Karmaveer Bhaurao Patil University, Satara
Faculty of Science and Technology
B. Sc. (Astrophysics)
Programme and Credit Structure as per NEP 2020

{Ref. Government of Maharashtra letter no. □□□□□.□□□□/□□□.□.□□/□□□□-□□□ □□ □□ □□□□□□: □□ □□□□□ □□□□}

The degree shall be titled as 'Bachelor of Science (Physics) under the faculty of Science and Technology

B. Sc. Sem. I & II from Academic Year 2024-25

B. Sc. Sem. III & IV from Academic Year 2025-26

Programme Outcomes for B. Sc. (Astrophysics)

PO. No.	**Programme Outcomes** **After completing B. Sc. Programme the students will be able to…….**
PO-1	graduate with proficiency in the subject.
PO-2	continue higher studies in his subject.
PO-3	pursue higher studies abroad.
PO-4	appear for the examinations for jobs in government organizations.
PO-5	appear for jobs with minimum eligibility as science graduate.
PO-6	appear for industrial jobs with minimum eligibility as graduate.
PSO. NO	**Programme Specific Outcomes** **After completing B. Sc. (Astrophysics) Programme the students will be able to…….**
PSO-1	understand the basics of Astrophysics .
PSO-2	learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.
PSO-3	develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Astrophysics.
PSO-4	identify their area of interest in academic, research and development.
PSO-5	perform job in various fields like science, engineering, education, banking, business and public service, etc. or be an entrepreneur with precision, analytical mind, innovative thinking, clarity of thought, expression, and systematic approach.

Semester, Credit Framework, NSQF Level and Exit Points

Sr. No.	**Semester**	**Year**	**Year**	**Credits**	**Level**	**Exit Points &Award**
1	Sem. I & II	2024-25	1Year	44	4.5	UG Certificate in Astrophysics
2	Sem. III & IV	2025-26	2Year	88	5.0	UG Diploma in Astrophysics

Credit Distribution

Sr. No.	**Course**	**3 Year Degree Programme**			**4 Year Honors Degree Programme**			**4 Year Honors with Research Degree Programme**		
		Courses (3 Yr)	**Credits (3 Yr)**	**%**	**Courses (4 Yr)**	**Credits (4 Yr)**	**%**	**Courses (4 Yr)**	**Credits (4 Yr)**	**%**
1	Major	26	52	39.39	34	80	45.45	32	72	40.91
2	Elective	04	08	6.06	08	16	9.09	08	16	9.09
3	IKS	02	04	3.03	02	04	2.27	02	04	2.27
4	VSC	04	08	6.06	04	08	4.55	04	08	4.55
5	FP	01	02	1.52	01	02	1.14	01	02	1.14
6	OJT	01	04	3.03	02	08	4.55	01	04	2.27

7	RP	00	00	0.00	00	00	00	02	12	6.82
8	SEC	03	06	4.55	03	06	3.41	03	06	3.41
9	CEP	01	02	1.52	01	02	1.14	01	02	1.14
Total (Major) (A)		**42**	**86**	**65.15**	**55**	**126**	**71.59**	**54**	**126**	**71.59**
1	Minor & RM	12	24	18.18	13	28	15.91	13	28	15.91
Total (Minor) (B)		**12**	**24**	**18.18**	**12**	**28**	**15.91**	**13**	**28**	**15.91**
1	OE	04	08	6.06	04	08	4.55	04	08	4.55
2	AEC	04	08	6.06	04	08	4.55	04	08	4.55
3	VEC	02	04	3.03	02	04	2.27	02	04	2.27
4	CC	01	02	1.52	01	02	1.14	01	02	1.14
Total (C)		**11**	**22**	**16.67**	**11**	**22**	**12.50**	**11**	**22**	**12.50**
Grand Total (A+B+C)		**65**	**132**	**100**	**79**	**176**	**100**	**78**	**176**	**100**

Duration:

- The program shall be a full-time program.
- The duration of program shall be two years for Bachelor of Science and four years for Bachelor of Science with Honors or Bachelor of Science with Research.
- Every year students will have exist option with:
- (1^{st} Year: Certificate, 2^{nd} Year: Diploma)
- These students are allowed to re-enter the degree program within three years and complete the degree program within the stipulated maximum period of Seven Years.

Eligibility: 12^{th} Pass with Science, or equivalent.

Medium of Instruction: The medium of instructions shall be in English.

- **Scheme of Examination & Standard of Passing (CCE and ESE As per the decision of the concern Board of Studies or Competent Authority):**
- End Semester Exam (ESE): 30 Marks (Min 12 Marks for Passing)
- Continuous Comprehensive Evaluation (CCE): 20 Marks (Min 08 Marks for Passing)
- Total Marks = 50 Marks
- Minimum 40% Marks Required for Passing and there is separate head of Passing for End Semester Examination (ESE) and Continuous Comprehensive Evaluation (CCE).
- A candidate who acquire 32 credits or more during semester – I & II shall be admitted to B. Sc. II (appear for semester – III & IV examination).
- However the candidate shall not be admitted to B.Sc. III (Semester - V) unless he/she passed in all the subjects at B.Sc. I (Semester - I & Semester - II) and acquire 32 credits or more during semester – III & IV.
- However the candidate shall not be admitted to B. Sc. IV (Semester - VII) unless he/she passed in all the subjects at B. Sc. I, II, and III.
- However under the National Education Policy the rules extended by KBP University, time to time regarding ATKT will be applicable.

Eligibility of the Core Faculty:

As per rules and regulations of Karmaveer Bhaurao Patil University, Satara and Govt. of Maharashtra.

Eligibility for Professor of Practice or Professional Trainer:

Any other eligibility as per the guidelines and regulations passed by concern board of studies, academic council of the autonomous college and rules & regulations of Karmaveer Bhaurao Patil University, Satara and Government of Maharashtra and UGC norms.

Karmaveer Bhaurao Patil University, Satara

Faculty of Science and Technology

B. Sc. (Astrophysics) Part-I

Semester I				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Course-I	BAPT 111	Fundamentals of Astronomy	02
		BAPT 112	The Earth and Positional Astronomy	02
		BAPP 113	Experimental Techniques in Astronomy-I	02
2	Course-II	-	DSC I, DSC II, DSP I	06
3	Course-III	-	DSC I, DSC II, DSP I	06
4	OE	BPTOE1	Instrumentation Studies P-I	02
5	IKS	BPTIKS 1	Introduction to Indian Knowledge System	02
			Total	**22**
Semester II				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Course-I	BAPT 121	Introduction to Space Science	02
		BAPT 122	Basic Physics for Astronomy	02
		BAPP 123	Experimental Techniques in Astronomy-II	02
2	Course-II	-	DSC III, DSC IV, DSP II	06
3	Course-III	-	DSC III, DSC IV, DSP II	06
4	OE	BPTOE2	Instrumentation Studies P-II	02
5	VEC	BPTVEC1	Democracy, Election and Indian Constitution	02
			Total	**22**
EXIT OPTION: Award of UG Certificate in Major **with 44 credits** & an additional 4 credits core NSQF Course/Internship OR Continue with Major & Minor.				

B. Sc. (Astrophysics) Part-II

Semester III				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Major	BAPT 231	Fundamentals of Astronomy	02
2	Major	BAPT 232	Fundamentals of Astrophysics	02
3	Major Lab-III	BAPP 233	Numerical Calculations, Parallax, Photometry And Sound	02
4	Minor	-	DSC V, DSC VI, DSP III	06
5	OE	BPTOE3	Instrumentation Studies P-III	02
6	VSC	BPPVSC 1	Vocational Skill Course in Basic Electronics Circuits-I	02
7	SEC	BPPSEC 1	Mechanical and Electrical Skills	02
8	AEC	BPTAEC 1	English P-I	02
9	IKS	BPTIKS 2	Indian Astronomy and Metallurgy IKS P-II	02
			Total	**22**
Semester IV				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Major	BAPT 241	Galaxies, Planets and Cosmology	02
2	Major	BAPT 242	Hydrodynamics and Cosmic Electrodynamics	02

3	Major Lab IV	BAPP 243	Spectroscopy, Magnetism and Electronics	02
4	Minor	-	DSC VII, DSC VIII, DSP IV	06
5	OE	BPTOE 4	Instrumentation Studies P-IV	02
6	VSC	BPPVSC 2	Physics in home appliances	02
7	SEC	BPPSEC 2	Computational Skills in Physics	02
8	AEC	BPTAEC 2	English P-II	02
9	VEC	BPTVEC 2	Environmental Studies	02
			Total	**22**
EXIT OPTION: Award of UG Diploma in Major and Minor with **88 Credits** & an additional 4 credits core NSQF Course/ Internship OR Continue with Major & Minor				

Chairman
BoS in Physics

Secretary
Academic Council

Chairman
Academic Council