MAHARSHI DAYANAND UNIVERSITY ROHTAK

Copy of extract of Reso. No. 4 of Academic Council meeting held on 20.10.2023.

4. **Ratification of the action taken by the Vice-Chancellor, in anticipation of the approval of Academic Council, in approving the recommendation of the Faculty of Life Sciences made vide Reso. No. 3 of its meeting held on 07.07.2023 that the Scheme of Examinations of M.Sc. Bioinformatics with minor changes in Course Codes w.e.f. the session 2022-23 may be prescribed as per Annexure A/4 pages 321-323, already circulated.**

RESOLVED THAT THE ACTION TAKEN BY THE VICE-CHANCELLOR AS ABOVE BE RATIFIED WITH THE FOLLOWING CORRECTION:

"100 MARKS SHOWN IN COLUMN FOR THEORY AGAINST THE COURSE AT SR. NO. 16 IN PAGE NO. 322 BE DELETED".

[ACTION BY A.R.(ACAD.)]

(ACADEMIC BRANCH)

Ends. No. ACS-II/F-44/2023/27462 **Dated 22.12.2023**

In supersession this office Endst. No.ACS-II/F-44/2023/22871-80 dated 03.11.2023, the revised Reso. No. 4 of Academic Council meeting held on 20.10.2023 as given above is forwarded to the following for kind consideration and necessary action with the information that the S.O.E. & Syllabus are already available on University website :

1. Dean Faculty of Life Sciences, M.D. University, Rohtak
2. Director, Bioinformatics, M. D. University, Rohtak
3. Controller of Examinations, M.D. University, Rohtak
4. Director, University Computer Centre for uploading the same on the University Website.
5. A. R. (Secrecy/Conduct/Result-I/II/III/IV), M.D. University, Rohtak.
6. AC-IV Set, Academic Branch with the to get it noted in the next meeting of the Academic Council.

22-12-23

Superintendent (Academic)

Annexure A/4

CENTRE FOR BIOINFORMATICS
MAHARSHI DAYANAND UNIVERSITY
M.Sc. (Bioinformatics) Post Graduate Two Year Programs Syllabus

Credit Matrix for M.Sc. - Bioinformatics Program

SEMESTER	HARDCORE COURSES(HC)	SOFT CORE COURSES (SC)	OPEN ELECTIVE COURSES (OE)	FUNDAMENTAL COURSE (FN)	DISSERTATION (HC)	TOTAL
I	28	-	-	-	-	28
II	20	4	3	2	-	29
III	12	12	3	-	-	27
IV	8	-	-	-	20	28
TOTAL	68	16	6	2	20	112

SCHEME OF EXAMATION – M.Sc. (Bioinformatics)

General information:

Note 1: The Criteria for award of internal assessment of 20% marks shall be as under:

A) One class test : 10 marks.
B) Assignment & Presentation : 5 marks
C) Attendance : 5 marks
Less than 65% : 0 marks
Upto 70% : 2 marks
Upto 75% : 3 marks
Upto 80% : 4 marks
Above 80% : 5 marks

Note 2: Optional courses will be offered subject to availability of requisite resources/ faculty.

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'CENTRE FOR BIOINFORMATICS
MAHARSHI DAYANAND UNIVERSITY
M.Sc. (Bioinformatics) Post Graduate Two Year Programs Syllabus

SCHEME OF EXAMINATION – M.Sc. (Bioinformatics)

S.No.	Course Code	Nomenclature of course	Credit L	T	P	Total credit	Hours	Theory	Internal assessment	Practical	Total
1st Semester											
1	16BIN21C1	Cell & Molecular Biology	4	0	0	4	4	80	20	-	100
2	22BIN21C2	Biochemistry	4	0	0	4	4	80	20	-	100
3	16BIN21C3	Microbiology and Genetics	4	0	0	4	4	80	20	-	100
4	22BIN21C4	Immunology& Genetic Engg.	4	0	0	4	4	80	20	-	100
5	22BIN21C5	Basic Bioinformatics & Biostatistics	4	0	0	4	4	80	20	-	100
6	16BIN21CL1	Lab course I*	0	0	4	4	8	-	-	100	100
7	22BIN21CL2	Lab course II*	0	0	4	4	8	-	-	100	100
Total Credits			20	0	8	28	36				700

* Lab course I pertains to 16BIN21C1and 16BIN21C2; Lab course II pertains to 16BIN21C3, 22BIN21C4 and 22BIN21C5.

S.No.	Course Code	Nomenclature of course	Credit L	T	P	Total credit	Hours	Theory	In ternal assessment	Practical	Total
2nd Semester											
8	22BIN22C1	Advanced Bioinformatics	4	0	0	4	4	80	20	-	100
9	16BIN22C2	Programming in C	4	0	0	4	4	80	20	-	100
10	16BIN22C3	Computational Biology	4	0	0	4	4	80	20	-	100
11	16BIN22D1	Genomics & Proteomics#	4	0	0	4	4	80	20	-	100
12	16BIN22D2	Protein Bioinformatics#	4	0	0	4	4	80	20	-	100
13	16BIN22OE1	Introduction to Bioinformatics!	3	0	0	3	3	80	20	-	100
14	16BIN22FN1	Fundamentals of computer and networking	2	0	0	2	2	40	10	-	50
15	22BIN22CL1	Lab course III*	0	0	4	4	8	-	-	100	100
16	16BIN22CL2	Lab course IV*	0	0	4	4	8	100	-	100	100
Total Credits			21	0	8	29	37				750

#One course to be opted out of soft core (SC) courses.
!Open elective (OE): To be chosen from pool of OE courses of University. Students of M.Sc. (Bioinformatics) not to opt for 16BIN22OE1.
* Lab course III pertains to 22BIN22C1 and 16BIN22C2; Lab course IV pertains to 16BIN22C3, 16BIN22D1/16BIN22D2

CENTRE FOR BIOINFORMATICS
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S.No.	Course Code	Nomenclature of course	Credit L	T	P	Total credit	Hours	Theory	In ternal assessment	Practical	Total
3rd Semester											
17	23BIN23C1	Database Management Systems and Datamining	4	0	0	4	4	80	20	-	100
18	17BIN23C2	Molecular Modelling & Drug Designing	4	0	0	4	4	80	20	-	100
19	23BIN23DA1	Programming in PERL and HTML#	4	0	0	4	4	80	20	-	100
20	17BIN23DA2	Systems Biology#	4	0	0	4	4	80	20	-	100
21	17BIN23DB1	Big Data and Cloud Computing#	4	0	0	4	4	80	20	-	100
22	23BIN23DB2	Programming in Python and Machine Learning#	4	0	0	4	4	80	20	-	100
23	17BIN23OE1	Computer Aided Drug Design!	3	0	0	3	3	80	20	-	100
24	23BIN23CL	Lab course V*	0	0	4	4	8	-	-	100	100
25	23BIN23DL	Lab course VI*	0	0	4	4	8	-	-	100	100
Total Credits			19	0	8	27	35				700

Twocourses to be opted out of soft core (SC) courses.
!Open elective (OE): To be chosen from pool of OE courses of University. Students of M.Sc. (Bioinformatics) not to opt for 16BIN23OE1.
* Lab course V pertains to 23BIN23C1 and 17BIN23C2
*Lab course VI pertains to 23BIN23SDA1/17BIN23DA2/17BIN23DB1/23BIN23DB2.

S.No.	Course Code	Nomenclature of course	Credit L	T	P	Total credit	Hours	Theory	In ternal assessment	Practical/ Dissertation	Total
4th Semester											
26	17BIN24C1	Principles of phylogenomics	2	0	2	4	4	80	20	-	100
27	17BIN24C2	Communication Skills in Science & Technology	2	0	2	4	4	80	20	-	100
28	17BIN24C3	Dissertation	20	0	0	20	40	-	-	300	300
Total Credits			24	0	4	28	48				500
Cumulative program credit			83	0	28	112	156				