.15 – 02.00 pm</th>
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UNIVERSITY EXAMINATION MARKS DISTRIBUTION:

**THEORY -**

- Theory Paper - I 50 Marks
- Theory Paper - II 50 Marks
- Theory Internal Assessments 20 Marks
- Theory Viva 20 Marks
- **Total** 140 Marks

**PRACTICAL**

- Practical Exam 40 Marks
- Practical Internal Assessment 20 Marks
- **Total** 60 Marks

**Grand Total (140 + 60 )** 200 Marks

For qualifying MBBS it is necessary to secure a minimum of 50% marks separately in theory and practicals.

**EVALUATION AND INTERNAL ASSESSMENT**

Regular class tests and tutorials will be held after completion of every units. Two internal assessments will be held after completion of first semester in January and second semester in June respectively. Internal marks in theory and practicals will be calculated from these two internal assessments.

**Tentative Dates of First Semester and Second Semester Examinations**

- Semester I First week of January
- Semester II Second week of June

**HOLIDAYS**

- Summer Break: from 08.06.2019 to 30.06.2019
FACULTY MENTORSHIP

Each new student will be assigned to one individual faculty as a personal mentor. The students are encouraged to meet their mentors regularly and not just when they face problems. The program is aimed to provide individualized support to the students to help adjust to the new college and hostel life very quickly. The mentor-mentee relationship will go a long way to nourish all round growth of the students.

CO-CURRICULAR ACTIVITIES

There will be plenty of opportunities round the year for students to express all their creative urges and hidden talents in the form of co-curricular activities.

In addition to a major annual cultural festival, various competitive sports, arts and literary events will be held throughout the year.

Various clubs and activity groups for art, literature etc will be formed so that students can pursue their hobbies.

It is envisioned that the medical students who will get trained here will have an excellent exposure in all specialities and will benefit from the large patient load and experienced faculty as they get chiselled to become budding doctors.
ANTI-RAGGING POLICY

As per directions of the Hon'ble Supreme Court of India, the Government has completely banned ragging in all forms both inside and outside the campus. The authorities of the Government Medical College Pali are determined not to tolerate any form of ragging. Any student taking part in or supporting ragging directly or indirectly shall have an FIR lodged against him/ her and will be suspended or rusticated from the institution and shall also be liable to be fined up to Rs. 10,000/- as per the rules.

Anti-Ragging Committee

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>Name of Faculty</th>
<th>Designation</th>
<th>Contact number</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. K. C. Agarwal</td>
<td>P &amp; C, Chairman</td>
<td>9414129753</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Jayant Kumar</td>
<td>PHOD Physiology Convenor</td>
<td>9414127304</td>
</tr>
<tr>
<td>3</td>
<td>Dr. Jairam Rawtani</td>
<td>PHOD Biochemistry</td>
<td>8003707599</td>
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<tr>
<td>4</td>
<td>Dr. Nikha Bhardwaj</td>
<td>PHOD Anatomy</td>
<td>8003996905</td>
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<td>5</td>
<td>Dr. M. L. Lohia</td>
<td>Asso. Prof. Gen Surgery</td>
<td>9414127540</td>
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<td>6</td>
<td>Dr. R. K. Bishnoi</td>
<td>Asso. Prof. Paediatrics</td>
<td>8290495392</td>
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<tr>
<td>7</td>
<td>Dr. Latika Nath Sinha</td>
<td>Asstt. Prof. PSM</td>
<td>7728821772</td>
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<tr>
<td>8</td>
<td>Dr. Praveen Garg</td>
<td>Asstt. Prof. Medicine</td>
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<td>9</td>
<td>Dr. Ankit Awasthi</td>
<td>Asstt. Prof. Psychiatry</td>
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<td>10</td>
<td>Dr. Gaurav Kataria</td>
<td>Asstt. Prof. Psychiatry</td>
<td>9463971250</td>
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<td>11</td>
<td>Dr. Bal Gopal Singh</td>
<td>Asstt. Prof. G&amp;O</td>
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<td>12</td>
<td>Dr. Khemlata Tilwani</td>
<td>Asstt. Prof. Physiology</td>
<td>9461343521</td>
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<tr>
<td>13</td>
<td>Dr. Laxman Soni</td>
<td>Asstt. Prof. Pulmonary Med</td>
<td>9509929626</td>
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<tr>
<td>14</td>
<td>Dr. Priyanka Soni</td>
<td>Senior Demonstrator, Micro</td>
<td>9509015326</td>
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<tr>
<td>15</td>
<td>Mr. Bhagirath Bishnoi</td>
<td>ADM, Pali city</td>
<td>9414088029</td>
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<tr>
<td>16</td>
<td>Mr. Sawai Singh</td>
<td>C.I. Police Station Pali</td>
<td>9413344738</td>
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<tr>
<td>17</td>
<td>Dr. Narendra Singh RajPurohit</td>
<td>Parent Member</td>
<td>9829202502</td>
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<tr>
<td>18</td>
<td>Mr. Vivek Aggarwal</td>
<td>Reporter Rajasthan Patrika</td>
<td>9950324667</td>
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<tr>
<td>19</td>
<td>Mr. Jaideep</td>
<td>Reporter Dainik Bhashkar</td>
<td>9799081721</td>
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</tbody>
</table>
FACILITIES

- The Department of Anatomy at Medical College, Pali is on the ground floor of the academic block. It comprises of well trained and experienced post-graduate faculty members.

- The Department consist of air conditioned dissection hall that is well lighted, equipped with multimedia, provided with models, charts, skeleton. It is also provided with a mortuary cooler for storage and cooling of cadavers. Human cadavers are available for dissection purpose.

- Museum is equipped with models of gross anatomy, embryology and neuroanatomy. It also have articulated and disarticulated skeletons and carefully selected X-ray, CT, MRI films for student learning activities.

- The Department is equipped with a furnished, spacious, well ventilated histology laboratory with 70 binocular microscopes and a slide projecting microscope with screen for demonstration of histological slides.

- Research laboratory
- Departmental library have latest books and journals.
- Demonstration rooms.

DEPARTMENT OF ANATOMY

INTRODUCTION

Anatomy forms the basis for the practice of medicine. Students will need a sound knowledge of human body as they venture into the clinical domain. The Department of Anatomy is committed to providing quality education, conducting research, addressing the fast evolving needs of the medical education and society.

AIM

To provide comprehensive, broad based undergraduate program, conducive environment for developing educational, ethical and leadership skills, strong hands on experience through laboratory skills.

OBJECTIVES OF PROGRAM (MBBS)

To provide the students with a thorough introduction of the characteristics, structure, development, function and clinical significance of the human body.

To recognize anatomical structures, learning their developmental processes and apply their knowledge of anatomy to the cases that they will encounter during clinical training and future careers.

To maintain the highest standards of ethical and professional conduct.
TEACHING ACTIVITIES

The anatomy have a balanced approach with a combination of didactic lectures, dissection, demonstration of cadavers, problem based learning and small group discussions. Lectures are made interesting and lively with use of multimedia.

TENTATIVE TEACHING SCHEDULE

General Anatomy: 6th August to 18 August 2018
Upper Limb, histology and embryology: 20th August to 18 September 2018
Lower limb, histology and embryology: 20th September to 26th October 2018
Thorax, histology and embryology: 26th October to 29 November 2018
Abdomen, histology and embryology: 30th November to 12th January 2019
I Semester Examination
Pelvis and Perineum, histology and embryology: 25th January to 9th February 2019
Head & Neck, histology and embryology: 11th February to 10 April 2019
Brain, histology and embryology: 11 April to 25 May 2019
Genetics: 27th May to 1st June 2019
II Semester Examination (PUC)
This schedule is tentative and every extremity is followed by part completion exam or viva.
### Suggested Books:

#### Dissector:
- Cunningham: Vol 1,2,3

#### General Anatomy:
- Hand Book by BD Chaurasia/ Shobha Rawlani/ Vishram Singh

#### Gross Anatomy (Any one set):
- Vishram Singh Vol 1,2,3
- B D Chaurasia Vol 1,2,3,4
- I B Singh Vol 1,2,3

#### Histology: (Any one)
- a) D Fiore’s Atlas
- b) Balacharan Shetty
- c) I B Singh
- d) GP Pal

#### Embryology: (Any one)
- a) Langman
- b) I B Singh

#### Neuroanatomy: (Any one)
- a) Vishram Singh
- b) I B Singh

#### Asterion

#### Manual or record book
- a) Krishna Garg for Gross Anatomy
- b) SR Prasad for Histology

#### 9. Genetics: (Any one)
- a) Dr Yogesh, Ashok, Suttake
- b) Kapur and suri
WHAT IS PHYSIOLOGY

Human physiology is the study of how the human body functions. This includes the mechanical, physical, bioelectrical, and biochemical functions of humans in good health, from organs to the cells of which they are composed. The human body consists of many interacting systems of organs and physiology is studied through these organ-system. Organ systems are collections of cells, tissues and organs, which have dedicated functions in the body. In the human body, the organ-systems are the nervous system, endocrine system, cardiovascular system, respiratory system, urinary system, musculoskeletal system, integumentary system, reproductive system, digestive system, and immune system.

These organ system interact to maintain homeostasis, keeping the body in a stable state with safe levels of substances such as sugar and oxygen in the blood. In addition these systems regulate the internal environment of the body, maintaining blood flow, posture, energy supply, temperature, and acid balance (pH). Thus, each system contributes to homeostasis, of itself, other systems, and the entire body.

Human physiology is closely related to Anatomy & Biochemistry in that Anatomy is the study of form, Physiology is the study of body function, and there is an intrinsic link between form and function whereas biochemistry is the study of body functions at molecular level.

The study of physiology integrates knowledge across many levels, including biochemistry, cell physiology, organ systems and body as a whole. As a discipline, it connects science, medicine & health and creates a framework for understanding how human body adapts to stresses, physical activity and disease.

“The Physiology of today is the medicine of tomorrow.”
Ernest E. Starling, Physiologist (1926)

Teaching Faculty

Professor & Head Dr. Jayant Kumar
Associate Professor -
Assistant Professors Dr. Khemlata Tilwani
Senior Demonstrators Dr. Gautam Chand Sirvi, Dr. Abhinav Purohit, Dr. Priyanka Meena
### Detailed List of Topics

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<thead>
<tr>
<th>Topic</th>
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<tbody>
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<td>Nerve Muscle Physiology</td>
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<td>Autonomic Nervous system</td>
<td>04</td>
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<tr>
<td>Special sensory System</td>
<td>14</td>
</tr>
<tr>
<td>Skin</td>
<td>02</td>
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</tbody>
</table>

### RECOMMENDED BOOKS

#### Theory

| Text Book of Medical physiology     | AC Guyton            |
| Review of medical physiology       | WF Ganong            |
| Medical Physiology                 | Sembulingam          |
| Text Book of physiology            | AK Jain              |
| Medical Physiology                 | GK Pal               |
| Lippincott Illustrated Reviews: Physiology | Preston & Wilson |

#### Practical

| Practical physiology               | CL Ghai              |
| Manual of Practical physiology     | AK Jain              |

### REFERENCE THEORY BOOKS

| Physiology                          | Berne & Levy         |
| Medical Physiology                  | Hershel Raff         |
| Fundamentals of Human Physiology    | Laurale Sherwood     |
| Vander’s Human Physiology           | Eric Widmaier        |
LIST OF DEMONSTRATIONS & PRACTICALS CLASSES IN HEMATOLOGY

1. Microscope
2. Common Objects
3. Blood Film Preparation & Staining
4. Identification of WBCs
5. DLC
6. Arneth Count
7. Hemocytometry
8. TLC
9. TRBC
10. Hemoglobin Estimation
11. Blood Group Determination
12. BT & CT
13. Blood Indices
14. ESR & PCV

LIST OF DEMONSTRATION & PRACTICAL CLASSES IN CLINICAL HUMAN LAB

1. Stethography
2. Spirometry
3. Clinical Examination of Respiratory System
4. Blood Pressure Determination
5. Effect of Exercise on Blood Pressure
6. Clinical Examination of Cardiovascular System
7. ECG
8. Reflexes
9. Sensations
10. Perimetry
11. Visual Acuity & Color Vision
12. Cranial Nerve Examination
LIST OF DEMONSTRATION & PRACTICAL CLASSES IN AMPHIBIAN LAB

1. Amphibian Experiment Instruments
2. Frog’s Gastrocnemius Muscle Nerve Dissection
3. Recording of Simple Muscle Curve (SMC)
4. Effect of Temperature on SMC
5. Effect of Two Successive Stimuli
6. Clonus
7. Tetanus
8. Effect of Load
9. Genesis of Fatigue
10. Determination of Nerve Conduction Velocity
11. Recording of Normal frog’s cardiogram
12. Effect of Temperature on Cardiogram
13. Effect of Stimulation of Vagus Nerve
14. Effect of Stanneus Ligature
15. Effect of Electrolytes on Frog’s Heart
DEPARTMENT OF BIOCHEMISTRY

Biochemistry is the application of the understanding of chemical principles to mechanisms of biological processes. It is both a life science as well as a chemical science; thus it spans a wide diversity as a discipline. This relatively modern subject started to become a discipline in its own right only around the beginning of the 20th century when scientists could combine the rigor of chemistry to the then empirical sciences of biology and physiology to decipher the molecular basis of all life processes.

In Biochemistry you will learn about the complex organic molecules involved in life processes, and how they interact to create the dynamic living structures like cells, tissues, organs and organisms in good health as well as in disease conditions.

The most obvious applications of biochemistry are in diagnostic clinical biochemistry and biomedical research. All the diseases covered in modern medicine, from disease of blood sugar derangements, to degenerative brain conditions like Alzheimer disease, to dysregulated and destructive tissue growth e.g. cancer, are studied at molecular and chemical levels in this subject. Biochemistry itself also interfaces into other disciplines of medicine. As for example, how drug molecules abate diseases which will be later covered in more detail in the subject of Pharmacology will also be initiated in this subject.

As a first year medical student Biochemistry will provide you with a solid foundation for understanding all the subjects of second and third Professional MBBS. Additionally it will evoke keen interest in basic research, which doctors are encouraged to pursue.
Goal

The overall goal of the undergraduate teaching in biochemistry is to allow students to grasp the concepts of the molecular mechanisms of life processes, and to help them apply this knowledge towards solving clinical problems.

Objectives

Knowledge: At the end of the course, the student shall be able to:

- Explain the molecular and functional organization of a cell and list its sub-cellular components
- Outline the structure, function and metabolic network of bio-molecules and consequences of their dysfunctions
- Elucidate the fundamental aspects of enzymology highlighting on clinical and translational applications of this knowledge
- Describe the biochemical aspects of digestion absorption and assimilation of nutrients including mechanisms and consequences of malnutrition
- Integrate the various aspects of metabolism and their regulatory pathways
- Explain the biochemical basis of inherited disorders with their associated sequel
- Describe mechanism involved in fluid and pH homeostasis
- Outline the molecular mechanisms of gene expression and regulating, the principles of genetic engineering and their application in medicine
- Summarize molecular concept of body defences and their application in medicine
- Outline the biochemical basis of environmental health hazards, biochemical basis of cancer and carcinogenesis
- Familiarize with the principles of various conventional and specialized laboratory investigation and instrumentation, analysis and interpretation of a given data
- Suggest experiments to support theoretical concepts and clinical diagnosis

Skills: At the end of the course the student shall be able to:

- Make use of conventional techniques/instruments to perform biochemical analysis relevant to clinical screening and diagnosis
- Analyze and interpret investigative data
- Demonstrate the skills of solving scientific and clinical problems and decision-making
- Integration: The knowledge acquired in biochemistry shall help the students to integrate molecular events with structure and function of the human body in health and disease.
Teaching Faculty

Professor & Head  Dr. Jairam Rawtani
Assistant Professors  Dr. Asmita Hazra
Senior Demonstrators  Dr. Shesharam Patel
                    Dr. Chandra Prakash

FACILITIES

The Department of Biochemistry at Government Medical College, Pali, is on the ground floor of the academic block. The department has highly qualified faculties in the department.

The Department consist of air conditioned well ventilated and well lit practical room with instruments and glass wares for students to perform Biochemistry experiments.

The departmental research laboratory is provided with newer instruments.

The departmental library has latest books and journals.

The demonstration room is furnished and equipped with audiovisual aids.
TEACHING ACTIVITIES

Approach of teaching will be a combination of didactic lectures, demonstration of experiments, practical classes, problem based learning and small group discussions. Audio-visual aids will be make classes easy to follow.

SYLLABUS

Paper I

1. Molecular, structural and functional description of Cell and sub-cellular compartments.
3. Fundamentals of enzymology including regulations and clinical applications.
4. Principles of various routine and special laboratory investigations (Organ function tests); Instrumentation: colorimetry, immunoassays, chromatography, electrophoresis, application of radioisotopes; related data analysis & interpretation.

Paper II

1. Nutrition: Biochemical basis of digestion and Assimilation.
2. Integration of metabolic pathways and their various aspects including regulation.
4. Molecular mechanism of gene expression and regulation; principles of genetic engineering and medical applications.
5. Biochemical basis of various inherited and acquired disorders (relevant aspects of 1 & 2 and, biological oxidation, detoxification, carbohydrates, lipids, proteins, nucleic acids, vitamins, minerals), plasma proteins, iron metabolism, calcium homeostasis, basics of biochemical endocrinology.
7. Biochemical principles of environmental health hazards including carcinogenesis.
8. Experiments to verify theoretical concepts and clinical diagnosis.
Suggested text books:


Suggested reference books:


Suggested books for practicals:

Community Medicine is an expansion of the humanitarian tradition in medicine and includes prevention of disease, promotion of health and administration of medical services that are cited in the principles of Primary Health Care. It helps undergraduates to understand existing socio-demographic and economic profiles, health systems, community dynamics, principles of equitable distribution, community participation, appropriate technology and inter-sectoral co-ordination for finding solutions to mankind’s health problems. Finally the inclusion of the spiritual dimension in the strategy for health for all calls for a holistic approach not only to health and disease but to life itself with a focus on “Positive Health” and “Wellness”.

The Department at Pali Medical college has highly qualified and experienced faculty to make this subject interesting and generate “change makers” who will be an asset to the community they will finally serve. The supporting staff comprising of Lab technicians, social workers, Health educators further the mandate of the department with their expertise and dedication to field activities.

The department at the medical college is equipped with a Museum, well stocked library, Demonstration room and Seminar room with state of the art amenities.

**FACULTY DETAILS**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Faculty Name</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. Latika Nath Sinha</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. Viral Jain</td>
<td>Senior Demonstrator</td>
</tr>
</tbody>
</table>
SYLLABUS AND MARKING SCHEME
TEACHING PROGRAMME FOR UNDERGRADUATES

I AND II SEMESTER THEORY CLASSES
Man and medicine towards health for all
Health care revolution
Social science and medicine
Communication for health education
International health

III SEMESTER THEORY CLASSES
Concept of health and disease
General epidemiology

IV SEMESTER PRACTICAL CLASSES
Nutrition
Medical entomology
Demography
Environment and health

V HEALTH PLANNING AND MANAGEMENT

VI and VII SEMESTER THEORY CLASSES
General epidemiology
Screening for diseases
Infectious diseases epidemiology
Epidemiology of communicable diseases
Epidemiology of non-communicable diseases
Preventive medicine (Obstetrics, Paediatrics, Geriatrics)
Hospital waste management
Disaster planning management
Health planning & management
Health care of the community
Health programmes in India

VI and VII SEMESTER PRACTICAL CLASSES
Environment and health
Medical entomology
Insecticides
Rodents: diseases, rodenticides
Zoonoses
Nutrition
Demography and family planning
Bio-statistics
Vaccination: calculation of vaccine requirement and interpretation immunization report
PRACTICALS

Phase I (1st & 2nd Semester)
Field visits -
Urban health training centre (UHTC)
Rural Health training centre (RHTC)
Anganwadi centre
Subcentre
Primary health centre (PHC)
Community Health centre (CHC) /FRU (first referral centre)
District Hospital (Bangur Hospital)
District Tuberculosis centre and DOTS centre
Integrated Counselling and Testing centre (ICTC)
ART Centre
Hospital waste facility
Water filtration plant
Sewage treatment plant
Drug de-addiction and rehab centre

EXAMINATION:

Evaluation Methods:

<table>
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<th>Evaluation Method</th>
<th>Marks</th>
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<tr>
<td>Theory 2 papers of 60 marks each</td>
<td>120 marks</td>
</tr>
<tr>
<td>Oral (Viva)</td>
<td>10 marks</td>
</tr>
<tr>
<td>Practical /Project evaluation</td>
<td>30 marks</td>
</tr>
<tr>
<td>Internal Assessment</td>
<td>40 marks (Theory 20 Marks, Practical 20 Marks)</td>
</tr>
<tr>
<td>Total</td>
<td>200 marks</td>
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</table>
# RECOMMENDED BOOKS

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Author</th>
<th>Title</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>K. Park</td>
<td>Park Textbook of Preventive and Social Medicine</td>
<td>Banarsi Das Bhanot</td>
</tr>
<tr>
<td>2.</td>
<td>A.H. Suryakantha</td>
<td>Community Medicine with Recent advances</td>
<td>Jaypee</td>
</tr>
<tr>
<td>3.</td>
<td>SunderLal, Adarsh, Pankaj</td>
<td>Textbook of Community Medicine</td>
<td>CBS</td>
</tr>
<tr>
<td>4.</td>
<td>D.K. Mahabalaraju</td>
<td>Essentials of Community Medicine practicals</td>
<td>Jaypee</td>
</tr>
<tr>
<td>5.</td>
<td>Poornima Tiwari, Shashank Tiwari</td>
<td>Mastering Practicals - Community Medicine</td>
<td>Wolters Kluwer</td>
</tr>
<tr>
<td>6.</td>
<td>B.K Mahajan</td>
<td>Basic Biostatistics</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>V.R. Sheshu Babu.</td>
<td>Review in Community Medicine</td>
<td>Paras Medical Books</td>
</tr>
<tr>
<td>8.</td>
<td>Dr. J.V. Dixit</td>
<td>Principles and practice of Biostatistics</td>
<td>M/s Banarasi Das Bhanot</td>
</tr>
</tbody>
</table>

# FURTHER READINGS

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Author</th>
<th>Title</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>P.V. Sathe and A.P. Sathe</td>
<td>Epidemiology and Management for health care for all</td>
<td>Vora Medical Publications</td>
</tr>
</tbody>
</table>
COLLEGE CONTACT DETAILS

Address:
Government Medical College Pali,
National Highway 62, Sumerpur Rd.,
Ramasia, Hemawas, Dist. & Tehsil Pali, Rajasthan 306401

Phone: 0293 2262055, 0293 2250114
Website: http://education.rajasthan.gov.in/content/raj/education/pali-medical-college

PALI DISTRICT NUMBERS:
http://www.pali.rajasthan.gov.in/content/raj/pali/en/TelephoneList.html