

PROGRAMME PROJECT REPORT

कार्यक्रम परियोजना विवरण

Bachelor of Science Additional Physics

**School of Science and Technology
Vardhman Mahaveer Open University, Kota**

Bachelor of Science Additional Physics

The University

Vardhman Mahaveer Open University, Kota (earlier Kota Open University, Kota) was established by an Act of the Rajasthan State Legislative Assembly in 1987 with a view to achieve the following objectives:

- Democratizing higher education by taking education to the doorsteps of students.
- Providing access to quality education to all those who seek it, irrespective of age or formal qualification.
- Offering need based academic programmes by giving professional and vocational orientation to the courses.
- Promoting and developing distance education in the State of Rajasthan.

Special Features of the Open and Distance Education System:

- Provision of equal opportunities of admission to people from all walks of life.
- Cost effective educational operations.
- Self instructional printed course material.
- Network of students support services throughout the State of Rajasthan.
- Face to face and distance counselling wherever and whenever needed.
- Continuous evaluation through internal home assignments.
- Provision of term-end examinations.
- Online Admission Process

Academic Programmes

The University offers Certificate, Diploma and Degree programmes. They are launched with a view to fulfil the student needs for :

- Improvement of skills.
- Continuing education and professional development at work place.
- Acquisition of professional qualifications.
- Self-enrichment.
- Diversification of knowledge etc.

Credit System

The University follows the Credit System for its programmes. Each credit amounts to 30 hours of study containing all learning activities. B.Sc. Additional Physics courses are three credit courses. Thus, a three credit course involves 90 hours of study. B.Sc. Additional Physics programme has 36 credits. Completion of the academic programme requires successful clearing of both the home assignments and the term end examinations of each course in a programme.

Programme Project Report – PPR

Name of the School: School of Science and Technology

Name of the Programme: B.Sc. Additional Physics

S. N.	Parameter	Details
1	Programme's mission & objectives	● To provide opportunities of continuing education in physics who have not studied the physics at graduate level in BSc degree. ● To develop in the students, systematic knowledge of fundamental principles and analytical techniques of physics. ● To motivate for research in Physics. ● To create an academic base that responds to the need of the students to understand the basics of Physics and its ever evolving nature of applications in explaining all the observed natural phenomenon as well as predicting the future applications to the new phenomenon with a global perspective ● The ability to synthesize the acquired knowledge, understanding and experience for a better and improved comprehension of the physical problems in nature and to create new skills and tools for their possible solutions. ● To emphasize the discipline of Physics to be the most important branch of science for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas. ● To create ability of working effectively in diverse teams in laboratory and field-based situations.

2	Relevance of the programme with VMOU's Mission and Goals	As per the VMOU's Mission i.e. To promote educational opportunities in Physics with academic excellence. It strives for inclusive growth of relevance society through innovative pedagogy.																												
3	Admission Eligibility	विज्ञान में स्नातक करने के उपरान्त छात्र को अतिरिक्त विषय में स्नातक करने का प्रावधान रखा गया है इस हेतु निम्न नियम निर्धारित किये गए है— 1. स्नातक एडिशनल में बी. एससी. प्रवेश हेतु त्रिवर्षीय डिग्री ही मान्य होगी इस हेतु स्नातक में आनर्स /दो विषयों या समकक्ष भी प्रवेश पाने के पत्र होंगे। 2. स्नातक एडिशनल में प्रवेश केवल सम्बन्धित संकाय में होंगे यथा विज्ञान का विज्ञान में।																												
4	Instructional Design	Programme Structure: There will be total 12 courses in B.Sc. Additional Physics. Study material will be provided in Hindi Medium only. B.Sc. Additional Physics <table><tr><td></td><td>पाठ्यक्रम का नाम (Name of Course)</td><td>पाठ्यक्रम कोड (Course Code)</td><td>श्रेयांक (Credit)</td></tr><tr><td>1.</td><td>यान्त्रिकी Mechanics</td><td>PH-01</td><td>3</td></tr><tr><td>2.</td><td>दोलन एवं तरंगे Oscillations and Waves</td><td>PH-02</td><td>3</td></tr><tr><td>3.</td><td>विद्युतचुम्बकीय Electromagnetism</td><td>PH-03</td><td>3</td></tr><tr><td>4.</td><td>प्रायोगिक भौतिकी Practical Physics</td><td>PH-04</td><td>3</td></tr><tr><td>5.</td><td>उष्मागतिकी तथा सांख्यिकीय भौतिकी Thermodynamics and Statistical Physics</td><td>PH-05</td><td>3</td></tr><tr><td>6.</td><td>प्रकाशिकी Optics</td><td>PH-06</td><td>3</td></tr></table>		पाठ्यक्रम का नाम (Name of Course)	पाठ्यक्रम कोड (Course Code)	श्रेयांक (Credit)	1.	यान्त्रिकी Mechanics	PH-01	3	2.	दोलन एवं तरंगे Oscillations and Waves	PH-02	3	3.	विद्युतचुम्बकीय Electromagnetism	PH-03	3	4.	प्रायोगिक भौतिकी Practical Physics	PH-04	3	5.	उष्मागतिकी तथा सांख्यिकीय भौतिकी Thermodynamics and Statistical Physics	PH-05	3	6.	प्रकाशिकी Optics	PH-06	3
	पाठ्यक्रम का नाम (Name of Course)	पाठ्यक्रम कोड (Course Code)	श्रेयांक (Credit)																											
1.	यान्त्रिकी Mechanics	PH-01	3																											
2.	दोलन एवं तरंगे Oscillations and Waves	PH-02	3																											
3.	विद्युतचुम्बकीय Electromagnetism	PH-03	3																											
4.	प्रायोगिक भौतिकी Practical Physics	PH-04	3																											
5.	उष्मागतिकी तथा सांख्यिकीय भौतिकी Thermodynamics and Statistical Physics	PH-05	3																											
6.	प्रकाशिकी Optics	PH-06	3																											

		7.	इलेक्ट्रानिकी Electronics	PH-07	3	
		8.	प्रायोगिक भौतिकी Practical Physics	PH-08	3	
		9.	प्रारम्भिक क्वान्टम यान्त्रिकी एवं स्पेक्ट्रोस्कोपी Elementary Quantum Mechanics & Spectroscopy	PH-09	3	
		10.	ठोस अवस्था भौतिकी Solid State Physics	PH-10	3	
		11.	नाभिकीय भौतिकी Nuclear Physics	PH-11	3	
		12.	प्रायोगिक भौतिकी Practical Physics	PH-12	3	
		अध्ययन पद्धति (Study Pattern) इस विश्वविद्यालय में शिक्षण पद्धति पारंपरिक विश्वविद्यालयों द्वारा अपनाई जा रही कक्षा अध्ययन पद्धति से भिन्न है। खुला विश्वविद्यालय की शिक्षा पद्धति स्व-अधिगम पर आधारित है। यह एक अध्येता-केन्द्रित पद्धति (Learner Centered) है। इस कारण इस पद्धति में विद्यार्थियों पर सक्रिय अध्ययन का उत्तरदायित्व अधिक होता है। स्नातकोत्तर उपाधि, स्नातक उपाधि एवं कुछ अन्य चयनित कार्यक्रमों में सतत् मूल्यांकन की दृष्टि से सत्रीयआन्तरिक गृह कार्य की व्यवस्था। इससे विद्यार्थियों को निरन्तर अध्ययनरत और अभ्यासरत रहने की प्रेरणा मिलती है। स्व-अध्ययन सामग्री (Self Learning Material): विश्वविद्यालय में पंजीकृत विद्यार्थियों को त्वरित रूप से मुद्रित स्व-अध्ययन सामग्री प्रदान की जाती है। सम्पूर्ण पाठ्यक्रम को विभिन्न इकाइयों में विभाजित किया गया है। प्रत्येक इकाई के प्रारम्भ में इकाई की रूपरेखा दी गयी है जिसमें इकाई के उद्देश्य एवं प्रस्तावना के अतिरिक्त सम्पूर्ण जानकारी छोटे-छोटे एवं शीघ्र समझ में आ सकने वाले अनुच्छेदों में है। इसमें जगह-जगह पर स्वगृह कार्य प्रश्न एवं निर्धारित स्थान पर अभ्यास प्रश्न भी दिये गये हैं, जिससे विद्यार्थी अपनी प्रगति को स्वयं जाँच सकता है। प्रत्येक इकाई के अंत में सारांश, शब्दावली एवं कुछ उपयोगी पुस्तकों की सूची भी दी जाती है। वर्तमान में अध्ययन सामग्री का डिजिटलाइजेशन कर ऑनलाइन उपलब्ध करवाया जा रहा है।				
5	Procedure for admissions, curriculum	The university invites applications online in July session every year. Admissions are usually completed for July session as per guidelines received from UGC. For this the university issues press releases in major newspapers of Rajasthan state. Admission in B.Sc. Additional Physics programme will be allowed only once in a				

transaction and evaluation	year in July Session.																				
	For online admission, the student can apply through e-Mitra or on the university's website www.vmu.ac.in itself. For admission of all subjects or complete information regarding programmes is available in prospectus on university website www.vmu.ac.in .																				
	Duration of the Programme : Minimum 1 years, maximum 3 years																				
	Fee Structure:																				
	<table><tr><th>Prog Code</th><th>Programme</th><th>Total Fee</th><th>Course Fee</th><th>Reg. Fee</th><th>Development Fee</th><th>Practical Camp Fee</th><th>Practical Exam Fee</th><th>Theory Exam Fee</th><th>Post al Charges</th></tr><tr><td>BScA(PH)</td><td>B.Sc. Additional Physics</td><td>14200</td><td>9600</td><td>500</td><td>100</td><td>1500</td><td>600</td><td>1800</td><td>100</td></tr></table>	Prog Code	Programme	Total Fee	Course Fee	Reg. Fee	Development Fee	Practical Camp Fee	Practical Exam Fee	Theory Exam Fee	Post al Charges	BScA(PH)	B.Sc. Additional Physics	14200	9600	500	100	1500	600	1800	100
	Prog Code	Programme	Total Fee	Course Fee	Reg. Fee	Development Fee	Practical Camp Fee	Practical Exam Fee	Theory Exam Fee	Post al Charges											
	BScA(PH)	B.Sc. Additional Physics	14200	9600	500	100	1500	600	1800	100											
	The examination fee for the first attempt is included in the admission fee.																				
	Evaluation and Examination Pattern:																				
	Although the medium of instruction is English but the students are facilitated to use either English or Hindi as a medium of examination.																				
Permission letter for the Term End Examination is to be downloaded from the University Website.																					
Internal /Home Assignment: In each course (paper) Internal/home Assignment will be of 15 marks. The Internal Assignments shall be submitted to the Concerned Regional Centre on or before the date prescribed by the university. If student do not get minimum pass marks in an assignment, student has to submit it again. However, once you get the pass marks in an assignment, student cannot resubmit it for improvement of grade. Assignments are not subject to re-valuation. There will be no Internal Assignment in Practical Courses/papers (PH-04, PH-08 & PH-12).																					
Term-end Examination: On the completion of the prescribed minimum duration i.e. one year; a candidate will be examined by the means of written examination of 3 hours duration in each course (paper). The maximum marks for each course (paper) shall be 35. To pass in Examination, a candidate shall be required to score 36% marks in each course (paper) as well as in aggregate. However, it is																					

compulsory to secure 36% marks in each component i.e. Internal /home Assignment and Term End Examination otherwise he/she may reappear in the next examination after six months to clear the due papers within prescribed maximum duration of that programme.

Term End Examination (Practical):

The maximum marks for term end examination of each practical course shall be 50.

The marks obtained in internal/home assignment and term end examination shall be shown separately in the marksheet.

The student can apply for revaluation of examination as per University rules.

Letter Grade Chart for Calculating CGPA/YGPA

लेटर ग्रेड Letter Grade		ग्रेड प्वाइंट Grade Point	समग्र समतुल्य अंक M (100 अंकों में से) Equivalent overall Marks M (out of hundred)
O	Outstanding	10	$90 \leq M \leq 100$
A+	Excellent	9	$80 \leq M < 90$
A	Very Good	8	$70 \leq M < 80$
B+	Good	7	$60 \leq M < 70$
B	Above Average	6	$55 \leq M < 60$
C+	Average	5.5	$50 \leq M < 55$
C	Below Average	5	$45 \leq M < 50$
D ⁺	Marginal	4.5	$40 \leq M < 45$
D	Pass	4	$36 \leq M < 40$
NC	Not Completed	0	$25 \leq M < 36$
E	Poor	0	$10 \leq M < 25$
H	Very Poor	0	$0 \leq M < 10$

यदि विद्यार्थी NC, E, H ग्रेड प्राप्त करता है तो उसे NC (Not Completed) माना जायेगा तथा उसे पुनः परीक्षा देनी होगी। निम्नलिखित प्रकार से विद्यार्थी का वार्षिक ग्रेड प्वाइंट औसत (Yearly Grade Point Average (YGPA)) तथा संचयी ग्रेड प्वाइंट औसत (Cumulative Grade Point Average (CGPA)) की गणना की जायेगी। YGPA हेतु विद्यार्थी द्वारा प्राप्त ग्रेड प्वाइंट को उस

		विषय के क्रेडिट अंक से गुणा करके योग को कुल ग्रेड प्वाइंट से भाग देने पर प्राप्त होगा अर्थात् YGPA = $\sum(C_i \times G_i) / \sum C_i$ जहां पर C_i क्रेडिट अंक हैं तथा G_i उस विषय में विद्यार्थी द्वारा प्राप्त ग्रेड प्वाइंट है। 10 Point स्केल पर CGPA की गणना निम्न सूत्र द्वारा की जायेगी $CGPA = \frac{\text{Cumulative points secured in all passed courses}}{\text{Cumulative earned credits}} = \sum(C_i \times G_i) / \sum C_i$ YGPA तथा CGPA की गणना दशमलव के बाद दो अंकों तक की जायेगी।
6	Requirement of the laboratory Work	Practical contact camp of 10 counselling days (9 hours per day) will be organized for PH-04. Total Practical work will be 90 hours for PH-04. Minimum 75% attendance in practical contact classes is compulsory in practical contact camp to appear in Practical Examination. Practical contact camp of 10 counselling days (9 hours per day) will be organized for PH-08. Total Practical work will be 90 hours for PH-08. Minimum 75% attendance in practical contact classes is compulsory in practical contact camp to appear in Practical Examination. Practical contact camp of 10 counselling days (9 hours per day) will be organized for PH-12. Total Practical work will be 90 hours for PH-12. Minimum 75% attendance in practical contact classes is compulsory in practical contact camp to appear in Practical Examination. Attendance of student in a practical camp will be valid only for that particular practical camp. If student does not attend the practical camp or does not appear in practical exam or does not pass the practical exam, then student has to again appear in practical camp with at least 75% attendance to appear in that practical exam. If student becomes defaulter in exams, he should fill the defaulter form for that exams. For each defaulter practical paper defaulter fee is Rs.1000/-. Practical Exam Defaulter form applying month only once in a year as per notification on the university website: 1 November to 30 November. (Tentative)
7	Cost estimate of the programme and the provisions	Cost of preparation of self learning material (SLM), printing and supply, delivery system is followed as per guidelines of the university. University student Counseling and conducting of examination and evaluation is followed as per guidelines of the university.

8	Quality assurance mechanism and expected programme outcomes	Centre for Internal Quality Assurance (CIQA) is monitoring, improving and enhancing effectiveness of the programme. The expected outcome of this programme is to develop knowledge and skills so that the learner can get career opportunities in teaching and research.
---	---	--

Learners may seek the help of the following functionaries from 10.00 AM to 5.00 PM on working days to sort out the problems as indicated below:

- (i) About non-receipt of Study Materials, Assignments etc.
Director (MPD), VMOU, Rawatbhata Road, Kota - 324 021
0744-2797346, 0744-2797349, 0744-2797350
- (ii) About Admission, Fee Receipts, Registration, Change of Regional/Study Centre and postal addresses, etc.
Concerned Regional Centre of VMOU, Kota
- (iii) About Examination Centres, Results, Mark Sheets, Revaluation etc.
Controller of Examinations, VMOU, Rawatbhata Road, Kota - 324 021
0744-2797314, 0744-2797328, 0744-2797324
- (iv) Important Telephone Numbers –
Toll Free No. 1800-180-6166

