

PUNJABI UNIVERSITY, PATIALA

SYLLABI

OUTLINES OF TESTS

AND

COURSES OF READINGS

FOR

B.Sc.(Hons.) in Artificial Intelligence and Data Science

First Year (Semester I and Semester II)

(CHOICE BASED CREDIT SYSTEM)

(SESSION 2018-19)

PUNJABI UNIVERSITY,

PATIALA 147002

ORDINANCES FOR B.Sc.(Hons.) in Artificial Intelligence and Data Science

Applicability of Ordinances for the time being in force

Notwithstanding the integrated nature of a course spread over more than one academic year, the ordinances in force at the time a student joins a course shall hold good only for the examination held during or at the end of the academic year. Nothing in these Ordinances shall be deemed to debar the University from amending the ordinances subsequently and the amended ordinances, if any, shall apply to all the students whether old or new.

1. Structure and Duration of the Programme:

- a) B.Sc.(Hons.) in Artificial Intelligence and Data Science is an integrated course comprising three parts spread over three years. Each part will consist of two semesters. The course of study of B.Sc.(Hons.) in Artificial Intelligence and Data Science shall be divided in six semesters and University examination will be held at the end of every semester tentatively in the months of November/December (for semester I, III & V) and May/June (for semester II, IV & VI) or as fixed by the Academic Council.
- b) The outlines of tests and syllabi shall be such as prescribed by the Academic Council from time to time.
- c) A candidate must complete and pass the whole course of three years within a maximum of five years from the date of admission in B.Sc.(Hons.) in Artificial Intelligence and Data Science First semester.
- d) The medium of instructions and examination will be English except for the Punjabi papers.

2. **No. of Seats:** Total number of seats in B.Sc.(Hons.) in Artificial Intelligence and Data Science shall be 50. The distribution of seats will be as per Punjabi University norms.

3. **Eligibility of Admission:** A candidate will be eligible to join 1st semester of B.Sc.(Hons.) in Artificial Intelligence and Data Science course, if the candidate has passed 10+2 examination with 50% marks (45% for SC/ST and differently-abled persons) marks (or equivalent Grade point) in any stream with Mathematic/Statistics as compulsory subject from recognized board or any other examination recognized as equivalent thereto without reappear.

4. **Basis for Admission:**

Admission will be made purely on the merit of 10+2 marks.

5. **Minimum Requirements to continue the Programme:**

- a) Subject to fulfillment of requirement of House examinations, the attendance requirements and these ordinances, there will be no condition of passing papers for promotion from odd semester to even semester in an Academic Session.
- b) Semester examination will be open to regular candidates who have been on the rolls of this University Department or college affiliated to this University or Constituent Colleges of this University or Neighbourhood Campuses of this University and meet the attendance and other requirements as prescribed in these Ordinances.
- c) To qualify for admission to 2nd year of the Course, the candidate must have passed 50% of total papers of the two semesters of the 1st year. Similarly, to qualify for admission to 3rd year of the course, the candidate should have passed 50% of total papers of four semesters of the earlier two years.
- d) A candidate placed under reappear in any paper, will be allowed two chances to clear the reappear, which should be availed within consecutive two years/chances i.e. to pass in a paper the candidate will have a total of three chances, one as regular student and two as reappear candidate.
- e) The examination of reappear papers of odd semester will be held with regular examination of the odd semester and reappear examination of the even semester will be held with regular examination of even semester. But if a candidate is placed under reappear in the last semester of the course, he will be provided chance to pass the reappear with the examination of the next semester, provided his reappear of lower semester does not go beyond next semester.

6. **Attendance Requirements:** Attendance is **to be** taken compulsorily by the Teacher. A candidate admitted to this course must fulfill the following requirements:

- a. Has been on the rolls of the Department throughout the semester preceding the examination.
- b. Every candidate will be required to attend a minimum of 75% of the delivered number of periods in each paper. For Teaching/Seminars/Tutorials and Lab Practicals, period of one hour's duration shall be counted as one attendance.
- c. For late admission, the counting of lectures will be considered from the date of deposit of fee.
- d. In case of students, whose names are struck off on account of non-payment of fee, their periods, for the time they were not on the rolls, shall not be accounted for.

The shortage in the attendance of lectures by the candidate will be condoned as per rules made by the University from time to time.

7. Minimum Requirements to continue the Programme:

- a) To be eligible to appear in the semester examination, a candidate must have obtained in the house examination at least 40% in each paper; 40% marks in all subjects of the semester. The Concerned Authority at his discretion may allow a special test to a candidate who could not appear in the House examination owing to unavoidable reasons or fails to secure the minimum marks as prescribed above.
- b) A candidate, who has completed the prescribed course of instructions for a semester but has not appeared in the examination or having appeared, has failed in the examination, may appear as a late student within the prescribed period.
- c) In theory paper, 25% of the total marks are assigned to the internal assessment and 75% marks to the University examination. In practical paper, 40% of the total marks are assigned to the internal assessment and 60% marks to the University examination
- d) The minimum number of marks required to pass the examination in each Part shall be 40% in each subject, provided that in subject with practical the percentage shall be required separately in practical/lab work. The candidate shall also be entitled to grace marks as admissible under the ordinances relating to the `GENERAL GRACE MARKS`.

8. Schedule for Examination Fees: Amount of examination fee to be paid by a candidate for each semester shall be as fixed by the University from time to time. Applications for admission to the examination shall be made on the prescribed form attested by the competent authority as per University rules. The admission forms and fees must reach the Registrar by the last date as prescribed by University.

9. Award of University Medals : University medal will be awarded to a candidate who will secure first position in the University on the basis of the marks of all the six semesters taken together. The general rules and conditions of the University for the Award of medal/prizes etc. will be applicable in the award of University medal to the topper of this examination.

10. Award for Division and Distinction: The successful candidates shall be classified on the basis of aggregate marks secured in all the six semesters of B.Sc.(Hons.) in Artificial Intelligence and Data Science taken together as under:

- a) 75% or more with Distinction.
- b) 60% or more in the First division.
- c) 50% or more but less than 60% in the Second division.
- d) below 50% in the Third division.

11. Degree Equivalence: B.Sc.(Hons.) in Artificial Intelligence and Data Science will be equivalent to B.Sc.(Computer Science) or B.Sc.(IT) wherever the candidate needs such clarification for job or higher education. The Controller of Examination will be the competent authority for the issue of the equivalence certificate. The certificate will be issued on the request of the candidate after the payment of the required fees as decided by the University from time to time.

12. This course falls under the Faculty of Computing Sciences.

SYLLABI, OUTLINES OF PAPERS AND TESTS FOR
B.Sc.(Hons.) in Artificial Intelligence and Data Science
First Year - First Semester Examinations
For Session 2018-19

CODE NO.	TITLE OF THE PAPER	Schedule of Teaching (Hrs/Week)			TOTAL HOURS	CREDITS	MARKS	
		L	T	P			Internal	External
BSCHAI-111	General English- I	4	0	0	4	4	25**	75
BSCHAI-112	***Punjabi(Compulsory) or ***Punjabi Compulsory(Mudla Gyan)	4	0	0	4	4	25	75
BSCHAI-113	Computer Fundamentals	4	0	0	4	4	25	75
BSCHAI-114	Problem Solving and Programming in C	4	0	0	4	4	25	75
BSCHAI-115	Open Elective –I*	4	0	0	4	4	25	75
BSCHAI-116	Programming Lab – I	0	0	4	4	2	40	60
	Total	20	0	4	24	22	165	435

Open Elective –I* (Choose any one among below)

- BSCHAI-115 (i) Better Spoken English
- BSCHAI-115(ii) Stress Management
- BSCHAI-115(iii) Introduction to Logic
- BSCHAI-115(iv) Introduction to Sociology
- BSCHAI-115(v) Brief introduction to Psychology
- BSCHAI-115(vi) Developing Soft Skills and Personality
- BSCHAI-115(vii) Ethics

Note:

1. The break up of marks for the practical will be as under:

- i. Internal Assessment 40 Marks
- ii. Viva Voce (External Evaluation) 20 Marks
- iii. Lab Record Program Development and Execution(External Evaluation) 40 Marks

2. The break up of marks for the internal assessment for theory except BSCHAI-111 will be as under:

- i. One or two tests out of which minimum one best will be considered for assessment. 15 Marks
- ii. Attendance 5 Marks
- iii. Class participation and behaviour 5 Marks

****The break up of marks for the internal assessment for BSCHAI-111: General English – I will be as under:**

- i. Formal assessment through Interview/Self Introduction/Recitation etc. 10 Marks
- ii. Conversation Skills (particularly listening and speaking to be evaluated through oral examination) 5 Marks
- iii. Attendance Class participation and behaviour 5 Marks
- iv. Class participation and behaviour 5 Marks

***** Only those students who have not studied Punjabi up to matriculation can opt for Punjab Compulsory (Mudla Gyan). The code for the paper is same.**

PUNJABI UNIVERSITY PATIALA
SYLLABI, OUTLINES OF PAPERS AND TESTS FOR
B.Sc.(Hons.) in Artificial Intelligence and Data Science
First Year - Second Semester Examinations
For Session 2018-19

CODE NO.	TITLE OF THE PAPER	Schedule of Teaching (Hrs/Week)			TOTAL HOURS	CREDITS	MARKS	
		L	T	P			Internal	External
BSCHAI-121	Introduction to Artificial Intelligence and Data Science	4	0	0	4	4	25	75
BSCHAI-122	Object Oriented Programming Concepts using C++	4	0	0	4	4	25	75
BSCHAI-123	Data Structures	4	0	0	4	4	25	75
BSCHAI-124	Open Elective-II*	4	0	0	4	4	25	75
BSCHAI-125	Programming Lab-II (Based on BSCHAI-122 and BSCHAI-123)	0	0	6	6	3	40	60
BSCHAI-126	Drug Abuse and De-addiction**	-	-	-	-	-	-	-
	Total	16	0	6	22	19	140	360

Open Elective –II* (Choose any one among below)

BSCHAI-124(i) Cyber Laws

BSCHAI-124(ii) Environmental and Road Safety Awareness

BSCHAI-124(iii) Knowledge Management

BSCHAI-124(iv) Digital Marketing

BSCHAI-124(v) Economics of Intellectual Property Rights

****BSCHAI-126 – Non Credit Qualifying Examination Only**

Note:

1. The break up of marks for the practical will be as under:

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| i. Internal Assessment | 40 Marks |
| ii. Viva Voce (External Evaluation) | 20 Marks |
| iii. Lab Record Program Development and Execution(External Evaluation) | 40 Marks |

2. The break up of marks for the internal assessment for theory except BSCHAI-126 will be as under:

- | | |
|--|----------|
| i. One or two tests out of which minimum one best will be considered for assessment. | 15 Marks |
| ii. Attendance | 5 Marks |
| iii. Class participation and behaviour | 5 Marks |