

SCHOOL OF PHYSICS

PROGRAMME CODE: PH5A

PROGRAMME TITLE: MASTER OF SCIENCE, (PHYSICS)

OBJECTIVES:

The broad objectives of the programme a M.Sc. (Physics) as follows:

- To develop business analytical skills covering both technical and business domains.
- To develop in depth understanding of the key technologies in business analytics: data mining, data visualization, Python, forecasting methods, and statistics.
- To impart knowledge on powerful techniques used in finance, marketing, and operations.
- To practice problem analysis and decision-making.
- To gain practical, hands-on experience with statistical programming languages and big data tools.
- To provide opportunities of higher studies in the area of business analytics.

ELIGIBILITY:

B.Sc. (Physics and Mathematics as a principal subject) with 50% marks.

A relaxation of 5% in the eligibility criteria shall be admissible to the bonafide Scheduled Caste (SC), Scheduled Tribes (ST) applicants of Madhya Pradesh only. A relaxation of 5% in eligibility will also be applicable to Persons with Disability (Divyang) as defined by Government of Madhya Pradesh.

OR

Admission will be finalized if the result is declared before August 14 in the admission year and the candidate secures min. % of marks as mentioned above. B.Sc. mathematics and physics level is must.

AGE LIMIT: NO AGE LIMIT.

ADMISSION PROCEDURE:

The admissions will be done as per merit in the entrance test conducted by the University.

SEATS: 35 (reservation as per state Govt. rules).

DURATION: Four Semesters (Two Years).

FEE STRUCTURE (2020-22):

Semester	Academic	Development &	Students'	Examination	Total (Rs.)
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	Fee	Maintenance Fee	Services Fee		Fee		
			Boys	Girls		Boys	Girls
First	2500	2000	3300	3111	2500	10300	10111
Second	2500	2000	2911	2722	2500	9911	9722
Third	2500	2000	3300	3111	2500	10300	10111
Fourth	2500	2000	2911	2722	2500	9911	9722

- Caution money (Refundable) of Rs. 4000/- will be charged additionally in the first semester.
- Alumni Fee of Rs. 500/- will be charged extra in the first semester.
- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- For NRI/ FN/ PIO Candidates, a fee of US\$ 3500 Per Annum shall be payable on yearly basis. They will have to pay a refundable deposit of US\$ 500 once at the time of admission.
- Hostel Fee and Central Library Fee will be extra.

PROGRAMME STRUCTURE (2020-22):

First Semester:

Code	Title	Credits (L T P)
CORE COURSES		
PH5A-501	Classical Mechanics	4
PH5A -503	Mathematics Physics	4
PH5A -505	Quantum Mechanics-I	4
PH5A -507	Electronics	4
PH5A -509	Laboratory Course-I (Electronics)	4
PH5A -511	CBCS- I Numerical techniques using C++	4
PH5A-551	Comprehensive viva	4

Second Semester:

Code	Title	Credits (L T P)
CORE COURSES		
PH5A -502	Statistical Mechanics	4
PH5A -504	Solid State Physics-I	4
PH5A -506	Classical Electrodynamics-I	4
PH5A -508	Atomic and Molecular Physics	4
PH5A -510	Laboratory Course-II (Optics)	4
PH5A-552	Comprehensive viva	4

Third Semester:

Code	Title	Credits (L T P)
CORE COURSES		
PH5A -601	Classical Electrodynamics-II	

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		4
PH5A -603	Quantum Mechanics-II	4
PH5A -605	Solid State Physics-II	4
PH5A -607	Nuclear and Particle Physics	4
PH5A -609	CBCS- II Numerical techniques using C++	4
PH5A -611	Research Project Work/ Laboratory Course-III (Computer oriented numerical methods)	2
PH5A-651	Comprehensive viva	4

Fourth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
PH5A -602	Research Project Work/ Laboratory Course-IV (Microprocessor)	6
PH5A -604	Digital Electronics and Microprocessor	4
	Stream A	4
PH5A -606	Laser Physics	4
PH5A -608	Plasma Physics	4
PH5A -610	Optoelectronics	4
	Stream B	4
PH5A -612	Materials Science	4
PH5A -614	Nanomaterials	4
PH5A -616	Transducers and characterization techniques	4
PH5A-652	Comprehensive Viva	4

PROGRAMME OUTCOMES:

- Developing of managerial and analytical skills covering both technical and business domains.
- Getting opportunities of higher studies in the area of Business Analytics.
- Demonstrate use of team work, leadership skills, decision making and organization theory.
- Apply Data Science techniques to the solution of real world business problems, communicate findings, and effectively present results.