1. Name of the Department: **DEPARTMENT OF PHYSIOLOGY, UCMS**

2. Year of establishment: **1971 at North Campus, University of Delhi**

3. Is the Department part of a School/Faculty of the university? **Yes**

   Part of University College of Medical Sciences, affiliated to Faculty of Medical Sciences, University of Delhi. UCMS is a maintained institution of University of Delhi.

4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) - **UG: M.B.B.S. Programme, PG: MD Physiology, PhD**

5. Interdisciplinary programmes and departments involved: Teaching Physiology to B.Sc. Radiography, MDS students of UCMS and Bachelor of Physiotherapy (BPT) students of Amar Jyoti Institute of Rehabilitation, University of Delhi.

6. Courses in collaboration with other universities, industries foreign institutions, etc: **None**.

7. Details of programmes discontinued, if any, with reasons - **Nil**

8. Examination System: **Annual/Semester**:
   - **UG (MBBS)**: Annual examination at the end of 2nd semester
   - **PG (MD)**: Annual Summative examination at the end of 3 years of course

9. Participation of the department in the courses offered by other departments - **Yes**
   - As explained in point 5.
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others): As on 30.03.2015

<table>
<thead>
<tr>
<th></th>
<th>Sanctioned</th>
<th>Filled*</th>
<th>Actual (including CAS &amp; MPS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Others(Senior Resident)</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance -

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>Experience (years)</th>
<th>Research under Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Nilima Shankar</td>
<td>MBBS, MD</td>
<td>Director Professor and Head</td>
<td>Physiology</td>
<td>37</td>
<td>1 or more MD students per year</td>
</tr>
<tr>
<td>Dr. Neelam Vaney</td>
<td>MBBS, MD</td>
<td>Director Professor</td>
<td>Physiology</td>
<td>30</td>
<td>1 or more MD students per year</td>
</tr>
<tr>
<td>Dr. Farah Khaliq</td>
<td>MBBS, MD, PhD</td>
<td>Professor</td>
<td>Physiology</td>
<td>18</td>
<td>1 or more MD students per year</td>
</tr>
<tr>
<td>Dr. Asha Yadav</td>
<td>MBBS, MD</td>
<td>Professor</td>
<td>Physiology</td>
<td>13</td>
<td>1 or more MD students per year</td>
</tr>
<tr>
<td>Dr. Satendra Singh</td>
<td>MBBS, MD, FAIMER</td>
<td>Associate Professor</td>
<td>Physiology</td>
<td>10</td>
<td>1 or more MD students per year</td>
</tr>
<tr>
<td>Dr. Manish Gupta</td>
<td>MBBS, MD</td>
<td>Assistant Professor</td>
<td>Physiology</td>
<td>12</td>
<td>1 or more MD students per year</td>
</tr>
</tbody>
</table>

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors -
Nil

13. Percentage of classes taken by temporary faculty - programme-wise information - Nil. No temporary faculty

14. Programme-wise Student Teacher Ratio -

- UG (MBBS): 25 students/teacher
- PG (MD): 1 student/2 teachers

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual - Filled posts 10 Nos.

16. Research thrust areas as recognized by major funding agencies - Yoga therapy

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise. - Nil

18. Inter-institutional collaborative projects and associated grants received
   a) National collaboration - Nil
   b) International collaboration - Nil

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received.

<table>
<thead>
<tr>
<th>Principal Investigator(s)</th>
<th>Title of the Project</th>
<th>Funded by</th>
<th>Grant Rs.</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Savita Singh (Retired as HOD in 2013) &amp; Dr Asha Yadav</td>
<td>The effect of yoga therapy on coagulation profile, lipid profile, lung diffusion capacity and quality of life in patients with coronary artery disease</td>
<td>CCRYN, Ministry of Health and Family Welfare, Govt. of India</td>
<td>17 lakhs</td>
<td>2010-12</td>
</tr>
</tbody>
</table>

20. Research facility / centre with
   - state recognition - Nil
   - national recognition - Nil
• international recognition - Nil

21. Special research laboratories sponsored by / created by industry or corporate bodies - Nil

22. Publications: (List of Publications enclosed as ANNEXURE I)

   Information from year 2009 to 2014
   * Number of papers published in peer reviewed journals (national / international): 88
   * Monographs: Nil
   * Chapters in Books: 3
   * Edited Books: Nil
   * Books with ISBN with details of publishers: 2
   * Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.): __
   * Citation Index – range / average: __
   * SNIP: __
   * SJR: __
   * Impact Factor – range / average: __
   * h-index: __

23. Details of patents and income generated - Nil

24. Areas of consultancy and income generated - Nil

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad –

   • Dr. Nilima Shankar: Appointed as External Examiner M.B.B.S. Programme of Studies at Sir Seewosagur Ramgoolam Medical College (SSRMC), University of Mauritius, Reduit, Mauritius. - To oversee the curriculum and conduct of I Prof., II Prof. & Final Prof. M.B.B.S. (Part I & Part II) examinations for academic year 2012-14.
26. Faculty serving in
   a) National committees  b) International committees  c) Editorial Boards  d) any other

<table>
<thead>
<tr>
<th><strong>Dr Nilima Shankar</strong></th>
<th>Member of Board of Studies Aligarh Muslim University.</th>
<th>2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Joint Secretary of Association of Physiologists of India.</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>Member, Editorial Board, Indian Journal of Pain</td>
<td>2011-12</td>
</tr>
<tr>
<td></td>
<td>Member of the MCI Expert group for the revision of Standard of Assessment of the PG course in Physiology</td>
<td>2012</td>
</tr>
<tr>
<td></td>
<td>Member of the expert group of MCI for finalizing the list of equipments in Physiology for Medical colleges</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>External expert for the Board of studies in Physiology of Teerthankar Mahavir University, Moradabad, UP</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Member of National AIDS Committee (NACO), constituted by Ministry of Health and Family Welfare, GOI</td>
<td>1997-99</td>
</tr>
<tr>
<td><strong>Dr Neelam Vaney</strong></td>
<td>Member of Amarjyoti IRB</td>
<td>2014-2019</td>
</tr>
<tr>
<td></td>
<td>Member of Board of Studies Aligarh Muslim University</td>
<td>2014-2015</td>
</tr>
<tr>
<td></td>
<td>Executive editor, Indian Journal of Medical Specialities</td>
<td>2010</td>
</tr>
<tr>
<td></td>
<td>Member, Governing Body, Amar Jyoti Institute of Rehabilitation, Delhi</td>
<td>2006</td>
</tr>
<tr>
<td><strong>Dr Satendra Singh</strong></td>
<td>Elected member from UCMS &amp; GTB Hospital for the executive member post of Delhi Medical Council</td>
<td>2015-2020</td>
</tr>
<tr>
<td></td>
<td>Appointed Member, Institutional Committee for Stem Cell Research, Institute of Nuclear Medicine and Allied Sciences (INMAS), Defence Research &amp; Development Organization</td>
<td>2015-2017</td>
</tr>
<tr>
<td>(DRDO), Delhi</td>
<td>2015</td>
<td></td>
</tr>
<tr>
<td>Invited for consultation on HIV/AIDS Bill 2014 at Delhi Secretariat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Editor of Dr Pulse vertical of TheMediTube.Com</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Appointed Member, Medical Education committee of Indian Academy of Cerebral Palsy</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Member, Editorial board of Indian Pediatrics</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Associate Editor, Research and Humanities in Medical Education</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Member, Editorial board of Journal of Education Technology in Health Sciences</td>
<td>2014</td>
<td></td>
</tr>
<tr>
<td>Appointed Associate Editor of International Journal of User-driven Health care</td>
<td>2013</td>
<td></td>
</tr>
<tr>
<td>Member, Editorial board of Journal of Education Evaluation for Health Professions</td>
<td>2010-13</td>
<td></td>
</tr>
<tr>
<td>Member, Editorial board of Medical Education Development</td>
<td>2010-13</td>
<td></td>
</tr>
<tr>
<td>Member, Editorial board of Australasian Medical Journal</td>
<td>2011-13</td>
<td></td>
</tr>
<tr>
<td>Associate Editor, Journal of Clinical and Diagnostic Research</td>
<td>2011-13</td>
<td></td>
</tr>
<tr>
<td>Associate Editor, International Journal of Drug Discovery</td>
<td>2010-15</td>
<td></td>
</tr>
</tbody>
</table>

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).

- All faculty members regularly attend workshops, conferences or training programs related to Physiology
- Workshops and training programs related to Medical Education / Teaching learning methodologies conducted by the MEU of UCMS and at other centres regularly attended by the faculty

28. Student projects

- percentage of students who have done in-house projects including inter-departmental projects: All PG students
mandatorily require to do in-house project work in the form of their thesis. This is usually done in collaboration with other departments. Nearly 2-5% of UG students also do in-house projects with the department.

- percentage of students doing projects in collaboration with other universities/industry/institute - Every year 25-50% of PG students do projects in collaboration with industry or other institutes. Every year 2-3% UG students also do projects under ICMR Short Term Student Fellowship (STS) or DST Kishore Vaigyanik Protsahan Yojana (KVPY).

29. Awards / recognitions received at the national and international level by

- Faculty:

<table>
<thead>
<tr>
<th>NAME</th>
<th>AWARD</th>
<th>DATE RECEIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Nilima Shankar</td>
<td>Lifetime Achievement Award by UCMS Alumni Association</td>
<td>July 2016</td>
</tr>
<tr>
<td>Dr Nilima Shankar</td>
<td>Exchange of Scientist program jointly implemented by Indian National Science Academy (INSA) and The Royal Society, London to work in Department of Physiology, University of Wales College of Cardiff, UK</td>
<td>1993</td>
</tr>
<tr>
<td>Dr Farah Khaliq</td>
<td>Prof RC Shukla Oration Award for Best research work in Cardiovascular Physiology at Annual Conference of Association of Physiologists and Pharmacologists of India, APPICON 2012 Meerut</td>
<td>Oct 2012</td>
</tr>
<tr>
<td>Dr Satendra Singh</td>
<td>NCPEDP-Mphasis Universal Design Award 2013 given by MoS, MSJE</td>
<td>Aug 2013</td>
</tr>
<tr>
<td>Dr Satendra Singh</td>
<td>Awarded Foundation for Advancement in International Medical &amp; Research (FAIMER) fellowship at CMCL</td>
<td>Feb 2013</td>
</tr>
</tbody>
</table>

- Doctoral / post doctoral fellows - Nil
- Students -
  
  PG Student: Dr Ankur won IIIrd Prize in E-poster presentation at ASSOPICON 2015 at SRMS Institute of Medical Sciences, Bareilly on 26th -29th October 2015

  UG Students: Ms. Sonal Pruthi and Mr. Shan-e-Alam won the Inter-College Physiology Quiz Competition- 2010, organized by the Department of Physiology, UP Rural Institute of Medical Sciences and Research, Safai, Etawah, UP.

30. Seminars/Conferences/Workshops organized and the source of funding (national/International) with details of outstanding participants, if any

- National symposium on Emerging Role of Physiology and Lifestyle Interventions in Health Sciences: An update on Nutrition (EPLI-2) on 18th Sep 2009. Participants included Dr. K.N. Sharma, Dr. O.P Tandon (Former Principal and HOD, Physiology, UCMS), Dr Sridhar Dwivedi (Principal and Dean, Hamdard Medical College, Delhi) and Dr Shikha Sharma (Consultant Dietician of National Repute)

- Symposium on “Holistic Approach to Stress Management “under the aegis of EPLI-3 (Emerging role of Physiology & Lifestyle Interventions in Health Sciences) on 4th May 2013. Participants included Dr K.N. Sharma, Dr. Shikha Sharma, Dr W Selvamurthy (Director, DRDO)

31. Code of ethics for research followed by the departments - All research projects are conducted as per national and international guidelines following approval of Institutional Ethical Committee (IEC).

32. Student profile programme-wise: - Students from both genders selected.

33. Diversity of students - Indian citizens selected from across the country through competitive entrance examination with proper representation of states and various communities (as per the GOI reservation rules)

34. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise. Information not available with the Department
35. Student progression – Information not available with the Department

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>As per University of Delhi examinations and selection boards</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td></td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td></td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td>Information not available with the department</td>
</tr>
</tbody>
</table>

36. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same university</td>
</tr>
<tr>
<td>from other universities within the State</td>
</tr>
<tr>
<td>from universities from other States</td>
</tr>
<tr>
<td>from universities outside the country</td>
</tr>
</tbody>
</table>

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period –

One PhD degree awarded to Dr Farah Khaliq (Associate Professor), in 2013, from University of Delhi

Thesis Title: “Effect of Terminalia arjuna bark on autonomic control and myocardial function in Streptozotocin induced diabetic rats.”

38. Present details of departmental infrastructural facilities

with regard to a) Library – Yes, 100 books available

b) Internet facilities for staff and students -Available

c) Total number of class rooms – Centralised Lecture theatres and examination hall available for lecture, examination and large group
teaching. For small group teaching, one demonstration room and one seminar room only.

d) Class rooms with ICT facility – Yes

e) Students’ laboratories – 2 Central Laboratories (shared between Physiology and Pathology)

f) Research laboratories – Four: Electrophysiology lab, Autonomic Function testing lab, Pulmonary Function lab, and Biochemical lab.

39. List of doctoral, post-doctoral students and Research Associates

   a) from the host institution/university--Nil

   b) from other institutions/universities –Nil

40. Number of post graduate students getting financial assistance from the university- Presently Seven PG students (Stipend + Book Allowance + Thesis allowance)

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. – Yes. Feedback from, and discussions with, faculty and concerned stakeholders was done to develop the new teaching programs. For example, Physiology curriculum for BPT

42. Does the department obtain feedback from

   a. faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? – Yes, during departmental weekly meetings. Utilized on a regular basis for improvement of teaching – learning methodology

   b. students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? – Yes. Utilized for improvement of teaching – learning methodology

   c. alumni and employers on the programmes offered and how does the department utilize the feedback? – No
43. List the distinguished alumni of the department (maximum 10)

Dr Nilima Shankar – Dir. Prof. & Head, Deptt. of Physiology, UCMS, Delhi.
UCMS- 1971 UG Batch, 1984 PG Batch

Dr S. S. Sircar - Prof & Head- Deptt. of Physiology, AIIMS, Jodhpur.
UCMS- 1986 PG batch

44. Give details of student enrichment programmes (special lectures / workshops /seminar) involving external experts.

For UGs
External (both national and international) faculty lectures and talks, conferences and mentorship programs

For PGs
External faculty lectures and talks, CPC, monthly research presentations of various departments, Thesis workshops and other MEU activities of the institution as well as the workshops and scientific sessions in other institutions under supervision of external faculty

45. List the teaching methods adopted by the faculty for different programmes.

- Classical Lecture/Tutorials/Practical Methodology
- Innovative methodologies like Problem Based Learning Modules (PBL), Clinically Oriented Graphs & Charts, Quiz and OSPEs.
- Students Seminars: Each student participates either as a speaker or a discussant in a seminar, on a topic of applied physiology, allotted to his batch. The students are judged by the faculty and the best speaker is given a merit certificate and, at times, a sponsored award in the form of medical textbook.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

For Undergraduates
- Through regular tutorial sessions in small groups
- Through regular student seminars conducted under supervision
of faculty

- Through evaluation methodologies including Assessment Tutorials, Class Tests, Practical Assessments, and Terminal & Sent up examinations in both theory & practical

For Postgraduates

- Regular seminars and journal clubs including research presentation of the thesis work.
- Formative assessment of each unit of the subject followed by discussion and feedback to them on their performance

47. Highlight the participation of students and faculty in extension activities. - Participation of faculty, residents and technical staff of the department in community outreach activities like Pulse Polio Program.

48. Give details of “beyond syllabus scholarly activities” of the department. - Active participation of faculty in organising scientific and academic events like workshops, medical debates, quiz and conferences on nutrition, stress management & lifestyle modification. Faculty, as Judges during scientific meets, also give expert opinions on UG and PG research presentations, both oral and poster presentation.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details. - MCI recognized for UG and PG programs

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied. - Through original research projects, scientific work and PhD projects, as evident from publications of the department.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strengths:

- Well equipped Lecture Theatres and Laboratories for undergraduates.
- Dedicated faculty and technical staff
- Faculty keen on conducting innovative teaching methodologies like PBL, Quiz and OSPE.
- Robust and well validated UG and PG training programs
- Freedom to pursue independent research.
Weakness:
• Shortage of faculty: Student – teacher ratio to be increased
• Lack of space for small group teaching
• Lack of integration of topics taught by various departments during undergraduate teaching.

Opportunities
• College is under University of Delhi, a premier central university of India, and thus has a good curriculum as well as standard of education.
• This also helps to attract good faculty and funds for research.

Challenges
• Post graduate research facilities to be enhanced.
• To make UG teaching more integrated between the various subjects.
• To improve the faculty strength.

52. Future plans of the department.-

• To develop the Clinical laboratories for investigations of patients: Autonomic Function Testing, Pulmonary function tests, Neurophysiology tests including Nerve conduction, EMG & evoked potential studies

• Providing alternative therapy in the form of Yoga to a large section of patients via the Yoga centre in the department

Signature of Head of the Department
With Official Stamp
LIST OF PUBLICATIONS FROM YEAR 2009-2014

Publications in 2009


18. Khaliq F and Tripathi P. Acute effects of formalin on pulmonary functions in gross anatomy laboratory. Ind J Physiol Pharmacol. 2009; 53(1); 93-96
Publications in 2010


Publications in 2011


Publications in 2012


**Publications in 2013**


Publications in 2014


Books:


Chapters in Books

Publications in 2015-16


12) Dhaliwal U, Singh S, Singh N. Promoting competence in undergraduate medical students through the humanities: The ABCDE paradigm. RHiME. 2015;2.


Chapters in Books:


