

Shri Sanjiv Kumar
OSD University
Raj Bhawan, Patna.

Sub:- Revision of MSc Biotechnology syllabus under CBCS Program for all the Universities of Bihar from session 2018-20.

A meeting was held in the conference hall at Raj Bhawan on 14.06.2018 for the final approval of MSc Biotechnology curriculum for its implementation in all the Universities of Bihar from session 2018-20 as per admission ordinance and examination regulation. Following experts were present.

- (1) Prof. Dr. Awadh Kishor Roy (Convener)
- (2) Dr. Birendra Prasad
- (3) Dr. Narendra Srivastava

The curriculum of MSc Biotechnology was thoroughly discussed and approved in the light of the Ordinance and Regulations of Master in Biotechnology in the Faculty of Science. The curriculum of MSc in Industrial Microbiology is under preparation as it is not running in any Universities of Bihar. The Committee member feels that the curriculum of Industrial Microbiology is to be revised as per rules and regulation. The said curriculum will be finalized within fifteen days.

Sanjiv Kumar
14.6.18

14/6/18

14/6

**Revise Final Curriculum for M.Sc.
Biotechnology (Choice Based Credit System)
From Session 2018-20**

**Implementation
in the State Universities of Bihar**

- | | |
|---|-----------------|
| 1. Prof. A. K. Roy
Vice-Chancellor
B.N. Mandal University, Madhepura | Convenor |
| 2. Dr. Birendra Prasad
Coordinator, PG Biotechnology
Patna University | Member |
| 3. Dr. Narendra Srivastava
Associate Professor
Deptt. of Zoology
Presently Registrar
B.N. Mandal University, Madhepura | Member |

14/06/2018

14/06

OUTLINE OF THE CHOICE BASED CREDIT SYSTEM (CBCS) for PG degree courses:

It consists of a number of courses i.e. **Core Course (CC)**, **Elective Course (EC)**, **Discipline Specific Elective Course (DSE)**, **Ability/Skill Enhancement Courses (AEC/SEC)**, and **Ability Enhancement Compulsory Courses (AECC)**. Each course is equivalent to a paper. The nature of these courses is defined below.

1.1 Core Course (CC):

A course which should compulsorily be studied by a candidate as a core requirement on the basis of subject of M.Sc. studies and is termed as a Core course.

1.2. Elective Course (EC):

Generally a course which can be chosen from a pool of courses (Basket) and which may be very specific or specialized or advanced or supportive to the subject/ discipline of study or which provides an extended scope or which enables an exposure to some other subject/discipline/domain or nurtures the candidate's proficiency/skill is called an Elective Course.

1.3 Discipline Specific Elective Course (DSE):

Elective courses may be offered by the main discipline/subject of study is referred to as **Discipline Specific Elective**. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

1.4 Generic Elective (GE) Course:

An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a **Generic Elective**.

1.5 Ability Enhancement Courses (AEC/SEC):

The Ability Enhancement Courses (AEC) / Skill Enhancement Courses (SEC). "AEC/SEC" is the courses based upon the content that leads to life skill enhancement.

Handwritten signatures in blue and green ink, followed by the date 14/11.

1.6 Ability Enhancement Compulsory Courses (AECC):

University will run a number of **Ability Enhancement Compulsory Courses (AECC)** which is qualifying in nature and student from all faculties have to qualify in all such courses.

1.7 Dissertation/Project/ Internship/ Industrial Training/ Field Work:

Elective courses are designed to acquire advanced knowledge to supplement /support the main subject through project work/ internship/ industrial training/ field work. A student studies such a course on his/her own with mentoring support by a teacher / faculty member called the guide/ supervisor. In case of internship/ industrial training the student will work under the joint guidance of one teacher-supervisor from the parent department to be termed as Supervisor-1 and one suitably qualified personnel at the research institute/ research laboratory/ industrial organization, to be termed as Supervisor-2. A student may join any recognized research institute/ research laboratory/ the industrial organization with the approval of parent department. The student has to work for a minimum number of days/ hour as decided by the parent department. On completion of the project work/ training at the research institute/ research laboratory/ industrial organization, student will submit a written project report certified by both supervisors to the parent department. Supervisor-2 will issue a letter certifying that the candidate has successfully completed the project and also award marks/ grade to him/ her. The certificate will be submitted to the parent department confidentially. The Board of Courses of Studies (BOCS) of the concerned subject/ department will draft and design the certificate and other documents as per requirement. The parent department will also assist the students to choose proper organizations for their project work/ industrial training/ field work etc. The student can also do Project dissertation work in parent department on selected topic under the supervision of teacher of the department.

2.0 CREDIT

The total minimum credits, required for completing a PG program is 100.

The details of credits for individual components and individual courses are given in Table.1.

Handwritten signature in green ink.

Handwritten signature in blue ink.

Handwritten signature in blue ink with date 14/6.

Table 1: Structure of the 2 Yrs (Four Semesters) Post Graduate Degree course under CBCS:

Semester	No of COURSE / Papers	Credit per COURSE/ paper	Total credit	Minimum No of Learning Hours#	No of CORE COURSE/ PAPER	No of ELECTIVE Course/ PAPER	Code & Nature of Elective Course/ paper
I	05	05	25	250	4	1	AECC-1
SEMESTER BREAK							
II	06	05	30	300	5	1	AEC-1
SEMESTER BREAK							
III	06	05	30	300	5	1	AECC-2
SEMESTER BREAK							
IV	03	05	15	150	0	3	EC -1* EC -2* DSE-1 or GE-1
Total	20		100	1000	14	6	

#For Tutorial (T)/ Practical (P)/ Field Work (FW)/ Internship etc. extra working hour to be added as per requirement and will be decided by the BOCS of the respective subject.

* The two **Elective Courses (EC)** to be studied in semester IV may be

One Theory paper and One Practical paper

/One Theory paper and One Project work

/ Both Project work/ Internship

IMP : It is desirable that all students of all courses be given adequate exposure over and above the class room teaching to enhance the scope of skill development/ entrepreneurship and employability.

2.1. There shall be six elective courses - two EC, one DSE or one GE, two AECC, one AEC/SEC. Students may opt for any elective course out of a list of elective papers (**Basket**) offered

