

### 3. Evaluative Report of the Department

1. Name of the Department **ZOOLOGY**
2. Year of establishment **1960 at CHANDIGARH**
3. Is the Department part of a School/**Faculty** of the university? **FACULTY**
4. Names of programmes offered (**UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.**)  
**UG, PG (INTEGRATED MASTERS), Ph.D.**
5. Interdisciplinary programmes and departments involved -  
**UG-Botany, Chemistry, Biotechnology**
6. Courses in collaboration with other universities, industries, foreign institutions, etc.  
**NIL**
7. Details of programmes discontinued, if any, with reasons : **M.Phil has been discontinued for the session 2014-2015. Since there are already 30 students in M.Sc (Hons. Sch.) and all have to submit dissertation as part of the course work so due to shortage of faculty it is not possible to run M.Phil course during this session.**
8. Examination System: Annual/**Semester**/Trimester/Choice Based Credit System  
**SEMESTER SYSTEM**
9. Participation of the department in the courses offered by other departments  
**The teachers are involved in taking classes for courses offered by following departments**
  1. **UNIVERSITY INSTITUTE OF PHARMACEUTICAL SCIENCE**
  2. **STEM CELL & TISSUE ENGINEERING**
  3. **INSTITUTE OF FORENSIC SCIENCE AND CRIMINOLOGY**
  4. **BIOMEDICAL SCIENCES (Biophysics, Biochemistry)**
  5. **BOTANY**
  6. **ENVIRONMENT STUDIES**
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	<b>Sanctioned</b>	<b>Filled</b>	<b>Actual (including CAS &amp; MPS)</b>
Professor	3	-	3 (CAS)
Associate Professors	8	3	1 (CAS)
Asst. Professors	12	2	-
Others	-	-	4
<b>(Temporary - Assistant Professors)</b>			
<b>Re-employed faculty</b>	-	-	2
<b>DST-Inspire faculty</b>	-	-	1

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

<b>Name</b>	<b>Qualification</b>	<b>Designation</b>	<b>Specialization</b>	<b>No. of Years of Experience</b>	<b>No. of Ph.D./ M.Phil students guided for the last 4 years</b>
V.L.Sharma	Ph.D	Professor	Cytogenetics	30	4
Neelima R Kumar	Ph.D	Professor	Entomology	33	3
R.Jindal	Ph.D	Professor	Aquatic Biology and Environmental Biology	31	2
Sukhbir Kaur	Ph.D	Professor	Parasitology	16	6
V.K.Walia	Ph.D	Professor	Entomology	31	1
Upma Bagai	Ph.D	Professor	Parasitology Protozoology	18	4
Y.K.Rawal	Ph.D	Professor	Fish and Fishey	11	1
Puneet Raina	Ph.D	Temporary Assistant Professor	Parasitology	5 yrs. 6 months	-
Mani Chopra	Ph.D	Temporary Assistant Professor	Cytogenetics	3 yrs. 9 months	-
Ravneet Kaur	Ph.D	Temporary Assistant Professor	Fish and Fishery	9	-
Vijay Kumar	Ph.D	Temporary Assistant	Molecular Biology	3½	-

		Professor			
Ravinder Kumar	Ph.D	DST- Inspire Faculty	Cytogenetics	6 months	-

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

1. **Prof. M.S. Johal**- Emeritus professor

13. Percentage of classes taken by temporary faculty – programme-wise information

UG : 52.25%

PG : 52.25%

14. Programme-wise Student Teacher Ratio

1. UG : **1:6 approx.**

2. PG : **1:5 approx.**

3. Ph.D : **1 : 6 approx.**

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Academic support staff	Sanctioned	Filled	Actual
Technical	<b>28</b>	<b>22</b>	<b>22</b>
Administrative	<b>14</b>	<b>10</b>	<b>10</b>

16. Research thrust areas as recognized by major funding agencies : **4**

1. **Cytogenetics**

2. **Parasitology**

3. **Entomology**

4. **Fish & Fisheries**

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.

Number of faculty with ongoing projects

a) **National** - **18**

b) **International** - -

c) **Total Grant received** – **Rs. 2,48,08,157/-**

No.	Funding Agency	Projects Title	Grant Received (Rs.)
1.	ICMR New-Delhi	Combinative immunoprophylactic Potential of gp63 and Hsp70 against <i>Leishmania donovani</i> in BALB/c mice.	40,00,000 approx 2008 – 2012

2.	ICMR New-Delhi	Immunogenicity and efficacy of recombinant 78 kDa antigen of <i>Leishmania donovani</i> formulated in various adjuvants against murine visceral leishmaniasis	13,50,000 approx 2009-2011
3.	ICAR New-Delhi	Systematic studies on Lepidoptera: Geometroidea of India	5,00,000/- 2009 - 2010
4.	UGC New Delhi	Genetic Diversity in termites based on Mitochondrial genes	9,46,800/- 2009 – 2012
5.	ICAR New-Delhi	Network Project on Insect Biosystematics (NIPB 21-17) on “Systematic studies on Lepidoptera: Geometroidea”.	15,00,000/- 2009-2012
6.	CSIR-SRA New-Delhi	Possible Incorporation of Microbial Insecticides Contemporary to Imidacloprid and their Residual Effects on Nontargets in Green House IPM	1,23,000/- 2009-2012
7.	DST (WOS-A)	Improvising Efficiency and Quality of Potential Insect Predators of <i>Tetranychus urticae</i> with Implementation in Green House IPM”	21,60,000/- 2012-2015
8.	Ministry of Environment and Forests New-Delhi	Impact of cell-phone technology on biotic component of urban ecosystem	23, 00, 000/- 2010-2013
9.	ICMR New-Delhi	Evaluation of protective and immunomodulatory activity of selected Indian medicinal plants in combination with cisplatin against murine visceral leishmaniasis	36,27,560/- 2011-2014

10	Ministry of Environment & Forests New-Delhi	Hymenoptera: Apidae (Apini, Megachilini, Osmiini).	23,76,480/- 2011-2014
11	U.G.C New Delhi	Ultrastructural studies on spleen of normal, <i>Plasmodium berghei</i> (NK 65) infected and immunized BALB/c mice	10,74,867/- 2011-2014
12	Ministry of Environment & Forest - PSCST, Chandigarh	Biodiversity conservation	16000/- 2010-2011
13	Ministry of Environment & Forest - PSCST, Chandigarh	Biodiversity conservation	25000/- 2011-2012
14	Department of Environment, U.T., Chandigarh Through Forest Department, Chandigarh Administration	Control of aquatic weeds, physico-chemical parameters and biodiversity of Sukhna Lake, Chandigarh	9,91,300/- 2012-2014
15	DST (WOS-A)	in vitro efficacy of some plant extracts from Aak ( <i>Calotropis procera</i> ) Anar ( <i>Punica granatum</i> ) and Neem ( <i>Azadirachta indica</i> ) on the metabolism of some helminth parasites of sheep/goat	19,72,000/- 2013-2016
16	Department of Environment, Chandigarh Administration	Electromagnetic pollution from mobile phone towers: Effect on insect pollinators	69,000/- 2014-2015
17	UGC Emeritus Fellowship	Authenticity of ultrastructure employing SEM of Elasmoid (Cycloide) scale of the two genera <i>Puntius Hamilton</i> – Buchanan and <i>Barilius Hamilton</i> =Buchanan (cypriniformes) A reliable tool in fish	8,10,150/- 2010-2012

		taxonomy.	
18	DST	Hard parts of Indian Fresh Water fishes, Their use in Fishery management. Fish diversity conservation and as pollution indicator. Book writing Project.	9,66,000/- 2013-2015

18. Inter-institutional collaborative projects and associated grants received **NIL**  
a) National collaboration    b) International collaboration
19. Departmental projects funded by **DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.;** total grants received.  
**UGC-CAS (2007-2012) - 78.25 Lakhs**  
**DST-FIST - 1.10 Crore**
20. Research facility / centre with **N.A.**
- state recognition
  - national recognition
  - international recognition
21. Special research laboratories sponsored by / created by industry or corporate bodies **N.A.**
22. Publications:
- Number of papers published in peer reviewed journals
    - **National** : **81**
    - **International** : **41**
  - Monographs : 1
  - Chapters in Books : 7
  - Edited Books -
  - Books with ISBN with details of publishers : **1**
    - Arora, G.S., Mehta, H.S. & Walia, V.K. 2009. Handbook on Butterflies of Himachal Pradesh. Published by: Zoological Survey of India, Kolkata. (ISBN : 978-81-8171-234-9)
  - Number listed in International Database (For *e.g.* Web of Science, Scopus,
    - Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
      - **Scopus** : **47**
  - Citation Index – range / average
    - **Range** : **0 - 188**
  - Impact Factor – range / average

- **Range** : **0 - 4.7**
- **h-index** : **0-12**

23. Details of patents and income generated **1**
24. Areas of consultancy and income generated **N.A.**
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad **N.A.**
26. Faculty serving in  
 a) National committees b) International committees c) Editorial Boards d) any other (please specify)  
 National Committees : **3**  
 Editorial Board : **6**
27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).  
**Refresher Courses** : **2**
28. Student projects
- percentage of students who have done in-house projects including inter-departmental projects  
**PG Programme 100% students undertake inhouse projects as dissertations**
  - percentage of students doing projects in collaboration with other universities / industry / institute  
**Ph.D students – Approximately 20% students are doing collaborative work with other institutions.**
29. Awards / recognitions received at the national and international level by
- Faculty
  - Doctoral / post doctoral fellows
  - Students (National) (International)
- |                 | National  | International |
|-----------------|-----------|---------------|
| <b>Students</b> | <b>2</b>  | <b>-</b>      |
| <b>Doctoral</b> | <b>10</b> | <b>1</b>      |
30. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any.

Seminars/ Conferences/ Workshops organized	Source of funding (National/International)	Detail of outstanding participants

21st National Congress of Parasitology, (November 14-16, 2009)	National	
National Conference on advances in Biological Sciences, (March 29-30,2010)	National	
National Seminar-cum-Workshop on Exploring New Vistas in Biodiversity Research for Sustainable Development. (January 22-24, 2011)	National	
UGC-Sponsored National Symposium on “Redefining approaches to address current issues for sustainable biodiversity” (December 2-3,2011)	UGC NEW DELHI National	
CHASCON - Section of Animal science. 2009 – 2013.	Panjab University, Chandigarh	

31. Code of ethics for research followed by the departments

**All the research projects are submitted to Institutional ethics committee (IEC) or institutional animal ethics committee (IAEC) of the University for approval.**

32. Student profile programme-wise:

2009-2013

Name of the Programme	Applications received	Selected		Pass percentage	
		Male	Female	Male	Female
(refer to question no. 4)					
UG	Applications received through CET (central pool)	10	100	98	99
PG	Lateral entry 466 Ongoing	8 2	48 44	100	100
Ph.D	63	17	46	100	100



33. Diversity of students

<b>Name of the Programme</b> (refer to question no. 4)	<b>% of students from the same university</b>	<b>% of students from other universities within the State</b>	<b>% of students from universities outside the State</b>	<b>% of students from other countries</b>
UG	-	-	-	-
PG	56	-	44	-
Ph.D	87.30	-	11.12	1.58

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

NET	:	18
GATE	:	3
ICMR	:	1
CIVIL SERVICES	:	3

35. Student progression

<b>Student progression</b>	<b>Percentage against enrolled</b>
UG to PG	90
PG to M.Phil.	-
PG to Ph.D.	5
Ph.D. to Post-Doctoral	-
Employed	
<input type="checkbox"/> Campus selection	NIL
<input type="checkbox"/> Other than campus recruitment	60% approx.
Entrepreneurs	

36. Diversity of staff

<b>Percentage of faculty who are graduates</b>	<b>%</b>
Graduate of the same university	75
from other universities within the state	-
from universities from other states	25
from universities outside the country	-

**37.** Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period **3 Awarded Ph.D**

**38.** Present details of departmental infrastructural facilities with regard to

- a) Library
- **Textbooks** : **8747**
  - **Journals** : **19**
  - **CDs & Videos** : **10**
- b) Internet facilities for staff and students **Yes**
- d) Total number of class rooms **5**
- e) Class rooms with ICT facility **1**
- f) Students' laboratories **6**
- g) Research laboratories **3**

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

- a) from the host institution/university : **53**

**List of Doctoral Students from host Institute/University**

<b>S.N</b>	<b>Name of Students</b>	<b>From host Institution/Univ</b>	<b>Dr/Prof</b>	<b>Supervisor</b>
1.	Lovleen	Host Institution/Univ.	Dr.	Asha Chaudhry
2.	Preeti Bhinder	Host Institution/Univ.	Dr.	Asha Chaudhry
3.	Amit Sehgal	Host Institution/Univ.	Prof.	M. Jain
4.	Sushil Kumar	Host Institution/Univ.	Prof.	M. Jain
5.	Anita Devi	Host Institution/Univ.	Prof.	N. R. Kumar
6.	Anudeep	Host Institution/Univ.	Prof.	N. R. Kumar

7.	Deepak Saini (Part time)	Host Institution/Univ.	Prof.	N. R. Kumar
8.	Preeti Kalia Nee Preeti Kaushal	Host Institution/Univ.	Prof.	N. R. Kumar
9.	Rajeev Kumar	Host Institution/Univ.	Prof.	N. R. Kumar
10.	Rajinder Kaur	Host Institution/Univ.	Prof.	N. R. Kumar
11.	Ruchika Mandla	Host Institution/Univ.	Prof.	N. R. Kumar
12.	Sanjay Panday (Part time)	Host Institution/Univ.	Prof.	N. R. Kumar
13.	Shivani Singla	Host Institution/Univ.	Prof.	N. R. Kumar
14.	Umesh Bharti	Host Institution/Univ.	Prof.	N. R. Kumar
15.	Jamuna Negi	Host Institution/Univ.	Prof.	N.R. Kumar
16.	Pooja Badotra	Other Institution/Univ.	Prof.	N. R. Kumar
17.	Monika Airi	Host Institution/Univ.	Prof.	P.K. Tewari
18.	Smriti Batoye	Host Institution/Univ.	Prof.	R. Jindal
19.	Chetan Sharma	Other Institution/Univ.	Prof.	R. Jindal
20.	Devender Singh	Other Institution/Univ.	Prof.	R. Jindal
21.	Taruna Kaura	Host Institution/Univ.	Prof	S. Chaudhary
22.	Ankita Thakur	Host Institution/Univ.	Prof.	S. Kaur
23.	Harpreet Kaur	Host Institution/Univ.	Prof.	S. Kaur
24.	Heena Sachdeva	Host Institution/Univ.	Prof.	S. Kaur
25.	Jyoti Joshi	Host Institution/Univ.	Prof.	S. Kaur
26.	Kalpana	Host Institution/Univ.	Prof.	S. Kaur
27.	Meenakshi Sharma	Host Institution/Univ.	Prof.	S. Kaur
28.	Puneet Raina	Host Institution/Univ.	Prof.	S. Kaur
29.	Rajeev Nagil	Host Institution/Univ.	Prof	S. Kaur
30.	Rupinder Kaur	Host Institution/Univ.	Prof.	S. Kaur

31.	Tejinder Kaur	Host Institution/Univ.	Prof.	S. Kaur
32.	Anil Kumar	Host Institution/Univ.	Dr.	Upma Bagai
33.	Aswathy Rajan	Host Institution/Univ.	Dr.	Upma Bagai
34.	Jyoti	Host Institution/Univ.	Dr.	Upma Bagai
35.	Neha Sylvia Walter	Host Institution/Univ.	Dr.	Upma Bagai
36.	Sanjeev Chandel	Host Institution/Univ.	Dr.	Upma Bagai
37.	Shagun Kalia	Host Institution/Univ.	Dr.	Upma Bagai
38.	Urvashi	Host Institution/Univ.	Dr.	Upma Bagai
39.	Vineet Kumar	Host Institution/Univ.	Dr.	Upma Bagai
40.	Neha Goyal	Host Institution/Univ.	Prof.	V. L. Sharma
41.	Radhika Sharma	Host Institution/Univ.	Prof.	V. L. Sharma
42.	Ramneet Kaur	Host Institution/Univ.	Prof.	V. L. Sharma
43.	Shweta Modgil	Host Institution/Univ.	Prof.	V. L. Sharma
44.	Anju Kaushal	Host Institution/Univ.	Prof.	V.L. Sharma
45.	Mandakini Singla	Host Institution/Univ.	Prof.	V.L. Sharma
46.	Mani Chopra	Host Institution/Univ.	Prof.	V.L. Sharma
47.	Manoj Kumar	Host Institution/Univ.	Prof.	V.L. Sharma
48.	Saranjeet Kaur	Host Institution/Univ.	Prof.	V.L. Sharma
49.	Amandeep Kaur	Host Institution/Univ.	Dr.	Y.K. Rawal
50.	Amardeep Singh	Host Institution/Univ.	Dr.	Y.K. Rawal
51.	Apneet Kaur	Host Institution/Univ.	Dr.	Y.K. Rawal
52.	Shista Sharma	Host Institution/Univ.	Dr.	Y.K. Rawal
53.	Veerpal Kaur	Host Institution/Univ.	Dr.	Y.K. Rawal

b) From the other institutions/University : **10**

**List of Doctoral Students from other institute/university**

<b>S.N</b>	<b>Name of Students</b>	<b>From Other Institution/Univ</b>	<b>Dr/Prof</b>	<b>Supervisor</b>
1.	Priyanka Kumari	Other Institution/Univ.	Prof.	N. R. Kumar
2.	Rakesh Kumar	Other Institution/Univ.	Prof.	R. Jindal
3.	Sakshi Verma	Other Institution/Univ.	Prof.	R. Jindal
4.	Mandeep Kaur	Other Institution/Univ.	Prof.	R. Jindal
5.	Manish Kumar	Other Institution/Univ.	Prof.	R. Jindal
6.	Jaspreet Kaur	Other Institution/Univ.	Prof.	S. Kaur
7.	Rajinder Pal Singh	Other Institution/Univ.	Prof.	S. Kaur
8.	Asha	Other Institution/Univ.	Prof.	V. L. Sharma
9.	Laishram Dolie Devi	Other Institution/Univ.	Prof.	V. L. Sharma
10.	Abayneh Munshea Abitew	Other Institution/Univ.	Prof.	V.L. Sharma

**Post Doctoral Students from host institute/university : NIL**

**List of Research Associates from host institute/university : 3**

<b>S.N</b>	<b>Name of Students</b>	<b>From host Institution/Univ</b>	<b>Dr/Prof</b>	<b>Supervisor</b>
1	Dr. Jaspreet Kaur	Host Institution/Univ.	Prof.	S. Kaur
2	Dr. Rama Aggarwal (W.Scientist)	Host Institution/Univ.	Dr.	Upma Bagai
3	Dr. Rajeev Nagil	Host Institution/Univ.	Prof	S. Kaur

**List of Research Associates from other Institute/University : 1**

S.N	Name of Students	From Other Institution/Univ	Dr/Prof	Supervisor
1	Dr. Garima Gupta (W.Scientist)	Other Institution/Univ.	Prof.	N.R. Kumar

40. Number of post graduate students getting financial assistance from the university.  
**3-4 students per year**
41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. **N.A.**
42. Does the department obtain feedback from
- faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?  
**The curricula for UG,PG and Ph.D programmes are regularly revised on the basis of feedback obtained from the teaching faculty**
  - students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
  - alumni and employers on the programmes offered and how does the department utilize the feedback?
43. List the distinguished alumni of the department (maximum 10)
- Prof. R.C.Sobti**, Ex Vice-Chancellor, Panjab University, Chandigarh  
Presently Vice-Chancellor, BBAU, Central University, Lucknow.
  - Prof. A.K.Chawla**, Ex Vice-Chancellor, Kurukeshtra University.
  - Shri Shambu Dutt Sharma**, IAS, Ex. additional secretary Home.
  - Professor Deepak Bhalla**, Dean faculty of Pharmacy, Wayne University, Detroit. Michigan, USA
  - Ms. Amrinder Brar**, PCS
  - Ms. Mamta Gupta**, IRS, U.T.
44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.  
**PAPER PRESENTATION**  
**POSTER PRESENTATION**  
**SPECIAL LECTURES**  
**WORKSHOPS**
45. List the teaching methods adopted by the faculty for different programmes.  
**BLOCK BOARD TEACHING**

**POWER POINT PRESENTATION**  
**FIELD TRIPS**  
**EDUCATIONAL TOURS**  
**ASSIGNMENTS AND PROJECTS**

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

**Through mid-term examination, Oral assessment & Evaluation of presentations by the students**

47. Highlight the participation of students and faculty in extension activities.

**LECTURES IN REFRESHER COURSES**  
**INVITED TALKS IN CONFERENCES**  
**POPULAR LECTURES IN COLLEGES**

48. Give details of “beyond syllabus scholarly activities” of the department.

**Participation in seminars/Conferences, paper reading, quiz competitions, science days celebrations etc.**

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

**N.A.**

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

**Through research publication in national and international journals with high impact factors.**

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

**Strengths:**

- The entire faculty is Ph.D.
- Every faculty member has individual projects funded by outside agencies.
- The faculty members have quality research publications.
- There is a state of art museum, the best in North India with the richest collection.
- The department has a sophisticated instrument lab with latest hi-tech equipments.
- Cream of students are selected for admission through entrance test both at UG and PG levels.

**Weakness:**

- 80% of the sanctioned teaching posts are lying vacant as there has been no recruitment for the last 10 years.
- Paucity of funds for renovation and infrastructure improvement.
- The subject of Zoology is field oriented but the department doesnot have a vehicle.
- Overload on existing equipment for research.

**Opportunities:**

- Job led education with placement opportunities in basic sciences, applied biology, medicine, agriculture, forensics, teaching, research, education, administration.

**Challenges:**

- To maintain quality teaching and research in the department with a limited faculty.
- To carry out innovative research within the limited means available.

52. Future plans of the department.

- 1. Formulation of multidisciplinary integrated research programs catering to the new needs of the society.**
- 2. Modernization of teaching and research labs equipping with multimedia support system.**
- 3. Syllabi updating and strengthening for holistic human resource development in Zoology.**
- 4. Accreditation for inclusion of the department in UGC CAS program.**
- 5. Transfer of technologies developed in laboratories for applications by appropriate clientele in field.**