

Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

**2.6.1. Program Outcomes, Program Specific Outcomes, Course specific
Outcomes**

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**Program Outcomes, Program Specific Outcomes, Course specific
Outcomes**

2021-2022

Department of Marathi

Program Outcome: B.A. (Marathi)	
PO-1	भाषेविषयीचा अभिमान युवकांमध्ये निर्माण होण्यास मदत होते.
PO-2	वाङ्मयविषयक मनोभूमिका दृढ होते.
PO-3	समाजव्यवहारात भाषेचे यथोचित आकलन व वापर करण्याची क्षमता विकसित होते.
PO-4	चौकस वाचनातून शब्दसंग्रह वाढतो.
PO-5	नवनिर्मिती क्षमता व अभिव्यक्ती क्षमता विकसित होते.
PO-6	समाजामध्ये वावरण्यासाठी संवेदनशीलता विकसित होते.
PO-7	प्रादेशिक स्तरावर नोकरी व रोजगाराच्या संधी शोधता येतात.

Program Specific Outcome: B.A. (Marathi)	
PSO- 1	मराठी साहित्य, भाषा व संस्कृती यांचा जवळून परिचय होतो.
PSO- 2	वाङ्मय प्रकारांची ओळख करून घेता येते.
PSO- 3	साहित्य भाषा व व्यवहार भाषा यांचे ज्ञान मिळते.
PSO- 4	साहित्यातून प्रकट होणाऱ्या मानवी मूल्यांचे आकलन होते.
PSO- 5	लेखन, वाचन, संभाषण, आकलन इत्यादी भाषिक कौशल्यांचा विकास होतो.
PSO- 6	मराठी साहित्याच्या परंपरेचे स्थूल ज्ञान मिळते.
PSO- 7	मराठी भाषा व साहित्य अवलोकनाची रुची वाढते.

Course Outcome: B.A. (Marathi)

Class	Course title & Code	Course Outcome
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Semester- I		
F.Y.B.A.	11021A: मराठी साहित्य: कथा आणि भाषिक कौशल्यविकास	<ul style="list-style-type: none"> • CO-1: कथा या साहित्यप्रकराची ओळख होते. • CO-2: कथा या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून घेता येते. • CO-3: कथेच्या विविध कालखंडांचा अभ्यास होतो. • CO-4: कथेमधून समाजातील वास्तविकता समजून घेता येते. • CO-5: आकलनासह श्रवण, संभाषण, वाचन, लेखन, इ-संवाद, सारग्रहण, सारांशलेखन इत्यादी भाषिक कौशल्यांचा विकास होतो.
F.Y.B.A.	11021B: व्यावहारिक व उपयोजित मराठी-भाग १	<ul style="list-style-type: none"> • CO-1: संज्ञापनातील भाषेची भूमिका, विविध भाषिक अविष्कारांचे स्वरूप समजावून घेता येते. • CO-2: विविध भाषिक कौशल्ये आणि लेखन कौशल्ये विकसित होतात. • CO-3: लेखनविषयक नियमांची ओळख होते आणि निबंध लेखन, भाषांतर इत्यादीमध्ये अधिकाधिक अचूकता येते. • CO-4: अर्जलेखनाचे कौशल्य अवगत होते. • CO-5: जीवन व्यवहारातील भाषेचे स्थान समजून घेता येते.
F.Y.B.Com.	117B: भाषा, साहित्य आणि कौशल्यविकास	<ul style="list-style-type: none"> • CO-1: भाषा व्यवहाराचे स्वरूप व गरज यांची ओळख होते. • CO-2: व्यवहार क्षेत्रातील मराठी भाषेचे स्थान समजावून घेता येते. • CO-3: वैचारिक, ललित आणि वाणिज्यविषयक निबंध लेखनाचे कौशल्य अवगत होते. • CO-4: विविध क्षेत्रातील कर्तृत्ववान व्यक्तींच्या कार्याची व विचारांची ओळख होते.
Semester- II		
F.Y.B.A.	11022A: मराठी साहित्य: एकांकिका आणि भाषिक कौशल्यविकास	<ul style="list-style-type: none"> • CO-1: एकांकिका या साहित्यप्रकराची ओळख होते. • CO-2: एकांकिका या साहित्यप्रकाराचे स्वरूप, घटक आणि प्रकार यांची ओळख करून घेता येते. • CO-3: एकांकिकेचे संहितामूल्य व प्रयोगमूल्य समजावून घेता येते. • CO-4: मराठीतील निवडक एकांकिकेचे अध्ययन होते.

		<ul style="list-style-type: none"> • CO-5: संवाद लेखन, कल्पनाविस्तार, घोषवाक्य लेखन, भाषांतर इत्यादी भाषिक कौशल्यांचा विकास होतो.
F.Y.B.A.	11022B: व्यावहारिक व उपयोजित मराठी-भाग २	<ul style="list-style-type: none"> • CO-1: मराठीचा कार्यालयीन, व्यावसायिक कामकाजात भाषेचे उपयोजन, गरज व स्वरूप या विशेषांची ओळख होते. • CO-2: कार्यालयीन, व्यावसायिक भाषाव्यवहारासाठी आवश्यक लेखन कौशल्ये अवगत होतात. • CO-3: भाषांतराची कला अवगत होते. • CO-4: कार्यालय तसेच विविध व्यवसायात लेखनकौशल्यांच्या बळावर नोकरीच्या संधी उपलब्ध होतात. • CO-5: विविध लेखन कौशल्ये अवगत होऊन त्याच्या आधारावर रोजगार देखील उपलब्ध होतो.
F.Y.B.Com.	127B: भाषा आणि कौशल्यविकास	<ul style="list-style-type: none"> • CO-1: विविध क्षेत्रातील मराठी भाषेच्या वापराची कौशल्ये विकसित होतात. • CO-2: विविध लेखनप्रकारांचा अभ्यास होतो आणि प्रत्यक्ष लेखन कौशल्ये अवगत होतात. • CO-3: अर्ज लेखनाचे कौशल्ये अवगत होते. • CO-4: प्रशासनिक मराठी लेखन कौशल्ये विकसित होतात. • CO-5: सारांशलेखन, भाषांतर व जाहिरात लेखन इत्यादी कौशल्ये विकसित होतात.
Semester- III		
S.Y.B.A.	23011: मराठी भाषिक संज्ञापनकौशल्ये [MIL 2 (2)]	<ul style="list-style-type: none"> • CO-1: प्रगत भाषिक कौशल्यांची क्षमता विकसित होते. • CO-2: प्रसारमाध्यमांतील संज्ञापनातील स्वरूप आणि स्थान समजावून घेता येते. • CO-3: व्यक्तिमत्त्व विकास आणि भाषा यांच्यातील सहसंबंध समजावून घेऊन व्यक्तिमत्त्व विकास होण्यास मदत होते. • CO-4: प्रसारमाध्यमांसाठी लेखनक्षमता विकसित होण्यास मदत होते. • CO-5: प्रसारमाध्यमात विविध रोजगाराच्या संधी उपलब्ध होतात.

S.Y.B.A.	23021: आधुनिक मराठी साहित्य- प्रकाशवाटा [DSE 1A (3)]	<ul style="list-style-type: none"> • CO-1: आत्मचरित्र या साहित्यप्रकाराची ओळख होते. • CO-2: आत्मचरित्र या साहित्यप्रकाराचे स्वरूप आणि संकल्पना समजावून घेण्यास मदत होते. • CO-3: आत्मचरित्र या साहित्यप्रकाराच्या प्रेरणा आणि वाटचाल यांची ओळख होते. • CO-4: ललितगद्यातील अन्य साहित्यप्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण समजावून घेण्यास मदत होते. • CO-5: नेमलेल्या आत्मचरित्राचे आकलन, आस्वाद आणि विश्लेषण करता येते.
S.Y.B.A.	23022: साहित्यविचार [DSE 1B (3)]	<ul style="list-style-type: none"> • CO-1: भारतीय आणि पाश्चात्य साहित्यविचाराच्या आधारे साहित्याची संकल्पना, स्वरूप आणि प्रयोजनविचार यांची ओळख होते. • CO-2: साहित्याची निर्मितीप्रक्रिया समजावून घेता येते. • CO-3: साहित्याची भाषा आणि शैली विषयक विचार समजावून घेता येतात. • CO-4: साहित्यातील जीवनमूल्यांची ओळख होते. • CO-5: साहित्याविचाराच्या आधारे साहित्याविषयीचा दृष्टीकोन प्रगल्भ होण्यास मदत होते.
S.Y.B.A.	23023: भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार- कादंबरी [CC- 1C (3)]	<ul style="list-style-type: none"> • CO-1: संगणक आणि मोबाईलवरील युनिकोडमधून मराठी मुद्रणाची ओळख होते. • CO-2: कळफलकाचे प्रकार, मराठी टंकलेखन आणि युनिकोडचा वापर इत्यादींची ओळख होते. • CO-3: कादंबरी या साहित्यप्रकाराचे स्वरूप, घटक, प्रकार आणि वाटचाल समजावून घेता येते. • CO-4: नेमलेल्या कादंबरीचे आकलन होते आणि आस्वाद घेता येतो. • CO-5: विविध भाषिक कौशल्यांचा विकास होतो.
S.Y.B.A.	23025: प्रकाशनव्यवहार आणि संपादन [SEC 2A (2)]	<ul style="list-style-type: none"> • CO-1: प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक कौशल्ये प्राप्त होतात. • CO-2: प्रकाशनव्यवहार आणि संपादन यासाठी आवश्यक प्रशिक्षण मिळते. • CO-3: प्रकाशन संस्था, जाहिरात संस्था, छापखाने, वृत्तपत्र कार्यालये, वितरण संस्था, ग्रंथ विक्री दुकाने, फ्लेक्स निर्मिती केंद्र, वार्ताहर यांना भेटी देऊन

		<p>प्रशिक्षण घेता येते.</p> <ul style="list-style-type: none"> • CO-4: प्रकाशन हा व्यवसाय निवडून रोजगाराची संधी उपलब्ध होते.
S.Y.B.Sc.	23331: उपयोजित मराठी [AECC- 2A]	<ul style="list-style-type: none"> • CO-1: मराठी भाषा आणि साहित्य यांच्या परस्परसंबंधांची जाणीव होते. • CO-2: मराठी भाषेचा परिभाषासापेक्ष आणि शैलीसापेक्ष विकास होतो. • CO-3: मराठी भाषेची उपयोजनात्मक कौशल्ये विकसित होतात. • CO-4: प्रसारमाध्यमांसाठीची लेखनकौशल्ये विकसित होतात.
Semester- IV		
S.Y.B.A.	24011: नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी [MIL 2 (2)]	<ul style="list-style-type: none"> • CO-1: संज्ञापनातील नवमाध्यमे आणि समाजमाध्यमांच्या स्वरूप आणि स्थानाची ओळख होते. • CO-2: भाषा, जीवनव्यवहार आणि नवमाध्यमे, समाजमाध्यमे यांतील परस्परसंबंधांची ओळख होते. • CO-3: नवमाध्यमे आणि समाजमाध्यमांसाठी लेखनक्षमता विकसित होतात. • CO-4: नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षर होण्यास मदत होते. • CO-5: नवमाध्यमे आणि समाजमाध्यमे यांच्या वापर आणि परिणामांची जाणीव होते.
S.Y.B.A.	24021: मध्ययुगीन मराठी साहित्य- निवडक मध्ययुगीन गद्य, पद्य [DSE 2A (3)]	<ul style="list-style-type: none"> • CO-1: मध्ययुगीन गद्य व पद्य साहित्यप्रकाराची ओळख होते. • CO-2: मध्ययुगीन गद्य-पद्य या साहित्यप्रकाराच्या स्वरूप व विशेषांची ओळख होते. • CO-3: मध्ययुगीन काळखंडातील सामाजिक व सांस्कृतिक जीवनाची ओळख होते. • CO-4: नेमलेल्या अभ्यासपुस्तकाचे आकलन, आस्वाद आणि विश्लेषण करता येते.
S.Y.B.A.	24022: साहित्य समीक्षा [DSE 2B (3)]	<ul style="list-style-type: none"> • CO-1: साहित्य समीक्षेची संकल्पना व स्वरूप यांचा परिचय होतो. • CO-2: साहित्य आणि समीक्षा यांचे परस्परसंबंध समजावून घेता येतात.

		<ul style="list-style-type: none"> • CO-3: साहित्यप्रकारानुसार समीक्षेचे स्वरूप समजावून घेता येते. • CO-4: ग्रंथ परिचय, परीक्षण व समीक्षण यातील फरक समजावून घेता येतो.
S.Y.B.A.	24023: भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार-ललितगद्य [CC- 1D (3)]	<ul style="list-style-type: none"> • CO-1: गुगल साधनांच्या अध्ययनातील वापराची ओळख होते. • CO-2: ललितगद्य या साहित्यप्रकाराचे स्वरूप, घटक, प्रकार आणि वाटचाल समजावून घेता येते. • CO-3: नेमलेल्या अभ्यासपुस्तकातील ललितगद्याचे आकलन होते आणि आस्वाद घेता येतो. • CO-4: विविध भाषिक कौशल्यांचा विकास होतो.
S.Y.B.A.	24025: उपयोजित लेखनकौशल्ये [SEC 2B (2)]	<ul style="list-style-type: none"> • CO-1: जाहिरात, मुलाखतलेखन आणि संपादन यासाठी आवश्यक कौशल्ये प्राप्त होतात. • CO-2: जाहिरात, मुलाखतलेखन आणि संपादन यासाठी आवश्यक प्रशिक्षण मिळते. • CO-3: जाहिरात, मुलाखतलेखन आणि संपादन यासाठी प्रात्याक्षिके देऊन उपयोजनाची कौशल्ये प्राप्त होतात. • CO-4: जाहिरातलेखन आणि मुलाखतलेखनाची कौशल्ये प्राप्त होऊन प्रसारमाध्यमात रोजगाराची संधी उपलब्ध होते.
S.Y.B.Sc.	24331: मराठी साहित्य [AECC- 2B]	<ul style="list-style-type: none"> • CO-1: साहित्यविषयक अभिरूची विकसित होते. • CO-2: मराठी भाषा आणि साहित्य यांच्या परस्परसंबंधांची जाणीव होते. • CO-3: साहित्यविषयक अभ्यासातून जीवनविषयक समज विकसित होते. • CO-4: विज्ञानविषयक आकलनक्षमता वाढते.
Semester-V		
T.Y.B.A.	35021: मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास-प्रारंभ ते इ.स.१६०० [DSE 1C (3+1)]	<ul style="list-style-type: none"> • CO-1: वाङ्मयेतिहासाची संकल्पना, स्वरूप, प्रेरणा व प्रवृत्ती समजावून घेता येते. • CO-2: मराठी भाषा आणि वाङ्मयाचा उगमाची ओळख होते. • CO-3: मध्ययुगीन कालखंडाची सामाजिक आणि सांस्कृतिक पार्श्वभूमी समजावून घेता येते. • CO-4: मराठी भाषा आणि साहित्याचा कालखंडानुसार

		इतिहास समजावून घेता येतो.
T.Y.B.A.	35022: वर्णनात्मक भाषाविज्ञान- भाग १ [DSE 2C (3)+1]	<ul style="list-style-type: none"> • CO-1: भाषेच्या स्वरूप, वैशिष्ट्ये व कार्याची ओळख होते. • CO-2: भाषा अभ्यासाची आवश्यकता समजते. • CO-3: भाषा अभ्यासाच्या शाखा आणि विविध पद्धतींचा परिचय होतो. • CO-4: वागिन्द्रियांची रचना, कार्य आणि स्वननिर्मितीची प्रक्रिया समजते. • CO-5: स्वनविज्ञान, स्वनिमविचार आणि मराठीची स्वनिमव्यवस्थेची ओळख होते.
T.Y.B.A.	35023: भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार- प्रवासवर्णन [CC- 1E (3)]	<ul style="list-style-type: none"> • CO-1: मुद्रित माध्यमांसाठीची लेखन कौशल्ये विकसित होतात. • CO-2: प्रवासवर्णन या साहित्यप्रकाराचे स्वरूप, प्रेरणा, प्रयोजने, वैशिष्ट्ये आणि वाटचाल यांची ओळख होते. • CO-3: नेमलेल्या प्रवासवर्णनाचे आकलन, आस्वाद व विश्लेषण करता येते. • CO-4: भाषिक कौशल्ये विकसित होऊन मुद्रित माध्यमांमध्ये रोजगाराच्या संधी उपलब्ध होतात.
T.Y.B.A.	35025: कार्यक्रम संयोजनातील भाषिक कौशल्ये- भाग १ [SEC 2C (2)]	<ul style="list-style-type: none"> • CO-1: कार्यक्रमाचे स्वरूप आणि प्रकारांची ओळख होते. • CO-2: कार्यक्रम संयोजनातील भाषिक कौशल्ये प्राप्त होतात. • CO-3: कार्यक्रम संयोजनातील विविध घटकांची व त्यांच्या कार्याची ओळख होते.
Semester-VI		
T.Y.B.A.	36021: मध्ययुगीन मराठी वाङ्मयाचा स्थूल इतिहास- इ.स.१६०१ ते इ.स.१८१७ [DSE 1D (3+1)]	<ul style="list-style-type: none"> • CO-1: वाङ्मयेतिहासाची संकल्पना, स्वरूप, प्रेरणा व प्रवृत्ती समजावून घेता येते. • CO-2: मध्ययुगीन कालखंडाची सामाजिक आणि सांस्कृतिक पार्श्वभूमी समजावून घेता येते. • CO-3: मराठी भाषा आणि साहित्याचा कालखंडानुसार इतिहास समजावून घेता येतो.
T.Y.B.A.	36022: वर्णनात्मक भाषाविज्ञान- भाग २ [DSE 2D (3)+1]	<ul style="list-style-type: none"> • CO-1: रूपविन्यास आणि मराठीची रूपव्यवस्था यांची ओळख होते. • CO-2: वाक्यविन्यास आणि वाक्यव्यवस्थेचा मराठी

		<p>भाषेच्यासंदर्भात परिचय होतो.</p> <ul style="list-style-type: none"> • CO-3: अर्थविन्यास या संकल्पनेचा भाषावैज्ञानिक अंगाने परिचय होतो.
T.Y.B.A.	<p>36023: भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार- कविता [CC- 1F (3)]</p>	<ul style="list-style-type: none"> • CO-1: मराठी साहित्य, भाषिक कौशल्यविकास आणि शासनव्यवहार यांची माहिती मिळते. • CO-2: कविता या साहित्यप्रकाराचे स्वरूप, वाटचाल, प्रेरणा, प्रवृत्ती आणि वैशिष्ट्ये यांची ओळख होते. • CO-3: नेमलेल्या अभ्यासपुस्तकातील निवडक कवितांचे आकलन, आस्वाद व विश्लेषण करता येते. • CO-4: कविता या साहित्यप्रकारातील विविध अविष्कार व भाषा रूपांची नेमलेल्या अभ्यासपुस्तकाद्वारे ओळख होते.
T.Y.B.A.	<p>36025: कार्यक्रम संयोजनातील भाषिक कौशल्ये- भाग २ [SEC 2C (2)]</p>	<ul style="list-style-type: none"> • CO-1: कार्यक्रमाचे संयोजनातील लेखन कौशल्ये संपादित करता येतात. • CO-2: कार्यक्रम संयोजनातील भाषिक कौशल्ये प्राप्त होतात. • CO-3: आभासी कार्यक्रम संयोजनाची ओळख होते .

Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

**Program Outcomes, Program Specific Outcomes, Course specific
Outcomes**

2021-2022

Department of Marathi

Program Outcome: M.A. (Marathi)	
PO-1	मराठी भाषा तसेच वाङ्मयीन आणि जीवनविषयक जाणीवा समृद्ध होतात.
PO-2	साहित्यकृतींच्या चिकित्सक अभ्यासाची प्रवृत्ती वृद्धिंगत होते.
PO-3	भाषिक जाणिवा विकसित होऊन कौशल्यात्मक उपयोजनासाठी सिद्ध होतात.
PO-4	विविध जीवनक्षेत्रातील भाषाविषयक कौशल्य आत्मसात होऊन रोजगारक्षमतांची आणि प्रावीण्यांची निर्मिती होते.
PO-5	वाङ्मयीन मुल्ये आणि जीवनमुल्ये यांचे संस्कार होतात.
PO-6	विशिष्ट कालखंडातील साहित्यनिर्मितीच्या प्रेरणा व प्रवृत्ती लक्षात येतात आणि साहित्याचे नेमके आकलन होते.

Program Specific Outcome: M.A. (Marathi)	
PSO- 1	विशिष्ट कालखंडातील साहित्याच्या व्याप्तीबद्दल माहिती मिळते.
PSO- 2	लोकसंस्कृतीच्या उज्ज्वल परंपरेचे जतन करण्याची क्षमता विकसित होते.
PSO- 3	विविध साहित्यप्रकारांच्या प्रेरणा समजून घेता येतात.
PSO- 4	साहित्य अवलोकनाच्या माध्यमातून सामाजिक बांधिलकी वृद्धिंगत करता येते.
PSO- 5	लेखकाच्या समग्र अभ्यासातून लेखकाच्या साहित्यकृती, आशयसूत्रे, भाषिक प्रयोग, जीवनदृष्टी इत्यादींचे वाङ्मयीन प्रवाहातील मूल्यमापन आणि स्थान निर्धारण करता येते.
PSO- 6	साहित्य कला व इतर कला यांच्या वाचनातून अभिरुची वृद्धिंगत होते.

Course Outcome: M.A. (Marathi)

Class	Course title & Code	Course Outcome
Semester- I		
MA-I	10401: भाषाव्यवहार आणि भाषिक कौशल्ये- भाग १ [CC-1]	<ul style="list-style-type: none"> • CO-1: लेखनविषयक नियमांची ओळख होते. • CO-2: मराठीच्या प्रमाणभाषेचे लेखन व मुद्रितशोधन यांची ओळख होते. • CO-3: वाङ्मयीन व्यवहार व प्रकाशन व्यवसाय यांचा परिचय होतो. • CO-4: मुलाखतीचे स्वरूप, तंत्र व कौशल्ये समजावून घेता येते. • CO-5: मुद्रितशोधन, प्रकाशन व्यवसाय इत्यादी खेत्रात रोजगार निर्माण होतो.
MA-I	10402: मराठी साहित्याचा इतिहास (इ.स.१८१८ ते इ.स.१९२०) [CC-2]	<ul style="list-style-type: none"> • CO-1: साहित्येतिहासाची स्वरूपमीमांसा समजावून घेता येते. • CO-2: अव्वल इंग्रजी कालखंडातील साहित्याच्या प्रेरणा, प्रवृत्ती व स्वरूपाची ओळख होते. • CO-3: निर्धारित कालखंडातील सामाजिक धार्मिक, राजकीय सुधारणा व साहित्य यांच्या सहसंबंधांचा परिचय होतो. • CO-4: निर्धारित कालखंडातील साहित्यप्रकारांचे स्वरूप व वाटचाल आदींची ओळख होते.
MA-I	10403: ऐतिहासिक भाषाविज्ञान [CC-3]	<ul style="list-style-type: none"> • CO-1: भाषेचे स्वरूप, कार्य आणि भाषाभ्यासाच्या विविध पद्धतींचा परिचय होतो. • CO-2: भाषेचा उद्गम व विस्तार समजावून घेता येतो. • CO-3: भाषाकुलाची संकल्पना व स्वरूप समजावून घेता येते. • CO-4: भाषिक परिवर्तनाची संकल्पना, स्वरूप व कारणे समजावून घेता येतात.
MA-I	10404: ग्रामीण साहित्य [CBOP-4]	<ul style="list-style-type: none"> • CO-1: स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात ग्रामीण साहित्याच्या निर्मितीच्या कारणपरंपरेची ओळख होते. • CO-2: ग्रामीण साहित्याचे स्वरूप व कार्य यांची चिकित्सा करता येते. • CO-3: ग्रामीण साहित्यातील विविध वाङ्मयप्रकारांचा विकासाच्या टप्प्यांचे मूल्यमापन करता येते. • CO-4: ग्रामीण साहित्याचे योगदान, त्याच्या विकासाची

		गती आणि दिशा यांची मीमांसा करता येते.
Semester- II		
MA-I	20401: भाषाव्यवहार आणि भाषिक कौशल्ये- भाग २ [CC-5]	<ul style="list-style-type: none"> • CO-1: भाषांतर व अनुवाद लेखनाचे कौशल्य प्राप्त होते. • CO-2: निवेदनाची तंत्रे, शैली समजावून घेऊन निवेदनाचे कौशल्य प्राप्त होते. • CO-3: जनसंपर्काची संकल्पना व स्वरूप समजावून घेता येते. • CO-4: प्रकल्पलेखनाचे स्वरूप समजावून घेता येते.
MA-I	20402: मराठी साहित्याचा इतिहास (इ.स.१९२० ते इ.स.२०१०) [CC-6]	<ul style="list-style-type: none"> • CO-1: निर्धारित कालखंडातील साहित्याच्या प्रेरणा, प्रवृत्ती व स्वरूप समजावून घेता येते. • CO-2: साठोतरी कालखंडातील साहित्यप्रवाह आणि साहित्यचळवळींचा परिचय होतो. • CO-3: सामाजिक, धार्मिक, राजकीय विचारप्रवाह व साहित्य यांच्या सहसंबंधांचा परिचय होतो. • CO-4: निर्धारित कालखंडातील साहित्यप्रकारांचे स्वरूप व वाटचाल आदींची ओळख होते.
MA-I	20403: समाज-भाषाविज्ञान [CC-7]	<ul style="list-style-type: none"> • CO-1: समाजभाषाविज्ञानाच्या स्वरूप व भूमिकेचा परिचय होतो. • CO-2: भाषाउपयोजनातील वैविध्य समजावून घेता येते. • CO-3: भाषा आणि संस्कृतीच्या परस्परसंबंधाची ओळख होते. • CO-4: बदलत्या भाषारूपांची ओळख होते.
MA-I	20404: दलित साहित्य [CBOP-8]	<ul style="list-style-type: none"> • CO-1: स्वातंत्र्यप्राप्तीनंतरच्या कालखंडात दलित साहित्याच्या निर्मितीची कारणे, परंपरा आणि या साहित्याने दिलेल्या आव्हानांचा परिचय होतो. • CO-2: दलित साहित्यातून व्यक्त होणाऱ्या वेदनांचे व विद्रोहाचे स्वरूप जाणून घेता येते. • CO-3: दलित साहित्याने निर्माण केलेल्या विविध साहित्यप्रकारांच्या विकासांचे मूल्यमापन करता येते.
Semester- III		

MA-II	30401: प्रसार- माध्यमांसाठी लेखन कौशल्ये- भाग १ [CC-9]	<ul style="list-style-type: none"> • CO-1: प्रसारमाध्यमांसाठी लेखन कौशल्ये अवगत होतात. • CO-2: प्रसारमाध्यमांचे समाजातील महत्त्व समजावून घेता येते. • CO-3: प्रसारमाध्यमांच्या स्वरूपाचे ज्ञान अवगत होते. • CO-4: दृकश्राव्य नवमाध्यमांसाठी लेखन करण्याची क्षमता विकसित होते.
MA-II	30402: साहित्य समीक्षा [CC-10]	<ul style="list-style-type: none"> • CO-1: साहित्य, समीक्षाव्यवहाराच्या क्षमता विकसित होतात. • CO-2: समीक्षेची संकल्पना समजावून घेता येते. • CO-3: समीक्षाव्यवहारातील मूल्यकल्पनांचा परिचय होतो. • CO-4: विविध समीक्षापद्धतींमागील विचारव्यूह, दृष्टी समजावून घेता येते. • CO-5: मराठी साहित्यसमीक्षकांच्या परंपरेची ओळख होते. • CO-6: समीक्षा करण्याची दृष्टी व क्षमता विकसित होतात.
MA-II	30403: नेमलेल्या मध्ययुगीन साहित्य- कृतींचा अभ्यास-भाग १ [CC-11]	<ul style="list-style-type: none"> • CO-1: मध्ययुगीन कालखंडातील साहित्यप्रकारांची संकल्पना व स्वरूप समजावून घेता येते. • CO-2: साहित्यकृतींच्या वैशिष्ट्यांचा परिचय होतो. • CO-3: साहित्यकृतींतील वाङ्मयीनमूल्ये आणि जीवनमूल्ये जाणून घेता येतात. • CO-4: कालखंड आणि साहित्यकृतींच्या निर्मितीचा अनुबंध शोधता येतो.
MA-II	30405: लोकसाहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य- भाग १ [CBOP-12]	<ul style="list-style-type: none"> • CO-1: लोकसाहित्याच्या मूलतत्त्वांची ओळख होते. • CO-2: मराठीतील लोकसाहित्याच्या संकलन, संशोधन व मूल्यनास चालना देता येते. • CO-3: लोकसाहित्याचे स्वरूप, व्यापकता व सर्वसमावेशकता लक्षात घेता येते. • CO-4: लोकसाहित्यातील विविध प्रकार, स्वरूप व विशेष समजावून घेता येतात.
Semester- IV		
MA-II	40401: प्रसार- माध्यमांसाठी लेखन	<ul style="list-style-type: none"> • CO-1: प्रसारमाध्यमांसाठी लेखन कौशल्ये अवगत होतात.

	कौशल्ये- भाग २ [CC-13]	<ul style="list-style-type: none"> • CO-2: प्रसारमाध्यमांचे समाजातील महत्व समजावून घेता येते. • CO-3: प्रसारमाध्यमांच्या स्वरूपाचे ज्ञान अवगत होते. • CO-4: दृकश्राव्य नवमाध्यमांसाठी लेखन करण्याची क्षमता विकसित होते.
MA-II	40402: साहित्य संशोधन [CC-14]	<ul style="list-style-type: none"> • CO-1: संशोधनाची संकल्पना, प्रयोजने आणि विविध संशोधन पद्धतींचा परिचय होतो. • CO-2: वाङ्मयीन संशोधनाच्या विविध अभ्यासक्षेत्रांचा परिचय होतो. • CO-3: आंतर्विद्ययाक्षेत्रीय संशोधनाचे स्वरूप आणि महत्व जाणून घेता येते. • CO-4: मराठी संशोधकांच्या परंपरेची ओळख होते.. • CO-5: संशोधन करण्याची दृष्टी व क्षमता विकसित होतात.
MA-II	40403: नेमलेल्या मध्ययुगीन साहित्य-कृतींचा अभ्यास-भाग २ [CC-15]	<ul style="list-style-type: none"> • CO-1: मध्ययुगीन कालखंडातील साहित्यप्रकारांची संकल्पना व स्वरूप समजावून घेता येते. • CO-2: साहित्यकृतींच्या वैशिष्ट्यांचा परिचय होतो. • CO-3: साहित्यकृतींतील वाङ्मयीनमूल्ये आणि जीवनमूल्ये जाणून घेता येतात. • CO-4: कालखंड आणि साहित्यकृतींच्या निर्मितीचा अनुबंध शोधता येतो.
MA-II	40405: लोकसाहित्याची मूलतत्त्वे आणि मराठी लोकसाहित्य- भाग २ [CBOP-16]	<ul style="list-style-type: none"> • CO-1: लोकसाहित्यातील सामाजिक, धार्मिक, सांस्कृतिक जाणिवा समजावून घेता येतात. • CO-2: लोकसाहित्याच्या अभ्यासक्षेत्राची व्याप्ती समजावून घेता येते. • CO-3: लोकसाहित्याचे कलात्मक सौंदर्य व कलाविष्काराचे स्वरूप समजावून घेता येते. • CO-4: लोकसाहित्याच्या अभ्यासकांचे लोकसाहित्यातील योगदान जाणून घेता येते.

Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik
Academic year -2022

Program Outcomes, Program Specific Outcomes, Course specific Outcomes

Department of 'Hindi'

Program Outcome: B.A. (Hindi)	
PO-1	हिंदी में 3 वर्षीय डिग्री प्रोग्राम सफलतापूर्वक पूरा करने के बाद छात्र कर सकेंगे।
PO-2	हिंदी भाषाओं से संबंधित विभिन्न प्रकार के साहित्य में प्रतिस्पर्धा के लिए तैयार हो सकेंगे।
PO-3	एम. ए. हिंदी .जैसी उच्च शिक्षा में प्रवेश चाहता है।
PO-4	शोध और साहित्य के लिए पीजी पूरा करने के बाद हिंदी साहित्य से संबंधित किसी भी शोध क्षेत्र में प्रवेश करें।
PO-5	शोध करें और पौराणिक रूप से स्वतंत्र रूप से सोचें और तार्किक निष्कर्ष निकालें।
PO-6	आलोचनात्मक सोच और समग्र परिप्रेक्ष्य को नियोजित करें और साहित्य के प्रभाव का विश्लेषण करें।
PO-7	किसान बिल, महिला सशक्तिकरण और कई अन्य मुद्दों पर चल रहे विभिन्न मुद्दों पर व्यावहारिक रूप से सोचने के लिए सक्षम होंगे।
PO-8	छात्रों में और सामाजिक समुदाय के बाहर सोचने की क्षमता विकसित होंगे।
PO-9	आधुनिक प्लेटफॉर्म सभ्य वेबसाइट और लोकप्रिय पत्रिकाओं का उपयोग करें।

PO-10	समाजसुधार कीमांगके लिएदुनियाभरमेंउपलब्धविभिन्नसामग्रियोंपरसाहित्यसमीक्षा करना।
PO-11	छात्रोंकोआलोचनात्मकविश्लेषणकेसाथ-साथ विभिन्न रचनात्मक तरीकों सेसोचनेके लिए प्रोत्साहित करना।
PO-12	हिंदीभाषाकोमाध्यमकेरूपमेंइस्तेमालकरतेहुएसंदेशकोबढ़ावादेनेवालेपर्यावरणकृषिऔर अन्य सामाजिक मुद्दोंका ध्यान रखें।
PO-13	विभिन्न प्रतियोगी परीक्षाओंकेलिए उपस्थित होंऔरसाक्षात्कारों का बचाव करें।

Program Specific Outcome: B.A (Hindi)	
PSO-1	छात्र हिंदी साहित्य का ज्ञान प्राप्त करसकते हैं और इसे अपने दैनिक जीवन में लागू कर सकते हैं।
PSO-2	छात्र अपनेकवियोंऔरलेखकोंकेसाथविभिन्नप्रकारकेसाहित्यकीपहचानकरनेमेंसक्षमहैं।
PSO-3	वे महत्वपूर्ण विश्लेषक, पटकथालेखक और अन्य क्षेत्रोंके लिए प्रकाशन गृह साहित्यसमीक्षा में नौकरी पानेमेंसक्षमहोंगे।
PSO-4	वे अच्छी गुणवत्तावाली सामग्री पुस्तकों को जाननेमें माहिरहोंगे।
PSO-5	वे किसी भी विषय से संबंधित प्रतियोगी परीक्षाओं जैसे अनुवादक आदि का मुकाबला कर सकते हैं।
PSO-6	अनुसंधान उन्मुखकौशल विकसित करना ।
PSO-7	विभिन्नशोधकर्ताओंऔर उनकेशोध कार्योंका उचित ज्ञान प्राप्त करें।
PSO-8	हिंदीकोएकमाध्यमभाषाकेरूपमेंप्रयोगकरतेहुएचलरहेसमाजकेमुद्दोंकेबारेमेंलोगोंकोजागरूक करना।
PSO-9	ज्ञानकेसाथवहसमाजमेंजागरूकतासंदेशकोप्रभावीढंगसेफैलासकताहै।

Course Outcomes of B.A (Hindi)

1stYear :

1 – 2 Semester

Class	Course title & Code	Course Outcome
F.Y.B.A	<p><u>1 Sem-</u> 1A वैकल्पिक हिंदी 11091-B</p> <p><u>2ndsem-</u> 1B वैकल्पिक हिंदी 11092-B</p>	<p>CO: 1 छात्रों को हिंदी काव्य साहित्य का परिचय देना।</p> <p>CO: 2 छात्रों को कहानी साहित्य से अवगत कराना।</p> <p>CO: 3 हिंदी भाषाद्वारा संवाद कौशल्य विकसित करना।</p> <p>मौलिक लेखन की ओर छात्रों का रुझान बढ़ाना।</p> <p>CO: 4 छात्रों को विज्ञापन लेखन कौशल्य से परिचित कराना।</p> <p>CO: 5 हिंदी कंप्यूटिंग का परिचय देना।</p> <p>CO: 6 अनुवाद का स्वरूप से अवगत कराना।</p> <p>CO: 7 छात्रों को निबंधलेखन, कौशल्य से अवगत कराना।</p>
F.Y.B.Com	<p><u>1 Sem -</u> वैकल्पिक हिंदी -117-C</p> <p><u>2ndsem -</u> वैकल्पिक हिंदी -127-C</p>	<p>CO: 1 छात्रों को हिंदी काव्य साहित्य का परिचय देना।</p> <p>CO: 2 छात्रों को कहानी साहित्य से अवगत कराना।</p> <p>CO: 3 हिंदी भाषाद्वारा संवाद कौशल्य विकसित करना।</p> <p>CO: 4 मौलिकलेखन की ओर छात्रों का रुझान बढ़ाना।</p> <p>CO: 5 छात्रों को विज्ञापन लेखन कौशल्य से परिचित कराना।</p> <p>CO: 6 हिंदी कंप्यूटिंग का परिचय देना।</p> <p>CO: 7 अनुवाद का स्वरूप से अवगत कराना।</p> <p>CO: 8 छात्रों को पारिभाषिक से अवगत कराना।</p>

2ndYear :

3 – 4 Semester

class	Course title & Code	Course Outcome
S.Y.B.A	<p><u>3rdSem-[G2]</u> आधुनिककाव्यकहानीसा हित्यतथाव्यवहारिकहिंदी 23093 <u>4thsem-[G2]</u> आधुनिककाव्यकहानीव्यं गसाहित्यतथाव्यवहारिक हिंदी 24093</p>	<p>CO: 1 छात्रों को हिंदी काव्य साहित्य का परिचय देना। CO: 2 छात्रों को व्यंग्य कहानी साहित्य से अवगत कराना। CO: 3 हिंदी भाषाद्वारा संवाद कौशल्य विकसित करना। CO: 4 मौलिकलेखन की ओर छात्रों का रुझान बढ़ाना। CO: 5 छात्रों को हिंदी कारक व्यवस्था तथा शब्दयुग्म का अर्थ लिखकर प्रत्यक्ष वाक्य में प्रयोग समझना। CO: 6 साक्षात्कार कला, भाषा का मोबाईल तन्त्र का परिचय देना। CO: 7 छात्रों को पल्लवन कला से अवगत कराना। CO: 8 छात्रों को संक्षेपण लेखन कला का प्रत्यक्ष बोध तथा सृजनात्मकता का विकास कराना।</p>
S.Y.B.A	<p><u>3rdSem-[S1]</u> काव्यशास्त्र DSE-1A 23091 <u>4thsem-[S1]</u> साहित्यकेभेद DSE-1B 24091</p>	<ul style="list-style-type: none">• CO: 1 भारतीय काव्यशास्त्र का परिचय देना।• CO: 2 छात्रों को काव्यशास्त्र का परिभाषा तत्व और आदि से अवगत कराना।• CO: 3 छात्रों को काव्य के तत्व शब्दशक्ति का परिचय देना।• CO: 4 छात्रों को काव्य में रस का स्वरूप स्पष्ट कराना।• CO: 5 भारतीय काव्यशास्त्र में रुचि पैदा करना तथा आलोचनात्मक दृष्टि का विकास करना।• CO: 6 साहित्य के भेद से अवगत करना।• CO: 7 छात्रों को काव्य पद्य भेद से अवगत करना महाकाव्य खंड काव्य और मुक्तक काव्य से अवगत करना।• CO: 8 नाटक का स्वरूप समझाना छात्रों में

		<p>नाटक अभिनय की रुचि का विकास करना</p> <ul style="list-style-type: none"> •
S.Y.B.A	<p><u>3rdSem-[S2]</u> मध्ययुगीनकाव्यतथाउप न्यास साहित्य DSC-2A 23092 <u>4thsem-[S2]</u> मध्ययुगीनकाव्यनाटक साहित्य DSC-2B 24092</p>	<ul style="list-style-type: none"> • CO: 1 कबीर के काव्य का परिचय कराना। • CO: 2 मीराबाई के काव्य से अवगत कराना। • CO: 3 भारतीय उपन्यास की अवधारणा समझाना। • CO: 4 उपन्यासकृति का मूल्यांकन ,कलाविकसित करना। • CO: 5 साहित्यकृतियोंसेप्रस्तुत जीवनमूल्योकोआत्मविस्तृतकरना। • CO: 6 रहीमकेकाव्यकाबोधकराना। • बिहारीकेकाव्यअभिव्यंजनासमझाना। • CO: 7 हिंदी नाटक और रंगमंच सेअवगत कराना। • CO: 8 छात्रों में अभिनय गुण विकसितकरना, नाट्यलोचना से अवगत कराना
S.Y.B.A	<p><u>3rdSem-[SEC-2A]</u> अनुवादस्वरूपएवंव्यवहार -23096 <u>4thsem-[SEC-2B]</u> माध्यमलेखन -24096</p>	<ul style="list-style-type: none"> • CO: 1 अनुवादकास्वरूपसमझानाछात्रोंकोअनुवादकौशल्य अवगतकराना। • CO: 2 अनुवादक्षेत्रतथाहिंदीसेमराठी, अंग्रेजीसेहिंदीमराठीमेंअनुवादकौशल्यकाविकासकराना। • CO:3छात्रोंकोमाध्यमलेखनसेपरिचितकराना।

		<ul style="list-style-type: none"> • CO:4सृजनात्मकलेखनकौशल्यकाविकसितविकास करना। • CO: 5 माध्यमलेखनसेतथादृश्यश्रव्यमाध्यमोंकीभाषासेअवगतकराना।
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3rd Year

5 -6 Semester

Classes	Course title & Code	Course Outcome
T.Y.B.A	5 th Sem- [G3 -CC-1E] कथेतर विधारं -35093 6 th sem-[CC-1F] गजल विधा तथा पत्राचार - ---	<ul style="list-style-type: none"> • CO: 1 छात्रों को संस्मरण साहित्य से अवगत कराना। • CO: 2 छात्रों को रेखाचित्र साहित्य से अवगत कराना। • CO: 3 छात्रों को मूल्यांकन केदृष्टि का विकास करना। • CO: 4 सभा- इतिवृत्तलेखनकौशल्य बुद्धि का विकास करना। • CO: 5 वार्तालेखन कौशल्य दृष्टि का निर्माण करना। • CO: 6 गजल साहित्य औरगजलकार केव्यक्तित्व से परिचित कराना। • CO: 7 छात्रों को सरकारी पत्रलेखन से अवगत कराना।
T.Y.B.A	5 th Sem-[S3 - DSE-1D] हिंदी साहित्य का इतिहास -35091 6 th sem-[DSE- 1E] हिंदी साहित्य का इतिहास - --	<ul style="list-style-type: none"> • CO: 1 हिंदी साहित्यइतिहासलेखनकापरिचितकराना। • CO: 2 छात्रोंकोहिंदीसाहित्यइतिहासकेकालविभाजननामकरणसेपरिचितकराना। • CO: 3 आदिकालीनभक्तिकालीन , रीतिकालीनप्रमुखसाहित्यिकप्रवृत्तियोंरचनाकारोंऔररचनाओंसेपरिचितकराना। • CO: 4 आधुनिककालकीपृष्ठभूमिसेछात्रोंकोअवगतकराना। • CO: 5 भारतेंदुयुगीनद्विवेदीयुगीनकेकाव्यकीविशेषताओंसेछात्रोंकाअवगतकराना।

		<ul style="list-style-type: none"> • CO: 6 आधुनिककालकेरचनाकारोंऔररचनाओंसेपरिचितकराना। • CO: 7 हिंदीगद्यकेउद्भवऔरविकाससेछात्रोंकोअवगतकराना।
T.Y.B.A	<p><u>5thSem</u>–(S4) भाषाविज्ञान –DSE–2C –35092 <u>6thsem</u>– [S4 -] –DSC-2D – ---</p>	<ul style="list-style-type: none"> • CO: 1 भाषाविज्ञानकेस्वरूपकापरिचयदेना। • CO:2छात्रोंकोभाषाविज्ञानकीव्याप्तिसमझाना। • CO:3भाषाविज्ञानकेअध्ययनकीदिशाओंकापरिचयकराना। • CO:4 भाषाविज्ञान के अनुप्रयोगात्मकपक्षोंको समझाना। • CO:5साहित्यअध्ययनमेंभाषाविज्ञानकी उपयोगिताको स्पष्ट करना।
T.Y.B.A	<p><u>5thSem</u>–[SEC-2C]- पटकथालेखन –35096 <u>6thsem</u>–[SEC-2D] साहित्यऔर फिल्मांतर - ----</p>	<ul style="list-style-type: none"> • CO:छात्रोंकोस्क्रिप्टलेखनअर्थपरिभाषासे परिचितकराना। • CO:2छात्रोंकोकथापटकथाऔरसंवादसेपरिचितकराना। • CO: 3 छात्रोंकोड्राफ्टबनानेसेपरिचितकराना। • CO:4छात्रोंकोसिनेमाकेस्वरूपसेपरिचितकराना। • CO:छात्रोंकोसाहित्यऔरसिनेमाकेअन्तसंबंधोंसेपरिचितकराना। • CO:6छात्रोंकोउपन्यासोंपरआधारितफिल्मोंसे अवगतकराना।

Maratha Vidya Prasarak Samaj's
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**Program Outcomes, Program Specific Outcomes, Course specific
 Outcomes**

Department of English

Program Outcome: B.A. (English)	
PO-1.	To prepare students to go for detailed study and understanding of literature and language.
PO-2.	To educate the student in both the artistry and the utility of the English Language through the study of literature.
PO-3.	To make students aware of the different communicative skills and make them effectively communicate in written and spoken modes.
PO-4	To provide students with the critical faculties necessary in an academic environment, while at job and in an increasingly complex and interdependent world.
PO-5	Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.

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Course Outcomes of B.A. (English)

Class	Course title & Code	Course Outcome
FYBA	Compulsory English	<p>CO. 1. To expose students to the best examples of prose and poetry in English so that they realize the beauty and communicative power of English</p> <p>CO. 2. To instill human values and develop the character of students as responsible citizens of the world</p> <p>CO. 3. To develop the ability to appreciate ideas and think critically</p> <p>CO. 4. To enhance employability of the students by developing their linguistic competence and communicative skills</p> <p>CO. 5. To revise and reinforce structures already learnt in the previous stages of learning.</p>
FYBA	Optional English	<p>CO. 1. To prepare students to go for detailed study and understanding of literature and language.</p> <p>CO. 2. To expose students to the basics of literature and language and develop an integrated view about language and literature in them.</p> <p>CO. 3. To acquaint them with minor forms of literature in English and help them to appreciate the creative use of language in literature.</p> <p>CO. 4. To introduce them to the basics of phonology of English so that they can pronounce better and speak English correctly.</p> <p>CO. 5. To enhance the job potential of students by improving their language skills</p>
SYBA	Compulsory English	<p>CO. 1. To expose students to the best examples of literature in English and to contribute to their emotional quotient as well as independent thinking.</p> <p>CO. 2. To instill universal human values through best pieces of literature in English</p> <p>CO. 3. To develop effective communication skills by developing ability to use right words in the right context.</p> <p>CO. 4. To enhance employability of the students by developing their basic soft skills</p> <p>CO. 5. To revise and reinforce the learning of some important areas of grammar for better linguistic competence.</p>
SYBA	General English –G2- Advanced Study of English Language	<p>CO. 1. To familiarize students with the various components of language.</p> <p>CO. 2. To develop overall linguistic competence of the students.</p> <p>CO. 3. To introduce students to some advanced areas of language study.</p> <p>CO. 4. To prepare students to go for detailed study and understanding of language.</p> <p>CO. 5. To enhance communicative skills of students by</p>

		developing insight into the working of language
SYBA	Special English- S1- Appreciating Drama	<p>CO. 1. To introduce Drama as a major form of literature</p> <p>CO. 2. To introduce minor forms of Drama</p> <p>CO. 3. To acquaint and enlighten students regarding the literary and the performing dimensions of drama</p> <p>CO. 4. To acquaint and familiarize the students with the elements and the types of Drama</p> <p>CO. 5. To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world</p> <p>CO. 6. To develop interest among the students to appreciate and analyze drama independently</p> <p>CO. 7. To enhance students' awareness regarding aesthetics of Drama and to empower them to evaluate drama independently</p>
SYBA	Special English- S2- Appreciating Poetry	<p>CO. 1. To acquaint students with the terminology in poetry criticism (i.e. the terms used in appreciation and critical analysis of poems).</p> <p>CO. 2. To encourage students to make a detailed study of a few sample masterpieces of English poetry.</p> <p>CO. 3. To enhance student's awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate poetry independently.</p>
SYBA	Mastering Communication Skills	<p>CO. 1. Enhancing the skill of using English for everyday communication</p> <p>CO. 2. To acquaint the students with the verbal and nonverbal communication</p> <p>CO. 3. To create opportunities to access exposure of speaking in various contexts</p> <p>CO. 4. To acquaint and familiarize the students with soft skills</p> <p>CO. 5. To develop interest among the students to interact in English</p>
TYBA	Compulsory English	<p>CO. 1. To introduce students to the best uses of language in literature.</p> <p>CO. 2. To familiarize students with the communicative power of English.</p> <p>CO. 3. To enable students to become competent users of English in real life situations.</p> <p>CO. 4. To expose students to varied cultural experiences through literature.</p> <p>CO. 5. To contribute to their overall personality development by improving their communicative and soft skills.</p>

TYBA	General English- G3- SEC- Enhancing Employability Skills	<p>CO. 1. Enhancing the skill of using English for everyday communication</p> <p>CO. 2. To acquaint the students with the verbal and nonverbal communication</p> <p>CO. 3. To create opportunities to access exposure of speaking in various contexts</p> <p>CO. 4. To acquaint and familiarize the students with soft skills</p> <p>CO. 5. To develop interest among the students to interact in English</p>
TYBA	Special English- S3- Appreciating Novel	<p>CO. 1. To introduce students to the basics of novel as a literary form.</p> <p>CO. 2. To expose students to the historical development and nature of novel.</p> <p>CO. 3. To make students aware of different types and aspects of novel.</p> <p>CO. 4. To develop literary sensibility and sense of cultural diversity in students.</p> <p>CO. 5. To expose students to some of the best examples of novel.</p>
TYBA	Special English- S4- Introduction to Literary Criticism	<p>CO. 1. To introduce students to the basics of literary criticism.</p> <p>CO. 2. To make them aware of the nature and historical development of criticism.</p> <p>CO. 3. To make them familiar with the significant critical approaches and terms.</p> <p>CO. 4. To encourage students to interpret literary works in the light of the critical approaches</p> <p>CO. 5. To develop aptitude for critical analysis.</p>
TYBA	SEC-Mastering Life Skills and Life Values	<p>CO. 1. Enhancing the skill of using English for everyday communication</p> <p>CO. 2. To acquaint the students with the verbal and nonverbal communication</p> <p>CO. 3. To create opportunities to access exposure of speaking in various contexts</p> <p>CO. 4. To acquaint and familiarize the students with soft skills</p> <p>CO. 5. To develop interest among the students to interact in English</p>

Course Outcomes of B.Com. (Compulsory English)

Class	Course title & Code	Course Outcome
FYB.Com	Compulsory English	<p>CO. 1. To offer relevant and practically helpful pieces of prose and poetry to students so that they not only get to know the beauty and communicative power of English but also its</p>

		<p>practical application</p> <p>CO. 2. To expose students to a variety of topics that dominate the contemporary socioeconomic and cultural life</p> <p>CO. 3. To develop oral and written communication skills of the students so that their employability enhances</p> <p>CO. 4. To develop overall linguistic competence and communicative skills of students</p>
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Course Outcomes of B.Sc. (English)

Class	Course title & Code	Course Outcome
SYB.Sc	Optional English	<p>CO. 1. To introduce the use of English in multimedia</p> <p>CO. 2. To acquaint the students with the language skills in multivalent contexts</p> <p>CO. 3. To acquaint and enlighten students regarding the speaking skill in various contexts</p> <p>CO. 4. To acquaint and familiarize the students with advanced writing skills in different contexts</p> <p>CO. 5. To acquaint and familiarize the students with soft skills</p> <p>CO. 6. To minimize the gap between the existing communicative skills of the students and the skills they require at professional level</p> <p>CO. 7. To develop competence among the students to appreciate and analyze short stories and poetry</p>

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Program Outcomes, Program Specific Outcomes, Course specific Outcomes

2021-2022

Department of Economics

Program Outcomes: B.A. (Economics)	
PO-1	After successful completion of three-year degree program in Economics a student will be able to;
PO-2	Compete in different types of competitive examinations
PO-3	Seeks admission to M.A Economics, M.B.A.
PO-4	Can take admission to B.Ed
PO-5	Will be able to start own business
PO-6	Can seek admission to the master in social worker (MSW)

Program Specific Outcomes: B.A. (Economics)	
PSO- 1	Students can gain the knowledge of economics basic concept
PSO- 2	He will understand the links between population and economic development
PSO- 3	He will identify the basic obstacles to economic development of the Indian Economy
PSO- 4	Students will get the knowledge of role of the government in economies stabilization
PSO- 5	He will understand the importance of the international trade in today's globalised world
PSO- 6	Can develop research skills
PSO- 7	He can get enriched his leadership qualities
PSO- 8	He can become fully aware about the financial literacy

Course Outcomes of B.A. (Economics)

Class	Course title & Code	Course Outcome
Semester- I		
F.Y.B. A	EC-11151:Indian Economic Environment I	<ul style="list-style-type: none"> • CO-1 Students will be familiarized about background of Indian economic environment • CO-2 Ability to compare the India economic environment with international economic environment will be generated
F.Y.B.Com	EC-113 :Business Economics I	<ul style="list-style-type: none"> • CO-1 Meaning, nature & scope of business economics will be given to all students. • CO-2 Understanding of basic concept of micro economics • CO-3 Students will learn to analyze demand & supply its determinants
Semester- II		
F.Y.B.A	EC-11152:Indian Economic Environment II	<ul style="list-style-type: none"> • CO-1 Students will be aware about the Indian banking system • CO-2 Students will get a primary introduction of different sector of Indian economy such as agriculture, industry and service. • CO-3 Awareness about digital economy will be generated and they will be ready for the digital India
F.Y.B.Com	EC-123 Business Economics II	<ul style="list-style-type: none"> • CO-1 Analysis of market structure & pricing under the same • CO-2 Remunerative structure of different factors of production will be studied.
Semester- III		
S.Y.B.A	EC-23151-Micro Economics (S1)	<ul style="list-style-type: none"> • CO-1 Students will be able to understand the behaviour of different economic agents, markets, consumers and price fluctuations. • CO-2 Understanding of different cost and revenue concepts will be given to students.

S.Y.B.A	EC-23152-Macro Economics I	<ul style="list-style-type: none"> • CO-1 Understanding of macro economics and its different components. • CO-2 Critical analysis of study different ideological schools and their theories of macro economical development.
S.Y.B.A	EC-23153: Financial System I	<ul style="list-style-type: none"> • CO-1 Awareness among students about Financial System in India. • CO-2 Students will be introduced with role of RBI in the Indian economy.
S.Y.B.A.	EC-23154: Basic concept of research methodology (SEC)I	<ul style="list-style-type: none"> • CO-1 Understanding of Basic Concept of Research Methodology.
SYBCOM	BC-233:Business Economics I (Macro)	<ul style="list-style-type: none"> • CO-1 Information over Meaning nature & scope of macro economics. Students will learn to calculate National income & its importance. • CO-2 Use of money its functions and value of its value
Semester- IV		
S.Y.B.A	EC-24151: Micro Economics (S1)II	<ul style="list-style-type: none"> • CO-1: To understand linearity and non linearity of micro economic variables. • CO-2 Knowledge of different welfare concepts and there importance into social context will be imparted into students through this course. .
S.Y.B.A.	EC-24152:Macro Economics (S2)II	<ul style="list-style-type: none"> • CO-1 Understanding of Saving and investment functions will be injected into their knowledge • CO-2 Different theories related to money will be studied by students. • CO-3 Understanding different policies in macro terms
S.Y.B.A	EC-24153: Financial System II	<ul style="list-style-type: none"> • CO-1 Nature and function of cooperative and rural banking will be understood by students. • CO-2 Clear understanding of financial market with respects to Indian and international context.
S.Y.B.A	EC-24154:Basic concept of research Methodology(SEC) II	<ul style="list-style-type: none"> • CO-1 Will learn Research Design, Data Collection, and Skill Development Activities. Data Analysis, Research Report

SYBCOM	BC-243:Business Economics(Macro)II	<ul style="list-style-type: none"> • CO-1 Analysis of trade cycles and their occurrence after certain specified period will be studied by students. • CO-2 Learning the evolution of different Employment theories. Information Public finance and its policy approached will be given to students
Semester-V		
T.Y.B.A.	EC-35151 International Economics (S3)	<ul style="list-style-type: none"> • CO-1 Understanding nature scope & Importance of international Economics • CO-2 Understanding of theories of international trade
T.Y.B.A	EC-35152 Public Finance (S4)	<ul style="list-style-type: none"> • CO-1 Understanding the role of government in economy • CO-2 Various expenditure & revenue process in the public finance will be analyzed
T.Y.B.A.	Eco-35153 Indian Economic Development (G3) I	<ul style="list-style-type: none"> • CO-1 Introduction of the concept like indicators of growth & development • CO-2 Students will study different development theories
T.Y.B.A	EC-:35154 Business Management (SEC) I	<ul style="list-style-type: none"> • CO-1Understanding the nature, scope and Importance of the business management • CO-2 Will learn the Business planning and decision making
T.Y.B.COM	BC-353 :Indian &Global Economic Development I	<ul style="list-style-type: none"> • CO-1 Will learn the basic characteristics of Indian economy as an emerging economy. • CO-2 Place and role of Agriculture & Industries sector in Indian economy will improve their knowledge about the Indian economy
Semester-VI		
T.Y.B.A	EC-36151 International Economics (S3) II	<ul style="list-style-type: none"> • CO-1 Understanding the role of international financial Institution • CO-2 Importance of foreign capital into the economy will be studied by students

T.Y.B.A	EC-36152 Public Finance (S4) II	<ul style="list-style-type: none"> • CO-1 Will able to learn concepts of Budget and its components. • CO-2 Information of fiscal policy in public finance and its importance will enhance students macro level thinking Study of the theories of social welfare
T.Y.B.A.	EC-36153 Indian Economic Development II	<ul style="list-style-type: none"> • CO-1 Students will study different growth models • CO-2 Importance of economic planning & importance of foreign capital will be studied by students.
T.Y.B.A	EC-36154 Business Management (SEC)II	<ul style="list-style-type: none"> • CO-1 Leadership skills -ability to show leadership skills with business ideas and work on business ventures
T.Y.B.COM	BC-363 Indian & Global Economic Development II	<ul style="list-style-type: none"> • CO-1 Will understand critical analysis of the reforms like liberalization ,privatization globalization & there challenges • CO-2 Study of foreign capital & balance of Payment will enlance students' knowledge about the international economics.

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Program Outcomes, Program Specific Outcomes, Course specific
 Outcomes
 2021-2022

Department of Political Science

Program Outcome: B.A. (Political Science)	
PO-1	Take informed actions after identifying the assumption that frame our thinking and action, checking out the degree to which these assumptions are accurate & valid looking at our ideas & decisions (intellectual, organizational & personal) from different perspectives.
PO-2	In depth knowledge of Indian Political system, Political thinkers, administrative system.
PO-3	Development knowledge of administrative studies with special reference to Indian administrative structures & practices.
PO-4	Critically evaluate the social, economic and political variables for a proper understanding of plurality of Indian society.
PO-5	Build overall consciousness regarding national political history, international relations & present Indian & western political thinkers.
PO-6	Understand the issues of environmental contexts & sustainable development.
PO-7	Appear for competitive examinations.

Program Specific Outcome: B.A. (Political Science)	
PSO-1	Knowledge about Political system of the nation
PSO-2	Study of National & International Political Affair
PSO-3	Understanding the government mechanism, its function duties & responsibilities.
PSO-4	Getting knowledge of Constitution of India
PSO-5	Creating appropriate & efficient political leader.

Course Outcomes of B.A. (Political Science)

Class	Course title & Code	Course Outcome
Semester- I		
FYBA	11161A : Introduction to Indian Constitutions	<ul style="list-style-type: none"> • CO-1: Recognize background & features of Indian constitution. • CO-2: Explain Fundamental Rights, Duties & Directive principle of state Policy.

		<ul style="list-style-type: none"> • CO-3: Describe Federal structure of India & Issues related to federal system. • CO-4: Knowing about constitution amendment.
FYBA	11441: An Introduce to Public Administration	<ul style="list-style-type: none"> • CO-1: Introduce the students to the discipline of Public Administration. • CO-2: Acquaint the principles & types of Administration. • CO-3: Study of the mechanism Organization.
FYBA	11251: History of Civilization : Indian Civilization & Heritage	<ul style="list-style-type: none"> • CO-1: To increase a sense of awareness and affection towards the nation & its historic heritage among the students. • CO-2: Knowledge about the Indian culture, Civilization & its heritage with its sources like Archeological, Numismatic & Epigraphic & Literary from pre- historic period. • CO-3: Discuss the importance & methods of conservation of Historical Heritage.
Semester - II		
FYBA	11162A: Introduction to Indian Constitutions	<ul style="list-style-type: none"> • CO-1: Explain structure of Central, State government bodies • CO-2: Study of Indian Judiciary mechanism • CO-3: Knowledge about Indian electoral system
FYBA	11442: An Introduce to Public Administration	<ul style="list-style-type: none"> • CO-1: Knowing about Personal Administration • CO-2: Study of the Financial Administration • CO-3: Study of the mechanism for the solution of problems in public administration.
FYBA	11252: History of Civilization : Indian Civilization & Heritage	<ul style="list-style-type: none"> • CO-1: An Introduce the students to various aspect of Ancient India • CO-2: Getting knowledge the various school of art in Indian Civilization. • CO-3: To help the students to understand architecture in Indian form the ancient to the modern Period.
Semester - III		
SYBA	23163: An Introduction to Political Ideologies	<ul style="list-style-type: none"> • CO-1: Knowing about the Political Ideology. • CO-2: Role of different political Ideologies & their impact of politics.

SYBA	23161: Western Political Thoughts	<ul style="list-style-type: none"> • CO-1: Getting information about western thinkers and their political thoughts. • CO-2: The great diversity of social contexts and philosophical visions.
SYBA	23162: Political Journalism	<ul style="list-style-type: none"> • CO-1: To Acquent knowledge of Political Journalism. • CO-2: Complex relationship between the communication, media and power politics.
SYBA	23165: Basic of Indian Constitution (Extra Credit)	<ul style="list-style-type: none"> • CO-1: To acquaint students with the important features of the Constitution of India and with the basic framework of Indian government. • CO-2: To familiarize students with the working of the constitution.

Semester - IV

SYBA	24164: An Introduction to Political Ideologies	<ul style="list-style-type: none"> • CO-1: Close link between an idea its actual realization in public policy • CO-2 Legacy of all the major ideologies
SYBA	24161: Western Political Thoughts	<ul style="list-style-type: none"> • CO-1: The history of political thought as a series of critical, interconnected. • CO -2: open-ended conversations about the ends and means of the good life.
SYBA	24162: Political Journalism	<ul style="list-style-type: none"> • CO-1: Critical appraisal of practices of political image management, campaigns, propaganda and censorship. • CO-2: Knowing about the Indian context of political Journalism
SYBA	24165: Basic of Indian Constitution (Extra Credit)	<ul style="list-style-type: none"> • CO-1: To get knowledge of the political processes & the actual functioning of the political system. • CO-2: It emphasizes on local influences that derive form social stratification of castes & economics determinants & critically assesses its impact on political process.

Semester - V

TYBA	35164: Local Self-Government in Maharashtra	<ul style="list-style-type: none"> • CO-1: To introduce the students to the structure of Local Self Government • CO-2: To get knowledge various committees in formation of local self-government. • CO-3: To make students aware about 73rd and 74th Constitutional amendments • CO-4: To make students aware of the Rural bodies, their functions, compositions and
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		importance.
TYBA	35161: Public Administration	<ul style="list-style-type: none"> • CO-1: An Introduction to Public Administration. • CO-2: The essence of Public Administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living. • CO-3: To know the Various approaches to the public administration • CO-4: The recent developments and particularly the emergence of New Public Administrations are incorporated within the larger paradigm of democratic legitimacy.
TYBA	35162: International Relation	<ul style="list-style-type: none"> • CO-1: Knowledge with concepts and dimensions of international relations and makes an analysis of different theories highlighting the major debates and differences within the different theoretical paradigms. • CO-2: To identify various approaches to International relation. • CO-3: Students are also expected to understand power politics and relations among states, while also making them aware of the different characteristics and parameters of national power
TYBA	35165: Smyukta Maharashtra Movement (Extra Credit)	<ul style="list-style-type: none"> • CO-1: Students awareness of political process in Maharashtra. • CO-2: its tries to acquaint students with the main issues & concerns in the public life of a regional society as it shaped the concept of colonialism, nationalism & modernity.
Semester – VI		
TYBA	36164: Local Self-Government in Maharashtra	<ul style="list-style-type: none"> • CO-1: To make students aware about 74th Constitutional amendments. • CO-2: To make students aware of the Urban bodies, their functions, compositions and importance. • CO-3: To get knowledge of State Election Commissions & Finance Commission & role of local self-government. • CO-4: To identify the challenges of local self-government

TYBA	36161: Public Administration	<ul style="list-style-type: none"> • CO-1: Getting information about various concepts in Public Administration. • CO-2: Knowing personnel public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with the process of change. • CO-3: To make students aware of budgeting process in India • CO-4: Knowledge of legislative and judicial control over administration.
TYBA	36162: International Relation	<ul style="list-style-type: none"> • CO-1: The dominant theories of power and the question of equity and justice, the different aspects of balance of power leading to the present situation of a unipolar world are included. • CO-2: Getting various aspects of conflict and conflict resolution, collective security and in the specificity of the long period of the post Second World War phase of the Cold War, of Détente and Deterrence leading to theories of rough parity in armaments
TYBA	36165: Smyukta Maharashtra Movement (Extra credit)	<ul style="list-style-type: none"> • CO-1: The aim of the course is that students are expected to understand both the historical evolution of Maharashtra's politics & different analyses of politics of state. • CO-2: : its tries to acquaint students with the main issues & concerns in the public life of a regional society as it shaped the concept of colonialism, nationalism & modernity.

Program Outcome: M. A. (Political Science)

Program Outcome: M. A. (Political Science)	
PO-1	Critical Thinking: take informed actions after identifying the assumptions that frame our thinking and actions, Checking out the degree to which these assumptions are accurate and valid and looking at our ideas & decisions from different perspectives.
PO-2	Effective Citizenship: Demonstrate empathetic social concern and equity centered national development and the ability to act with an informed awareness of issues & participate in civic life though volunteering.
PO-3	Ethics: Recognize different value systems including your own understand the moral dimensions of your decisions & accept responsibility for them.
PO-4	Environment & Sustainability: Understand the issues of environment contexts & sustainable development.

PO-5	Self –directed: Acquire the ability to engage in independent & life-long learning in the broadest context socio-technological change.
PO-6	Build Social & National Awareness: the course build Social & national awareness & patriarchy in students.
PO-7	Appear for competitive examinations & Research like NET, SET, Ph.D.

Program Specific Outcome: M. A. (Political Science)

PSO-1	Understanding of Political theory, Ideologies
PSO-2	To knowing Political thinking traditional thoughts & Modern Indian thinking.
PSO-3	Brief understanding Administrative Process & thinking in western thinking as well as Indian context as Indian Administrative process.
PSO-4	Evaluate Indian Political System & Major factors that influence policy making Process.
PSO-5	Comparatively understanding different political systems in worldwide.

Course Outcomes of M. A. (Political Science)

Class	Course title & Code	Course Outcome
Semester - I		
M. A. 1	12401: Traditions of Political Thought	<ul style="list-style-type: none"> • CO-1: The major traditions of thought that have shaped political discourse in different parts of the world over the last three millennia. • CO-2: It stresses the great diversity of social contexts and philosophical visions that have informed the ideas of key political thinkers across epochs. • CO-3: The chief objective is to project the history of political thought as a series of critical, interconnected and open-ended conversations about the ends and means of the good life.
M. A. 1	12402: Administrative Theory	<ul style="list-style-type: none"> • CO-1: Study of the mechanism for the solution of problems in Public Administration • CO-2: Present paper aims to make aware the students about Evolution & Importance of the Public Administration. • CO-3: Paper introduces changing trends in the field of Public Administration
M.A. 1	12403: Political Institution in India	<ul style="list-style-type: none"> • CO-1: An Introduce to the leading institutions of India's Political system and to the changing nature of these institutions.

		<ul style="list-style-type: none"> • CO-2: Apart from explaining the structure and functions of the main institutions the course will try to acquaint students with the idea of institutional balance of power as discussed in the Indian constitution. • CO-3: Developed during the functioning of Indian democracy over the past seven decades.
M. A. 1	12406: India's Foreign Policy	<ul style="list-style-type: none"> • CO-1: To undertake an in depth analysis of India's foreign policy. • CO-2: It seeks to probe and ascertain the major issues and debates in the field of Indian foreign policy. • CO-3: Explores India's complex relationships, both bilateral and multilateral, with other countries
M. A. 1	10091: Human Right (two credits)	<ul style="list-style-type: none"> • CO-1: To understand the historical growth of the idea of human rights • CO-2: demonstrate an awareness of the international context of human rights
Semester – II		
M. A. 1	22401: Comparative Political Analysis	<ul style="list-style-type: none"> • CO-1: To acquaint the student with the sub-discipline of comparative politics. • CO-2: Understand the Comparative methodology. • CO-3: Knowing of domestic politics across countries.
M. A. 1	22402: Theory of International Politics	<ul style="list-style-type: none"> • CO-1: Students need a brief history of international politics. • CO-2: Understand Why we study the subject & how current scholarship is informed by what preceded it. • CO-3: Theories provide interpretative framework for understanding what is happening in the world & the levels of analysis competing theories are presented
M. A. 1	22403: Public Policy	<ul style="list-style-type: none"> • CO-1: Knowledge of the basic concepts, theories and process of public policy. • CO-2: To seeks to help students understand public policy processes and actors involved in it by studying specific policies. • CO-3: To help students understand and analyse policy making in practical context.

M. A. 1	22407: Political Thought in Modern Maharashtra	<ul style="list-style-type: none"> • CO-1: An introduction to the political thinking in modern Maharashtra since the late 19th century. • CO-2: To acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the context of colonialism, nationalism and modernity. • CO-3: The course is woven around thematic issues rather than around individual thinkers in order. • CO-4: To help students understand the essentially collective and yet diverse nature of political thought.
M. A. 1	20091 Human Right (two Credits)	<ul style="list-style-type: none"> • CO-1: Identify and evaluate the historical, philosophical, political and cultural developments establishing human rights as a set of global norms, agreements, and procedures. • CO-2: Explore global human rights institutions, law, and processes, and assess the impact of their interaction with national and local cultural practices and norms.
Semester – III		
M. A. 2	32401: Modern Political Thought	<ul style="list-style-type: none"> • CO-1: Study of the contribution of political thinkers in independent movements and their need for modern society. • CO-2: An Introduction to the student's political idea, views and concerns of leading Indian thinkers. • CO-3: To understand decipher the diverse and often contesting ways in which the ideas of nationalism, democracy and social transformation were discussed in pre and post-independence India.
M. A. 2	32402: Political Sociology	<ul style="list-style-type: none"> • CO-1: An Introduction to the overall scope of the sub-discipline of political sociology. • CO-2: Understand the concept of power. • CO-3: The emphasis is on the nature of power in modern societies-more in the form of organizations and social formations than as individual power. • CO-4: Students are also expected to understand different forms of justifications of power and the role of ideology in this regard.
M. A. 2	32403: World Politics – New development	<ul style="list-style-type: none"> • CO-1: An Introduction to the students to the contemporary issues and debates in the world politics.

		<ul style="list-style-type: none"> • CO-2: Awareness of the dimensions of the making of the foreign policy as well as the role of Non- State Actors in World Politics • CO-3: Learn about the emerging New World Order and the challenges to it.
M. A. 2	32404: Indian Administration- Structure & Organization	<ul style="list-style-type: none"> • CO-1: To introduce the students to the evolution of Indian Administration. • CO-2: To acquaint them with the Principles and structure of Indian Administration. • CO-3: To provide comprehensive understanding of administrative development.
M. A. 2	30095: Introduction to Constitution (two credits)	<ul style="list-style-type: none"> • CO-1: To introduce to philosophy of Constitution of India to Students • CO-2: To acquaint them with their freedoms and responsibility

Semester - IV

M. A. 2	42401: Fundamental of Political Theory	<ul style="list-style-type: none"> • CO-1: Students will be familiarised with the different dimensions and the contemporary relevance of different concepts and theories, which would be applied in studying other papers. • CO-2: An Introduces the students to the evolution, importance to the study of Political Theory. • CO-3: Understanding Political Theory as a distinctive area of inquiry. It is the integral area to the study of politics. • CO-4: It highlights debates in the field and places them in a historical perspective
M. A. 2	42402: Political Process in India	<ul style="list-style-type: none"> • CO-1: An Introduce to the student the key issues and details of the political process in post - independence India. • CO-2: Knowledge of perspective to understand and analyse Indian politics. • CO-3: To help students understand the expansive meaning of political process as it shapes in the arena of electoral and party politics, in the form of mass mobilizations and as politics of interests
M. A. 2	42403: Politics & Society	<ul style="list-style-type: none"> • CO-1: To understand the interface of politics with social structures. • CO-2: Getting processes and how the nature of power is shaped by social factors
M. A. 2	42404: Twentieth century Political Thought	<ul style="list-style-type: none"> • CO-1: Knowledge of certain prominent intellectual currents that have shaped global political discourse in the twentieth century and beyond. • CO-2: It does so by focusing on major representative thinkers.

		<ul style="list-style-type: none">• CO-3: The chief objective is to project the contemporary resonance and rich diversity of key perspectives, frameworks and agendas articulated by these seminal theorists and schools of thought.
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Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

Program Outcomes, Program Specific Outcomes, Course specific Outcomes

2021-2022

Department of Geography

Program Outcome: B.A. (Geography)	
PO-1	❖ To articulate the theories, philosophies, and concepts in the discipline of geography, including unifying themes of spatial patterns and structures, the interrelationship between people and places, and the interactions between nature and society.
PO-2	❖ To explain and distinguish differences among the various methodologies used in geographic research and analysis.
PO-3	❖ To acquire, analyze, evaluate, and interpret geographic data and/or research.
PO-4	❖ To communicate geographic data, theories, philosophies, and concepts in oral, written, and visual forms, with ethical engagement and respect for diversity of individuals, groups, and cultures.
PO-5	❖ To identify and assess how geographic concepts apply in the workplace and in everyday life to solve real-world problems.

Programme specific Outcomes: B.A. (Geography)	
PSO-1	The students will be familiar with the physical characteristics of the earth. Students will be aware of the geomorphic processes that shape the earth. They will be able to correlate physical attributes of the earth with the human attributes.
PSO-2	Students will understand the importance of human activities on the earth. They will understand the impact of human activities on the environment. Students will also understand the reasons of cultural differences amongst the different cultures.
PSO-3	They will understand the problems arising due to physical and cultural differences. They will also solve the problems arising due to these differences.
PSO-4	Students will know how to conduct social and economic surveys for the analysis of a specific problem.
PSO-5	Students will learn the application of modern surveying instruments such as Dumpy Level, Theodolite etc.
PSO-6	Students will learn the use of modern techniques like GIS and other cartographic techniques
PSO-7	Students will be capable of undertaking a research problem and conduct a research in the field of Geography.
PSO-8	Students will be able to understand the environmental problems.

Programme specific Outcomes: B.COM. (Geography)

PSO-1	The students will be familiar with the physical characteristics of the earth. Students will be aware of the geomorphic processes that shape the earth. They will be able to correlate physical attributes of the earth with the human attributes IN Commercial Geography.
PSO-2	Students will understand the importance of human activities on the earth. They will understand the impact of human activities on the environment. Students will also understand the reasons of cultural differences amongst the different cultures.
PSO-3	They will understand the problems arising due to physical and cultural differences. They will also solve the problems arising due to these differences.
PSO-4	Students will know how to conduct social and economic surveys for the analysis of a specific problem.
PSO-5	Students will be able to understand the environmental problems.

Course Outcomes of B.A. (Geography)

Class	Course title & Code	Course Outcome
Semester-1		
FYBA	PHYSICAL GEOGRAPHY. (GG.110 A)	<ul style="list-style-type: none"> ❖ CO-1 To introduce the students to the basic concepts in Physical geography. ❖ CO-2 To introduce latest concept in Physical geography ❖ CO-3 To acquaint the students with the utility and application of Physical geography in different regions and environment. ❖ CO-4 To make the students aware about Earth system (Lithosphere, Atmosphere, Biosphere and Hydrosphere)
Semester-II		
FYBA	HUMAN GEOGRAPHY . (GG.110 B)	<ul style="list-style-type: none"> ❖ CO-1 To introduce the students to the basic concepts in Human geography. ❖ CO-2 To introduce latest concept in Human geography ❖ CO-3 To acquaint the students with the utility and application of Human geography in different regions and environment. ❖ CO-4 To make the students aware about Elements And Study Area of Human Geography (Population, Settlement, and Agriculture)
Semester-III		

SYBA	ENVIRONMENT GEOGRAPHY - I, GG.210 (A) G2	<ul style="list-style-type: none"> ❖ CO-1 To create the awareness about dynamic environment among the student. ❖ CO-2 To acquaint the students with fundamental concepts of environment geography for development in different areas. ❖ CO-3 The students should be able to integrate various factors of Environment and dynamic aspect of Environmental geography. ❖ CO-4 To make aware the students about the problems of environment , their utilization and conservation in the view of sustainable development
SYBA	GEOGRAPHY OF MAHARASHTRA, A, GG.220 (A) S1	<ul style="list-style-type: none"> ❖ CO-1 To acquaint students with Geography of our State. ❖ CO-2 To make students aware of the magnitude of problems and prospects in Maharashtra. ❖ CO-3 To help students understand the inter relationship between the subject and the society. ❖ CO-4 To help students understand the recent trends in regional studies
SYBA	SCALE AND MAP PROJECTION, GG. 201 (A) S2	<ul style="list-style-type: none"> ❖ CO-1 To introduce the basic concepts in Practical Geography ❖ CO-2 To enable students to use various Scales and Projection Techniques in Geography. ❖ CO-3 To acquaint students with the utility of various Projections in Geographical knowledge. ❖ CO-4 To explain the elementary and essential principles of practical work in Geography. ❖ CO-5 To develop practical skill and use of map scale and projection. ❖ CO-6 To make students aware of the new techniques, accuracy and skills of map making
SYBA	APPLIED COURSE OF DISASTER MANAGEMENT T SEC – A SEMESTER - III	<ul style="list-style-type: none"> ❖ CO-1 To introduce basic concepts and fundamental structure of Disaster Management (DM). ❖ CO-2 To inculcate critical thinking and problem-solving abilities on disaster management. ❖ CO-3 To enable students to assess the situation and design plan for Disaster management
Semester-IV		
SYBA	ENVIRONMENT GEOGRAPHY- II, GG.210 (B) G2	<ul style="list-style-type: none"> ❖ CO-1 To create awareness about dynamic environment among the students. ❖ CO-2 To acquaint students with the fundamental concepts of Environment Geography. ❖ CO-3 To acquaint students about the past, presents and future utility and potentials of natural resources. ❖ CO-4 To make aware students about the problems of environment, its utilization and conservation in the view of sustainable development.

SYBA	GEOGRAPHY OF MAHARASHTRA, GG.220 (B) S1	<ul style="list-style-type: none"> ❖ CO-1 To make students aware about the Agriculture problems and prospects of Maharashtra. ❖ CO-2 To understand the population distribution and settlement pattern in Maharashtra. ❖ CO-3 To understand the concept of rural development. ❖ CO-4 To understand the prospectus in Tourism activity in Maharashtra and the role of MTDC and Role of MIDC in industrial development in rural area of Maharashtra
SYBA	CARTOGRAPHIC TECHNIQUES, SURVEYING AND EXCURSION / VILLAGE / PROJECT REPORT GG. 201 (B) S2	<ul style="list-style-type: none"> ❖ CO-1 To introduce the students to the basic and contemporary concepts in Cartography. ❖ CO-2 To acquaint the students with the utility and applications of various Cartographic Techniques. ❖ CO-3 To introduce the latest concepts regarding the modern cartography in the field of Geography. ❖ CO-4 To explain the elementary and essential principles of practical work in Geography. ❖ CO-5 To develop practical knowledge and application of cartographical techniques. ❖ CO-6 To make students aware of the new techniques, accuracy and skills of Map Making.
SYBA	APPLIED COURSE OF TRAVEL & TOURISM SEC – B SEMESTER -IV	<ul style="list-style-type: none"> ❖ CO-1 To develop basic framework to understand the various elements of tourism management. ❖ CO-2 To evaluate the role of transport in travel and tourism industry. ❖ CO-3 To develop the skills to arrange, manage and implement various types of tours.
Semester-V		
TYBA	GEOGRAPHY OF TOIURISM GG. 310 G3	<ul style="list-style-type: none"> ❖ CO-1 To acquaint the students with the nature of man-environment relationship and human capability. ❖ CO-2 To adopt and modify the environment under its varied conditions from primitive life style to the modern living; ❖ CO-3 To identify and understand environment and population in terms of their quality and spatial Distribution pattern. ❖ CO-4 To comprehend the contemporary issues facing the global community.
TYBA	GEOGRAPHY OF INDIA GG-320 (S-3)	<ul style="list-style-type: none"> ❖ CO-1 To acquaint the students with geography of our Nation. ❖ To make the student aware of the magnitude of problems and CO-2 Prospects at National level. ❖ CO-3 To help the students to understand the inter relationship CO-4 Between the subject and the society. ❖ CO-5 To help the students to understand the recent trends in regional studied.

TYBA	TECHNIQUES OF SPATIAL ANALYSIS GG. 301 (S-4)	<ul style="list-style-type: none"> ❖ CO-1 To Introduce the Students with SOI Toposheets and to acquire the Knowledge of Toposheets ❖ CO-2 Reading/Interpretation. ❖ CO-3 To familiarize the students with the weather instruments and their applications in ❖ CO-4 Geographical phenomena. ❖ To acquaint the students with IMD weather maps and to gain the CO-5 knowledge of weather map ❖ CO-6 Reading / interpretation. ❖ CO-7 To train the students in elementary statistics as an essential part of geography. ❖ CO-8 To awareness about GIS among the students
TYBA	Value/ Skill based Course Research Methodology – I	<ul style="list-style-type: none"> ❖ CO-1 To develop the understanding of the basic concept of research ❖ CO-2 To develop the understanding of the basic framework of sampling and data collection ❖ CO-3 To develop the understanding of various sampling methods and techniques
Semester-VI		
TYBA	GEOGRAPHY OF TOIURISM GG. 310 G3	<ul style="list-style-type: none"> ❖ CO-1 To understand the history of Tourism ❖ CO-2 To introduce the students to the basic concepts in Tourism Geography. ❖ CO-3 To understand the types of Tourism ❖ CO-4 To gain knowledge different aspects of Tourism Geography.
TYBA	GEOGRAPHY OF INDIA GG-320 (S-3)	<ul style="list-style-type: none"> ❖ CO-1 To acquaint the students with geography of our Nation. ❖ CO-2 To make the student aware of the magnitude of problems and Prospects at National level. ❖ CO-3 To help the students to understand the inter relationship ❖ CO-4 Between the subject and the society. ❖ CO-5 To help the students to understand the recent trends in regional studied
TYBA	PRACTICAL GEOGRAPHY-II (TECHNIQUES OF SPATIAL ANALYSIS, SURVEYING AND EXCURSION /VILLAGE/ PROJECT REPORT) DSE-2 D	<ul style="list-style-type: none"> ❖ CO-1 To Introduce the Students with Means mode medium to acquire the Knowledge of Statistics. ❖ CO-2 To familiarize the students with the Mean Davison and Slandered Division ❖ CO-3 Geographical phenomena. ❖ CO-4 To train the students in elementary statistics as an essential part of geography. ❖ CO-5 To awareness about GIS among the students

TYBA	Value/ Skill based Course Research Methodology – II	<ul style="list-style-type: none"> ❖ CO-1 To identify various sources of information for data collection. ❖ CO-2 Understanding of the conducting survey on various issues and ❖ CO-3 develop the Report writing skill of students
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Course Outcomes of FYB.Com. (Commercial Geography)

Semester-1

FYB.Com	ELEMENTS OF COMMERCIAL GEOGRAPHY I	<ul style="list-style-type: none"> ❖ CO-1 To make students of the Commerce faculty aware of the correlations between Economic activities and Geographical factors. ❖ CO-2 To acquaint the students with various economic activities in Geographical Environment. ❖ CO-3 To acquaint the students with the dynamic aspects of resources and need for their conservation. ❖ CO-4 To make the students aware about the role and dynamics of population in Commerce.
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Semester-II

FYB.Com	ELEMENTS OF COMMERCIAL GEOGRAPHY II	<ul style="list-style-type: none"> ❖ CO-1 To make students of the Commerce faculty aware of the correlations between Economic activities and Geographical factors. ❖ CO-2 To acquaint the students with the Industrial sector and the pollution associated with it. ❖ CO-3 To make the students aware of the changing role of transport and communication in Trade and Commerce. ❖ CO-4 To make the students aware of the role of tourism in development. ❖ CO-5 To acquaint students with basic cartographic techniques.
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M.V.P. Samaj's
Arts Commerce and Science College, Nandgaon
Tal-Nandgaon Dist.-Nashik
 Programme Outcome, Programme Specific Outcomes, Course Specific
 Outcomes

Department of Commerce

Program Outcome: -B.Com. 2021-22

Program Outcome: B.Com.	
PO-1	This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, warehousing etc., well trained professionals to meet the requirements
PO-2	After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.
PO-3	Capability of the students to make decisions at personal & professional level will increase after completion of this course.
PO-4	Students can independently start up their own business.
PO-5	Students can get thorough knowledge of finance and commerce.
PO-6	The knowledge of different specializations in accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.

Program Specific Outcome	
PSO-1	The students can get the knowledge, skills and attitudes during the end of the B.com degree course.
PSO-2	By goodness of the preparation they can turn into a Manager, Accountant, Management Accountant, cost Accountant, Bank Manager, Auditor, Company Secretary, Teacher, Professor, Stock Agents, Government employments and so on.,
PSO-3	Students will prove themselves in different professional exams like C.A., C S, CMA, MPSC, UPSC. As well as other coeres.
PSO-4	The students will acquire the knowledge, skill in different areas of communication, decision making, innovations and problem solving in day-to-day business activities.
PSO-5	Students will gain thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication, computer.
PSO-6	Students can also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator. As well as other financial supporting services.

PSO-7	Students will learn relevant Advanced accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.	
PSO-8	Students will be able to do their higher education and can make research in the field of finance and commerce.	
Course Outcomes of Commerce		
Class	Course title	Course Outcomes
F.Y.B.Com.	Financial Accounting	<ul style="list-style-type: none"> • CO-1: To enable the students to learn principles and concepts of Accountancy.
		<ul style="list-style-type: none"> •
		<ul style="list-style-type: none"> • CO-2: Students are enabled with the Knowledge in the practical applications of accounting.
		<ul style="list-style-type: none"> • CO-3: To enable the students to learn the basic concepts of Partnership Accounting, and allied aspects of accounting.
		<ul style="list-style-type: none"> • CO-4: The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects.
		<ul style="list-style-type: none"> • CO-5: To find out the technical expertise in maintaining the books of accounts.
		<ul style="list-style-type: none"> • CO-6: To enable the students to learn principles and concepts of Accountancy.
		<ul style="list-style-type: none"> • CO-7: To encourage the students about maintaining the books of accounts for further reference.
F.Y.B.Com.	Computer Concepts & Applications	<ul style="list-style-type: none"> • CO-1: To introduce students with accounting packages like tally.
		<ul style="list-style-type: none"> • CO-2: To develop skill and knowledge among students in applications of internet in education of commerce.
		<ul style="list-style-type: none"> • CO-3: To make students familiar with computer environment & operating systems
		<ul style="list-style-type: none"> • CO-4: To use and understand useful functions in business as well as the concept of EMI.
F.Y.B.Com.	Business Mathematics and Statistics	<ul style="list-style-type: none"> • CO-1: To understand the different concept of population and sample and to make students familiar with Calculation of various types of averages and variation.
		<ul style="list-style-type: none"> • CO-2: To learn the applications of matrices in business.
		<ul style="list-style-type: none"> • CO-3: To understand the students to solve LPP to maximize the profit and to minimize the cost.
		<ul style="list-style-type: none"> • CO-4: To use regression analysis to estimate the relationship between two variables and to use frequency distribution to make decision.
		<ul style="list-style-type: none"> • CO-5: To understand the techniques and concept of different types of index numbers.

F.Y.B.Com.	Business	<ul style="list-style-type: none"> • CO-1: To make the students aware about the Business and Business Environment 	ss Environme
	Environment and	<ul style="list-style-type: none"> • CO-2: To develop entrepreneurial awareness among students. 	
	Entrepreneurship	<ul style="list-style-type: none"> • CO-3: To motivate students to make their mind set for thinking entrepreneurship 	

F.Y.B.Com.	Compulsory English	<ul style="list-style-type: none"> • CO-1: To offer relevant and practically helpful pieces of prose and poetry to students so that they not only get to know the beauty and communicative power of English but also its practical application.
		<ul style="list-style-type: none"> • CO-2: To expose students to a variety of topics that dominates the contemporary socio-economic and cultural life.
		<ul style="list-style-type: none"> • CO-3: To develop oral and written communication skills of the students so that their employability enhances.
		<ul style="list-style-type: none"> • CO-4: To develop overall linguistic competence and communicative skills of students
F.Y.B.Com.	Business Economics (Micro)	<ul style="list-style-type: none"> • CO-1: To provide students' knowledge of Micro Economic concepts and inculcate an analytical approach to the subject matter.
		<ul style="list-style-type: none"> • CO-2: To arouse the student's interest by showing the relevance and use of various economic theories.
		<ul style="list-style-type: none"> • CO-3: To apply economic reasoning to solve business problems.
F.Y.B.Com.	Organizational skill development	<ul style="list-style-type: none"> • CO-1: To make familiar the students with the emerging changes in the modern office environment and to develop organizational skills.
		<ul style="list-style-type: none"> • CO-2: To build up the conceptual, analytical, technical and managerial skills of student's efficient office organization and records management
		<ul style="list-style-type: none"> • CO-3: Technical skills among the students for designing and developing effective means to manage records, consistency and efficiency of work flow in the administrative section of an organization will be developed.

S.Y. B.com

SY.B. Com	Business Communication	<ul style="list-style-type: none"> • CO-1: To make the students aware about the business communication.
		<ul style="list-style-type: none"> • CO-2: To understand the process and importance of communication.
		<ul style="list-style-type: none"> • CO-3: To develop awareness regarding new trends in business communication, various media of communication and communication devices
		<ul style="list-style-type: none"> • CO-4: To extend business communication skills through the application and exercises
	Corporate Accounting	<ul style="list-style-type: none"> • CO-1: This course aims to enlighten the students on the accounting procedures followed by the Companies.
		<ul style="list-style-type: none"> • CO-2: Student's skills about accounting standards will be developed.
		<ul style="list-style-type: none"> • CO-3: To make aware the students about the valuation of shares.
		<ul style="list-style-type: none"> • CO-4: To impart knowledge about holding company accounts, amalgamation, absorption and reconstruction of company.
	Business Economics (Macro)	<ul style="list-style-type: none"> • CO-1: To familiarize the students with the basic concept of Macro Economics and its application.
		<ul style="list-style-type: none"> • CO-2: To aware students about Gross National Product (GNP), Net National Product (NNP), Income at Factor cost or National Income at Factor Prices ,Per Capita Income , Personal Income (PI) ,Disposable Income etc.
		<ul style="list-style-type: none"> • CO-3: To Study the relationship among broad aggregates.
		<ul style="list-style-type: none"> • CO-4: To apply economic reasoning to solve the problems of the economy.
	Business management	<ul style="list-style-type: none"> • CO-1: To understand the concept & functions and importance of management and its application.
		<ul style="list-style-type: none"> • CO-2: To make the student understand principles, functions and different management theories.

	Elements of company law	<ul style="list-style-type: none"> • CO-1: To impart students with the knowledge of fundamentals of Company Law and provisions of the Companies Act of 2013.
		<ul style="list-style-type: none"> • CO-2: To apprise the students of new concepts involving in company law regime.
		<ul style="list-style-type: none"> • CO-3: To acquaint the students with the duties and responsibilities of Key Managerial Personnel.
	Cost and works accounting I	<ul style="list-style-type: none"> • CO-1: To understand Basic Cost concepts, Elements of cost and cost sheet.
		<ul style="list-style-type: none"> • CO-2: Providing knowledge about difference between financial accounting and cost accounting.
		<ul style="list-style-type: none"> • CO-3: Ascertainment of Material and Labour Cost.
		<ul style="list-style-type: none"> • CO-4: Student's Capability to apply theoretical knowledge in practical situation will be increased.
	A course in environmental studies	<ul style="list-style-type: none"> • CO-1: To furnish awareness about environmental problems among people.
		<ul style="list-style-type: none"> • CO-2: Impart basic knowledge about the environment and its allied problems
		<ul style="list-style-type: none"> • CO-3: Developing an attitude of concern for the environment.
		<ul style="list-style-type: none"> • CO-4: Acquiring skills to help the concerned individuals in identifying and solving environmental problems.

T.Y. B. Com.

T.Y. B. Com.	Business Regulatory Framework (Mercantile Law)	<ul style="list-style-type: none"> • CO-1: To provide conceptual knowledge about the framework of business Law in India.
		<ul style="list-style-type: none"> • CO-2: To orient the students about the legal aspect of business.
		<ul style="list-style-type: none"> • CO-3: To create awareness among the students about legal environment relating to the Contract Law, Partnership Act, Sale of Goods Act in India
		<ul style="list-style-type: none"> • CO-4: To understand the emerging issues relating to e-commerce, e-transaction issues and E Contracts.
T.Y. B. Com	Advanced Accounting	<ul style="list-style-type: none"> • CO-1: To acquaint the student with knowledge about various concepts, objectives, and applicability of some important accounting standards.

		<ul style="list-style-type: none"> • CO-2: To develop the knowledge among the students about reorganization of business regarding restructuring the capital.
		<ul style="list-style-type: none"> • CO-3: To update the students with knowledge for preparation of final accounts of a Banking Companies with the provisions of Banking Regulation Act 1949.
		<ul style="list-style-type: none"> • CO-4: To empower to students with skills to prepare the investment account in simple and summarized manner.
T.Y. B. Com	Indian & Global Economic Development	<ul style="list-style-type: none"> • CO-1: Students will be able to understand present Economic Scenario of Indian Economy as well as World Economy.
		<ul style="list-style-type: none"> • CO-2: Students will be able to understand the various aspects of development in Agricultural, Industrial and service sector in India.
		<ul style="list-style-type: none"> • CO-3: Student will be able to critically evaluate the role of India in international economy.
		<ul style="list-style-type: none"> • CO-4: Students will be able to evaluate the working of international financial organization and institutions.
T.Y. B. Com	Auditing and taxation	<ul style="list-style-type: none"> • CO-1: To acquaint themselves about the Definition, Nature, Objectives and Advantages of Auditing, Types of Audits, Errors and Fraud, Audit Program, Notebook, Working Paper, Internal Control, Check.
		<ul style="list-style-type: none"> • CO-2: To get knowledge about concept of Checking, Vouching, Verification and Valuation, Types of Audit Report and Auditing Assurance Standard.
		<ul style="list-style-type: none"> • CO-3: To understand the provision related Qualification, Disqualification, Appointment, Removal, Rights, Duties and Liability of Company Auditor and Provisions regarding Tax Audit as per Income Tax Act 1961 (Section 44 AA to 44AE).
		<ul style="list-style-type: none"> • CO-4: To know the various new concepts in computerized system and Forensic Audit.
T.Y. B. Com	Cost and Works Accounting II	<ul style="list-style-type: none"> • CO-1: To provide knowledge about the concepts and principles of overheads.
		<ul style="list-style-type: none"> • CO-2: To Introduce the cost accounting standards and the cost accounting standard board.
		<ul style="list-style-type: none"> • CO-3: To understand the stages involved in the accounting of overheads.

		<ul style="list-style-type: none"> • CO-4: To build an ability towards strategic overhead accounting under Activity Based Costing.
T.Y. B. Com	Cost and Works Accounting III	<ul style="list-style-type: none"> • CO-1: To prepare learners to understand the basic techniques in Cost Accounting.
		<ul style="list-style-type: none"> • CO-2: To understand the learner, application of Cost Accounting techniques in cost control and decision making.
		<ul style="list-style-type: none"> • CO-3: To enable the learners to prepare various types of Budgets.
		<ul style="list-style-type: none"> • CO-4: To learn the basic concept of Uniform Costing and Inter-firm comparison.
		<ul style="list-style-type: none"> • CO-5: To enhance the knowledge of students about MIS and Supply Chain Management.

Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

**Program Outcomes, Program Specific Outcomes, Course specific
 Outcomes**

2021-2022

Department of Chemistry

Program Outcome: B.Sc. (Chemistry)	
Department of Chemistry	After successful completion of three-year degree program in Chemistry a student should be able to;
PO-01	Every branch of Science and Technology is related to Chemistry
PO-02	Helps in understanding the causes of environmental pollution and can open up new methods for environmental pollution control.
PO-03	Demonstrate, solve and an understanding of major concepts in all Disciplines of chemistry.
PO-04	Solve the problem and also think methodically, independently and draw a logical conclusion.
PO-05	Employ critical thinking and the scientific knowledge to design, carry Out, record and analyze the results of chemical reactions.
PO-06	Create an awareness of the impact of chemistry on the environment, Society and development outside the scientific community.
PO-07	To inculcate the scientific temperament in the students and outside The scientific community.
PO-08	Use modern techniques, decent equipments and Chemistry software's
PO-09	Find out the green route for chemical reaction for sustainable Development.

Program Specific Outcome: B.Sc. (Chemistry)	
PSO-01	Gain the knowledge of Chemistry through theory and practical.
PSO-02	To explain nomenclature, stereochemistry, structures, reactivity, And mechanism of the chemical reactions.

PSO-03	Identify chemical formulae and solve numerical problems.
PSO-04	Use modern chemical tools, Models, Chem.-draw, Charts and Equipments.
PSO-05	Know structure-activity relationship.
PSO-06	Understand good laboratory practices and safety.
PSO-07	Develop research-oriented skills.
PSO-08	make aware and handle the sophisticated instruments/equipments

Course Outcomes of B.Sc. (Chemistry)

Class	Course title & Code	Course Outcome
SEMESTER: I		
F.Y.B.Sc.	CH-101: Physical Chemistry	<ul style="list-style-type: none"> • CO-1: Students will be able to apply thermodynamic principles to physical and chemical process Calculations of enthalpy , Bond energy, Bond dissociation energy , resonance energy • CO-2: Variation of enthalpy with temperature – Kirchoff’s equation Third law of thermodynamic and its applications Ionic equilibria chapter will led students to understand • CO-3: Concept to ionization process occurred in acids, bases and pH scale Related concepts such as Common ion effect hydrolysis constant, ionic product, solubility product • CO-4: Degree of hydrolysis and pH for different salts , buffer solutions Knowledge of Chemical equilibrium will make students to understand Relation between Free energy and equilibrium and factors affecting on equilibrium constant. • CO-5: Exergonic and endergonic reaction Gas equilibrium , equilibrium constant and molecular interpretation of equilibrium constant
F.Y.B.Sc.	CH-102: Organic Chemistry	<ul style="list-style-type: none"> • CO-1: The students are expected to understand the fundamentals, principles, and recent developments in the subject area. • CO-2: It is expected to inspire and boost interest of the students towards chemistry as the main subject. • CO-3: To familiarize with current and recent developments in Chemistry. • CO-4: To create foundation for research and development in Chemistry.
F.Y.B.Sc.	CH-103: Chemistry Practical Course I	<ul style="list-style-type: none"> • CO-1: Importance of chemical safety and Lab safety while performing experiments in laboratory • CO-2: Determination of thermochemical parameters and related concepts • CO-3: Techniques of pH measurements

		<ul style="list-style-type: none"> • CO-4: Preparation of buffer solutions • CO-5: Elemental analysis of organic compounds (non instrumental) • CO-6: Chromatographic Techniques for separation of constituents of mixtures
SEMSTER: II		
F.Y.B.Sc.	CH-201: Inorganic Chemistry	<ul style="list-style-type: none"> • CO-1: Various theories and principles applied to reveal atomic structure Origin of quantum mechanics and its need to understand structure of hydrogen atom Schrodinger equation for hydrogen atom Radial and angular part of hydrogenic wave functions Significance of quantum numbers Shapes of orbitals • CO-2: Explain rules for filling electrons in various orbitals- Aufbau's principle, Pauli exclusion principle, Hund's rule of maximum multiplicity Discuss electronic configuration of an atom and anomalous electronic configurations. Describe stability of half-filled and completely filled orbitals. • CO-3: Discuss concept of exchange energy and relative energies of atomic orbitals Design Skeleton of long form of periodic table. Describe Block, group, modern periodic law and periodicity. Classification of elements as main group, transition and inner transition elements Write name, symbol, electronic configuration, trends and properties. • CO-4: Explain periodicity in the following properties in details: Effective nuclear charge, shielding or screening effect; some numerical problems. Atomic and ionic size. Crystal and covalent radii Ionization energies Electronegativity- definition, trend, Pauling electronegativity scale. Attainment of stable electronic configurations. • CO-5: Define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond Explain characteristics of ionic bond, types of ions, energy consideration in ionic bonding, lattice and solvation energy and their importance in the context of stability and solubility of ionic compounds Summarize Born-Lande equation and Born-Haber cycle, Define Fajan's rule, bond moment, dipole moment and percent ionic character.
F.Y.B.Sc.	CH- 202: Analytical Chemistry	<ul style="list-style-type: none"> • CO-1: Analytical Chemistry –branch of chemistry, Perspectives of analytical Chemistry, analytical problems, Calculations of mole, molar concentrations and various units of concentrations which will be helpful for preparation of solution Relation between molecular formula and empirical formula, Stoichiometric calculation, Define term mole, millimole, molar concentration, molar equilibrium concentration and Percent, Concentration.

		<ul style="list-style-type: none"> • CO-2: SI units, distinction between mass and weight, Units such as parts per million, parts per billion, parts per thousand, solution-dilatant volume ratio, function density and specific gravity of solutions. • CO-3: Separation of binary mixtures and analysis Elemental analysis -Detection of nitrogen, sulfur, halogen and phosphorous by Lassigen's test. • CO-4: Purification techniques for organic compounds. pH meter and electrodes for pH measurement • CO-5: Measurement of Ph Working of pH meter, Applications of pH meter
F.Y.B.Sc.	CH- 203: Chemistry Practical –II	<ul style="list-style-type: none"> • CO-1: Inorganic Estimations using volumetric analysis • CO-2: Synthesis of Inorganic compounds • CO-3: Analysis of commercial products • CO-4: Purification of organic compounds • CO-5: Preparations and mechanism of reactions involved
SEMESTER: III		
S.Y.B.Sc.	CH-301: Physical and Analytical Chemistry	<ul style="list-style-type: none"> • CO-1: Define, explain and compare meaning of accuracy and precision. Apply the methods of expressing the errors in analysis from results. Explain / discuss different terms related to errors in quantitative analysis. Apply statistical methods to express his / her analytical results in laboratory. Solve problems applying equations. • CO-2: Explain / define different terms in volumetric analysis such as units of concentration, indicator, equivalence point, end point, standard solutions, primary and secondary standards, complexing agent, precipitating agent, oxidizing agent, reducing agent, redox indicators, acid base indicators, metallochrome indicators, etc. • CO-3: Perform calculations involved in volumetric analysis. Explain why indicator show colour change and pH range of colour change. To prepare standard solution and perform standardization of solutions. To construct acid – base titration curves and performs choice of indicator for particular titration. Explain / discuss acid-base titrations, complex metric titration / precipitation titration / redox titration. • CO-4: Apply volumetric methods of analysis to real problem in analytical chemistry / industry Discuss factors influencing adsorption, its characteristics, differentiates types as physisorption and Chemisorptions Classification of Adsorption Isotherms, to derive isotherms. Explanation of adsorption results in the light of Langmuir adsorption isotherm, Freundlich's adsorption Isotherm and BET theory.

		<ul style="list-style-type: none"> • CO-5: Apply adsorption process to real life problem. Determination of order of reaction by integrated rate equation method, graphical method, half-life method and differential method. Explain / discuss the term energy of activation with the help of energy diagram. Explanation for temperature coefficient and effect of temperature on rate constant k. Derivation of Arrhenius equation and evaluation of energy of activation graphically. Derivations of collision theory and transition state theory of bimolecular reaction and comparison.
S.Y.B.Sc.	CH-302: Inorganic and Organic Chemistry	<ul style="list-style-type: none"> • CO-1: Identify and draw the structures aromatic hydrocarbons from their names or from structure name can be assigned. Explain / discuss synthesis of aromatic hydrocarbons Give the mechanism of reactions involved. Explain /Discuss important reactions of aromatic hydrocarbon. To correlate reagent and reactions. Identify and draw the structures alkyl / aryl halides from their names or from structure name can be assigned. • CO-2: Write / discuss the mechanism of Nucleophilic Substitution (SN1, SN2 and SNi) reactions. To correlate reagent and reactions. Give synthesis of expected alkyl / aryl halides. • CO-3: Identify and draw the structures alcohols / phenols from their names or from structure name can be assigned. Able to differentiate between alcohols and phenols Write / discuss the mechanism of various reactions involved. Give synthesis of expected alcohols / phenols.
S.Y.B.Sc.	CH-303: Practical Chemistry-III	<ul style="list-style-type: none"> • CO-1: Verify theoretical principles experimentally. Interpret the experimental data on the basis of theoretical principles. Correlate theory to experiments. Understand/verify theoretical principles by experiment observations; explain practical output / data with the help of theory. • CO-2: Understand systematic methods of identification of substance by chemical methods. Write balanced equation for the chemical reactions performed in the laboratory. Perform organic and inorganic synthesis and is able to follow the progress of the chemical reaction by suitable method (colour change, ppt. formation, TLC). • CO-3: Set up the apparatus / prepare the solutions - properly for the designed experiments. Perform the quantitative chemical analysis of substances explain principles behind it. Systematic working skill in laboratory will be imparted in student.
SEMESTER: VI		

S.Y.B.Sc.	CH-401: Physical and Analytical Chemistry	<ul style="list-style-type: none"> • CO-1: Define different terms in conductometry such as electrolytic conductance, resistance, conductance, Ohm's law, cell constant, specific and equivalent conductance, molar conductance, Kohlrausch's law, etc. Discuss / explain Kohlrausch's law and its Applications, Conductivity Cell, Conductivity Meter, Whetstone Bridge. Explain / discuss conductometric titrations. • CO-2: Apply conductometric methods of analysis to real problem in analytical laboratory. Solve problems based on theory / equations. Correlate different terms with each other and derive equations for their correlations Discuss / explain / derive Beer's law of absorptivity Explain construction and working of colorimeter. Apply colorimetric methods of analysis to real problem in analytical laboratory. Solve problems based on theory / equations. • CO-3: Define different terms in column chromatography such as stationary phase, mobile phase, elution, adsorption, ion exchange resin, adsorbate, etc. Explain properties of adsorbents, ion exchange resins, etc. Discuss / explain separation of ionic substances using resins. Discuss / explain separation of substances using silica gel / alumina. Differentiate between ideal and non-ideal solutions and can apply Raoult's law. • CO-4: Interpretation of i) vapour pressure–composition diagram ii) temperature- composition diagram. Explain distillation of liquid solutions from temperature – composition diagram. Explain / discuss azeotropes, Lever rule, Henrys law and its application. Discuss / explain solubility of partially miscible liquids- systems with upper critical. Solution temperature, lower critical solution temperature and having both UCST and LCST.
S.Y.B.Sc.	CH-402: Inorganic and Organic Chemistry	<ul style="list-style-type: none"> • CO-1: Apply principles of VBT to explain bonding in coordination compound of different geometries. Correlate no of unpaired electrons and orbitals used for bonding. Identify / explain / discuss inner and outer orbital complexes. • CO-2: Explain / discuss limitation of VBT, Explain principle of CFT. Apply crystal field theory to different type of complexes (Td, Oh, Sq, Pl complexes) Explain: i) strong field and weak field ligand approach in Oh complexes ii) Magnetic properties of coordination compounds on the basis of weak and strong ligand field ligand concept. iii) Origin of colour of coordination complex. • CO-3: Calculate field stabilization energy and magnetic moment for various complexes. To identify Td and Sq. Pl complexes on the basis of magnetic properties / unpaired electrons.

		<ul style="list-style-type: none"> • CO-4: Explain spectrochemical series, tetragonal distortion / Jahn-Teller effect in Cu(II) Oh complexes only Identify and draw the structures aldehydes and ketones from their names or from structure name can be assigned. Explain / discuss synthesis of aldehydes and ketones. Write / discuss the mechanism reactions aldehydes and ketones. Explain /Discuss important reactions of aldehydes and ketones. • CO-5: To correlate reagent and reactions of aldehydes and ketones Give synthesis of expected aldehydes and ketones. Perform inter conversion of functional groups Identify and draw the structures carboxylic acids and their derivatives from their names or from structure name can be assigned. Explain / discuss synthesis of carboxylic acids and their derivatives. Write / discuss the mechanism reactions carboxylic acids and their derivatives. Explain /Discuss important reactions of carboxylic acids and their derivatives. • CO-6: Correlate reagent and reactions of carboxylic acids and their derivatives Give synthesis of expected carboxylic acids and their derivatives. Perform inter conversion of functional groups Identify and draw the structures amines from their names or from structure name can be assigned. Explain / discuss synthesis of carboxylic amines. Write / discuss the mechanism reactions carboxylic amines. • CO-7: Explain /Discuss important reactions of carboxylic amines. To correlate reagent and reactions of carboxylic amines. Give synthesis diazonium salt from amines and reactions of diazonium salt. Perform inter conversion of functional groups
S.Y.B.Sc.	CH-403: Practical Chemistry-IV	<ul style="list-style-type: none"> • CO-1: Verify theoretical principles experimentally interpret the experimental data on the basis of theoretical principles. Correlate the theory to the experiments. Understand / verify theoretical principles by experiment or explain practical output with the help of theory. Understand systematic methods of identification of substance by chemical methods. • CO-2: Write balanced equation for all the chemical reactions performed in the laboratory. Perform organic and inorganic synthesis and able to follow the progress of the chemical reaction. • CO-3: Set up the apparatus properly for the designed experiments. Perform the quantitative chemical analysis of substances and able to explain principles behind it.

Course Outcomes of T.Y.B.Sc. (Chemistry) Semester - V

Class	Course title & Code	Course Outcome
T.Y.B.Sc.	CH-501: Physical	<ul style="list-style-type: none"> • CO-1: Know historical of development of quantum

	Chemistry	<p>mechanics in chemistry. 2. Understand and explain the differences between classical and quantum mechanics. 3. Understand the idea of wave function 4. Understanding of De Broglie hypothesis and the uncertainty principle 5. Understanding the operators: Position, momentum and energy 6. Solving Schrodinger equation for 1D, 2D and 3D model 7. Physical interpretation of the ψ and ψ^2 and sketching the wave function 8. Applications to conjugated systems, zero-point energy and quantum tunnelling, Numerical Problems</p> <ul style="list-style-type: none"> • CO-2: Understand the term additive and constitutive properties. Understand the term specific volume, molar volume and molar refraction. Understand the meaning of electrical polarization of molecule, induced and orientation polarization. Dipole moment and its experimental determination by temperature variation method. Electromagnetic spectrum, Nature of wave and its characteristics such as wavelength, wave number, frequency and velocity, Energy level diagram, Classification of molecules on the basis of moment of Inertia, Rotational spectra of rigid diatomic molecules, selection rules, nature of spectral lines. Simple Harmonic oscillator model, Born-Oppenheimer approximation. Vibrational spectra of diatomic molecules selection rules, nature of spectral lines. Explain the difference between Rayleigh, Stokes and anti-Stokes lines in a Raman spectrum. Justify the difference in intensity between Stokes and anti-Stokes lines. 11. Draw the Stokes and anti-Stokes lines in a Raman spectrum 12. Raman spectra: Concept of polarizability, 13. Pure rotational Raman spectra of diatomic molecules, Energy Expression, Selection rule, Rotational energy level diagram, Rotational Raman spectrum and Problems. <p>Difference between thermal and photochemical processes. 2. photochemical laws: Grothus - Draper law, Stark-Einstein law, 3. Quantum yield and reasons for high and low quantum yield, 4. factors affecting the quantum yield, 5. Experimental method for the determination of quantum yield 6. Photochemical reactions: photosynthesis, photolysis, photocatalysis, photosensitization 7. Various photochemical phenomena like fluorescence and phosphorescence, Chemiluminescence.</p>
T.Y.B.Sc.	CH-502: Analytical Chemistry- I	<ul style="list-style-type: none"> • CO-1: Define basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis. Such as: Gravimetry, precipitation, solubility product, ionic product, common ion effect, precipitating agent, washing of ppt., drying

		<p>and ignition of ppt., linearity range, detection limit, precision, accuracy, Sensitivity, Selectivity, Robustness and Ruggedness, electromagnetic radiations, spectrophotometry, Beers law, absorbance, transmittance, molar absorptivity, monochromator, wavelength of maximum absorbance, metal ligand ration, qualitative analysis, group reagent, dry tests, wet test, confirmatory test, precipitation, thermogravimetry, thermogram, percent wt. loss, differential thermal analysis, etc.</p> <ul style="list-style-type: none"> • CO-2: Identify important parameters in analytical processes or estimations. Example: minimum analyte concentration in particular method, reagent concentration in particular analysis (gravimetry, spectrophotometry, thermogravimetry), reagent for particular analysis, reaction condition to convert analyte into measurable form, drying and ignition temperature for ppt in gravimetry, heating rate thermogravimetry, wavelength in spectrophotometry, group reagent, removal borate and phosphate in qualitative analysis, etc. • CO-3: Select particular method of analysis if analyte sample is given to him. Differentiate / distinguish / Compare among the different analytical terms, process and analytical methods. • CO-4: Demonstrate theoretical principles with help of practical. • CO-5: Design analytical procedure for given sample. Apply whatever theoretical principles he has studied in theory during practical session in laboratory.
T.Y.B.Sc.	CH-503: Chemistry Practical Course I	<ul style="list-style-type: none"> • CO-1: Refractometry To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. To determine the molecular refractivity of the given liquids A, B, C and D. To determine the molar refraction of homologues methyl, ethyl and propyl alcohol and show the constancy contribution to the molar refraction by -CH₂ group. Determine the refractive index of a series of salt solutions and determine the concentration of a salt of unknown solution • CO-2: Spectrophotometry and Colorimetry To titrate Cu²⁺ ions with EDTA photometrically. To determine the indicator constant of methyl red indicator To estimate of Fe³⁺ ions by thiocyanate method. Cobalt by using R-nitroso salt method. To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium calorimetrically. Simultaneous determination of Cu²⁺ and Ni²⁺ ions by

		<p>colorimetry/spectrophotometry method</p> <ul style="list-style-type: none"> • CO-3: Conductometry Titration of a mixture of weak acid and strong acid with strong alkali. To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conductometric method. To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. To determine λ_{∞} of strong electrolyte (NaCl or KCl) and to verify Onsager equation. To estimate the amount of lead present in given solution of lead nitrate by conductometric titration with sodium sulphate. To determine the relative strength of monochloro acetic acid and acetic acid conductometrically • CO-4: Viscosity: To determine the molecular weight of a high polymer by using solutions of different concentrations. Determine the radius of glycerol molecule from viscosity measurement Photofluometry. Analysis of Riboflavin from vitamin supplementary capsules / syrup / tablet sample by Photofluometry. Table work 1. Analysis of the given vibration-rotation spectrum of HCl(g)
T.Y.B.Sc.	CH-504: Inorganic Chemistry	<ul style="list-style-type: none"> • CO-1: Explain electroneutrality principle and different types of pi bonding. explain Nephelauxetic effect towards covalent bonding. Explain MOT of Octahedral complexes with sigma bonding. • CO-2: To understand about inert and labile complexes and stability of complexes in aqueous solutions Classification of reactions of coordination compounds The basic mechanisms of ligand substitution reactions. Substitution reactions of square planer complexes. Tran's effect and applications of Trans effect Stereochemistry of mechanism • CO-3: Gain the knowledge of inorganic reaction mechanisms available in the literature to solve chemical problems. To know position of d-block elements in periodic table. To know the general electronic configuration & electronic configuration of elements. To know trends in periodic properties of these elements w.r.t. size of atom and ions, reactivity, catalytic activity, oxidation state, complex formation ability, color, magnetic properties, non-stoichiometry, density, melting point, boiling point. The meaning of term f-block elements, Inner transition elements, lanthanides, actinides. Electronic configuration of lanthanides and actinides. • CO-4: Oxidation states of lanthanides and actinides and common oxidation states. Separation lanthanides by modern methods. Lanthanide contraction and effects

		<p>of lanthanide contraction on post-lanthanides. Use of lanthanide elements in different industries. Transuranic elements. Preparation methods of transuranic elements. Nuclear fuels and their applications. Why transuranic elements are called as the synthetic elements? IUPAC nomenclature for super heavy elements with atomic no. 100 onwards.</p> <ul style="list-style-type: none"> • CO-5: The meaning of metal & semiconductor. The difference between metal, semiconductor and insulator. Metallic bond on the basis of band theory. The energy band and energy curve. Draw $n(E)$ & $N(E)$ curves. Explain the electrical conductivity of metals with respect to valence electrons. Explain the effect of temperature and impurity conductivity of metals and semiconductors. Intrinsic and extrinsic semiconductor. The term valence band and conduction band. n and p type of semiconductors. Non-stoichiometry and semi conductivity.
T.Y.B.Sc.	CH-505: Industrial Chemistry - I	<ul style="list-style-type: none"> • CO-1: Importance of chemical industry, Meaning of the terms involved, Comparison between batch and continuous process, Knowledge of various industrial aspects. • CO-2: Expected to learn Concept of basic chemicals, their uses and manufacturing process. They should also know the physico-chemical principals involved in manufacturing process. • CO-3: The students are expected to learn Importance of sugar industry, Manufacture of direct, Consumption (plantation white) sugar with flow diagram. Cane juice extraction by various methods, Clarification by processes like carbonation, Sulphitation, Phosphatation, Concentration of juice by using multiple effect evaporator system, Crystallization of sucrose by using vacuum pan. • CO-4: Basic requirement of fermentation process, Manufacturing of ethyl alcohol by using molasses and fruit juice. • CO-5: Expected to learn Different types of soap products, Chemistry of soap. Raw materials required for soap manufacture, Meaning of the term's Surfactants, Types of surfactants, washing action of soap and detergents. • CO-6: Students should know about Synthesis, Structures, properties and applications of dyes, Classification and general properties of pigment, Production processes of zinc oxide and iron oxide.

T.Y.B.Sc.	CH-506: Inorganic Chemistry Practical - I	<ul style="list-style-type: none"> • CO-1: Inorganic Estimations using volumetric analysis • CO-2: Synthesis of Inorganic compounds • CO-3: Analysis of commercial products
T.Y.B.Sc.	CH-507: Organic Chemistry I	<ul style="list-style-type: none"> • CO-1: After studying the polynuclear and heteronuclear aromatic compounds, students will be able to Define and classify polynuclear and heteronuclear aromatic hydrocarbons. Write the structure, synthesis of polynuclear and heteronuclear aromatic hydrocarbons. Understand the reactions and mechanisms Explain the reactivity of polynuclear and heteronuclear aromatic hydrocarbons. Describe the synthesis of chemical reactions of polynuclear and heteronuclear aromatic Hydrocarbons. • CO-2: Meaning of active methylene group Reactivity of methylene group, Synthetic applications ethyl acetoacetate and malonic ester To predict product with panning or supply the reagent/s for these reactions • CO-3: What is rearrangement reaction? Different types of intermediate in rearrangement reactions? To write the mechanism of some named rearrangement reactions and their applications 4. Electrocyclic rearrangement with their mechanisms Chapter • CO-4: 1,1 and 1,2 elimination E1, E2 and E1cB mechanism with evidences of these reactions Understand stereochemistry by using models and learn reactivity of geometrical isomers Orientation and reactivity in E1 and E2 elimination Hoffmann and Saytzeff's Orientation Effect of factors on the rate elimination reactions
T.Y.B.Sc.	CH-508: Biomolecules	<ul style="list-style-type: none"> • CO-1: The student will understand of Cell types, Difference between a bacterial cell, Plant cell and animal cell. Biological composition and organization of cell membrane, structure and function of various cell organelles of plant and animal cell. Concepts of biomolecules, Bonds that link monomeric units to form macromolecules. • CO-2: The student will understand the types of carbohydrates and their biochemical significance in living organisms, structure of carbohydrates and reactions of carbohydrates with Glucose as example. Properties of carbohydrates. The student needs to know the types of lipids with examples, structure of lipids, properties of lipids • CO-3: The student will understand the structure and types of amino acids. Reactions of amino acids. Properties of amino acids. Peptide bond formation. Types of proteins. Structural features in proteins. Effect of pH on structure of amino acid, Determination of N and C terminus of peptide chain.

		<ul style="list-style-type: none"> • CO-4: The student will know the classes of enzymes with subclasses and examples. • CO-5: Enzyme specificity, Equations of enzyme kinetics K_m and its significance, features of various types of enzyme inhibitions, industrial applications of enzymes. • CO-6: Basic concepts of Endocrinology. Types of Endocrine glands and their hormones. Biochemical nature of hormones. Mechanism of action of lipophilic and hydrophilic hormones.
T.Y.B.Sc.	CH-509: Organic Practical Chemistry- III	<ul style="list-style-type: none"> • CO-1: Perform the quantitative chemical analysis of binary mixture, explain principles behind it. Separate, purify and analyse binary water insoluble mixture. Separate, purify and analyse binary water-soluble mixture. • CO-2: Understand the techniques involving drying and recrystallization by various method. Familiarize the test involving identification of special elements. Learn the confirmatory test for various functional groups. • CO-3: Systematic working skill in laboratory will be imparted in student. Learn the basic principles of green and sustainable chemistry. Synthesis of various organic compounds through greener approach. Do and understand stoichiometric calculations and relate them to green process metrics. Learn alternative solvent media and energy sources for chemical processes. • CO-4: Learn the preparations of derivative various functional groups aspects of electrical experiments. Understand the techniques involving drying and recrystallization by various method Expertise the various techniques of preparation and analysis of organic substances Understand principle of Thin Layer Chromatographic techniques. Understand the purification technique used in organic chemistry.
T.Y.B.Sc.	CH-510: Physical and Analytical Chemistry	<ul style="list-style-type: none"> • CO-1: Define different terms in conductometry such as electrolytic conductance, resistance, conductance, Ohm's law, cell constant, specific and equivalent conductance, molar conductance, Kohlrausch's law, etc. Discuss / explain Kohlrausch's law and its Applications, Conductivity Cell, Conductivity Meter, Whetstone Bridge. Explain / discuss conductometric titrations. Apply conductometric methods of analysis to real problem in analytical laboratory. • CO-2: Solve problems based on theory / equations. Correlate different terms with each other and derive equations for their correlations Discuss / explain / derive Beer's law of absorptivity Explain construction and working of colorimeter. Apply colorimetric methods of analysis to real problem in analytical

		<p>laboratory. Solve problems based on theory / equations.</p> <ul style="list-style-type: none"> • CO-3: Define different terms in column chromatography such as stationary phase, mobile phase, elution, adsorption, ion exchange resin, adsorbate, etc. Explain properties of adsorbents, ion exchange resins, etc. Discuss / explain separation of ionic substances using resins. Discuss / explain separation of substances using silica gel / alumina. • CO-4: Differentiate between ideal and non-ideal solutions and can apply Raoult's law. Interpretation of i) vapour pressure–composition diagram ii) temperature- composition diagram. Explain distillation of liquid solutions from temperature – composition diagram. Explain / discuss azeotropes, Lever rule, Henry's law and its application. Discuss / explain solubility of partially miscible liquids- systems with upper critical. Solution temperature, lower critical solution temperature and having both UCST and LCST.
T.Y.B.Sc.	CH-510 (A) : Introduction of Medicinal Chemistry	<ul style="list-style-type: none"> • CO-1: The basics of medicinal chemistry, biophysical properties, overview of basic concepts of traditional systems of medicine. • CO-2: Over view of the overall process of drug discovery, and the role played by medicinal chemistry in this process. • CO-3: Biological activity parameters and importance of stereochemistry of drugs and receptors. • CO-4: Knowledge of mechanism of action of drugs belonging to the classes of infectious and non-infectious diseases. • CO-5: Enhancement of practical skills in synthesis, purification and analysis.
T.Y.B.Sc.	CH-511 (A) : Environmental Chemistry	<ul style="list-style-type: none"> • CO-1: Importance and conservation of environment. • CO-2: Importance of biogeochemical cycles • CO-3: Water resources • CO-4: Hydrological Cycle • CO-5: Organic and inorganic pollutants ,Water quality parameters
T.Y.B.Sc.	CH-403: Practical Chemistry-IV	<ul style="list-style-type: none"> • CO-1: Verify theoretical principles experimentally interpret the experimental data on the basis of theoretical principles. • CO-2: Correlate the theory to the experiments. Understand / verify theoretical principles by experiment or explain practical output with the help of theory. Understand systematic methods of identification of substance by chemical methods. • CO-3: Write balanced equation for all the chemical reactions performed in the laboratory. Perform organic and inorganic synthesis and able to follow the progress

		<p>of the chemical reaction.</p> <ul style="list-style-type: none"> • CO-4: Set up the apparatus properly for the designed experiments. Perform the quantitative chemical analysis of substances and able to explain principles behind it.
Semester-VI		
T.Y.B.Sc.	CH-601: Physical Chemistry	<p>Chemical Kinetics</p> <ul style="list-style-type: none"> • CO-1: After studying this topic students are expected to know. Expression for rate constant k for third order reaction. Examples of third order reaction Characteristics of third order rate constant k • CO-2: Derivation for half-life period of third order reaction and to show that half-life is inversely proportional to square of initial concentration of reactants. Experimental determination of order of reaction by integrated rate equation method, Graphical method, Half-life method and Differential method. Explain the term energy of activation with the help of energy diagram • CO-3: Explain the term temperature coefficient. Effect of temperature on rate constant k Derivation of Arrhenius equation Graphical evaluation of energy of activation Solve the numerical problems based on this topic. • Electrolytic Conductance : After studying these topic students are expected to knowing. Ohm's law and electrical units such as coulomb, Ampere, Ohm and Volt. Meaning of specific resistance, specific conductance, cell constant and their units. Cell constant, its theoretical and experimental determination. Preparation of conductivity water. Experimental determination of conductance. • CO-4: Variation of specific and equivalent conductance of strong and weak electrolyte with dilution meaning of infinitely dilute solution. Kohlrausch's law of independent migration of ions and its applications such equivalent conductance of weak electrolyte at zero conc., degree of dissociation (α), ionic product of water. Transport number of an ion Hittorf's rule • CO-5: Experimental determination of transport number by Hittorf's and moving boundary method. Drawbacks of Arrhenius theory, Debye-Huckel-Onsager Interionic Attraction theory Asymmetry /Relaxation effect Electrophoresis effect Validity of Onsager equation Fugacity and activity concept Activity and activity coefficient of strong electrolyte. Solve the numerical problems based on this topic.

		<ul style="list-style-type: none"> • CO-6:After studying this topic students are expected to Known. Understand the term additive and constitutive properties Understand the term specific volume, molar volume and molar refraction. Understand the meaning of electrical polarization of molecule. Understand the meaning of induced and orientation polarization Dipole moment and its experimental determination by temperature variation method. • CO-7: Application of dipole moment for structure determination. Nature of wave and its characteristics such as wavelength, wave number, frequency and velocity. Rotational / Microwave spectroscopy Derivation for rotational spectra for the transition from J to J+1 Limitations of Rotational Spectra. Vibrational Spectra Vibrational rotational Spectra Raman Spectroscopy Solve the numerical problems based on this topic. • CO-8:After studying this topic students are expected to knowing Meaning and Types of equilibrium such as true or static, metastable and Unstable Equilibrium. Meaning of phase, component and degree of freedom. Derivation of phase rule. Explanation of water system: Description of the curve, Phase rule relationship and typical features. Explanation of sulphur system : Description of the curve, Phase rule relationship and Typical features. Explanation of two component system curve: for silver-lead and Zinc-cadmium.
T.Y.B.Sc.	CH-602	<ul style="list-style-type: none"> • CO-1: Know the theories of covalent bond formation Know the assumptions and limitations of VBT Understand the need of concept of MOT Know LCAO principal and its approximation Understand and show the formation of bonding and antibonding MO's Draw the shapes of s, p, d orbital Draw combinations of s-s, s-p, p-p and d-d orbital to form σ and π molecular orbitals. Give the comparison of a) Atomic orbital and molecular orbital b) BMO and ABMO c) Sigma and pi MO's d) VBT and MOT e) Comparison between BMO, ABMO and NBMO. • CO-2: Draw the MO energy level diagrams for homonuclear diatomic molecules having interactions between 2s and 2p orbitals and having no interactions between 2s and 2p orbitals : H₂, H₂⁺, He₂⁺, Li₂, Be₂, B₂, C₂, N₂, O₂, O₂⁺, O₂⁻, O₂²⁻, F₂, Ne₂, Draw the shapes of molecular orbitals. Give the calculations of bond order, energy and explanation on stability of the above molecule and ions Draw the MO energy level diagrams for heteronuclear diatomic molecules: CO, NO, HCl, HF and calculations of bond order, energy and explain the stability of the

		<p>molecules. Understand the formation of BMO, ABMO and NBMO in CO₂ or NO₂ molecule and construct MO energy level diagrams for them.</p> <ul style="list-style-type: none"> • CO-3: Know the meaning of various terms involved in coordination chemistry. • Know the different types of Ligands. • Understand the chelating agents, chelate and stability of chelates and complexes. • Calculate the charge on complex ion and the oxidation number. • CO-4: Be able to give the IUPAC name the coordination compound. <p>Know the application of co-ordination compounds in biology and chemistry. Be able to understand the Werner's formulation of complexes and identify the ionizable ions. Be able to distinguish between ionizable and non-ionizable valencies with suitable examples. Give the suitable physical and chemical test for identification of number and types of ionizable ions. Be able to draw the geometrical and optical isomerism of complexes.</p> <p>Choose the correct geometry for complexes with C.N. 4 and C.N. 6 with the help of stereoisomerism.</p> <p>Define EAN rule and calculate EAN value of the complexes.</p> <ul style="list-style-type: none"> • CO-5: Be able to identify which d-orbitals are involved in hybridization during formation of complexes with different geometries such as tetrahedral, square planar, trigonalbipyramidal and octahedral. Be able to explain structure and magnetic behavior of the complexes. • CO-6: Be able to identify the high spin and low spin complexes. Be able to identify inner orbital and outer orbital complexes. Explain electroneutrality principle and different types of pi bonding. Know the limitations of VBT. Know the shapes of d-orbitals and degeneracy of d-orbitals.
T.Y.B.Sc.	CH-603	<ul style="list-style-type: none"> • CO-1: Potentiometry To determine the PKa value of given monobasic weak acid by potentiometric titration. To determine the formal redox potential of Fe²⁺/ Fe³⁺ system potentiometrically. To determine the amount of NaCl in the given solution by potentiometric titration against silver nitrate. To determine the solubility product and solubility of AgCl potentiometrically using chemical cell. Estimate the amount of Cl⁻, Br⁻ and I⁻ in given unknown halide mixture by titrating it against standard AgNO₃ solution (mixture of any two ions). <p>To prepare standard 0.2 M Na₂HPO₄ and 0.1 M Citric acid solution, hence prepare four different buffer solutions using</p>

		<p>them. Determine the pH value of these and unknown solution. To determine the composition of Zinc ferrocyanide complex potentiometrically To determine the standard electrode potentials of Cu and Ag electrodes and to determine the EMF of a concentration cell.</p> <ul style="list-style-type: none"> • CO-2: pH metry To determine the degree of hydrolysis of aniline hydrochloride. To determine the dissociation constant of oxalic acid by pH-metric titration with strong base. Determination of Pka of given weak acid by pH metry titration with strong base .To determine the acid and base dissociation constant of an amino acid and hence the isoelectric point of an acid. pH metric titration of strong acid against strong base by pH measurement and hence determine the concentration and strength of strong acid • CO-3: Radioactivity To determine plateau voltage of the given G M counter.To determine the resolving time of GM counter. To determine Emax of beta particle • CO-4: Colligative properties To determine the molecular weight of solute by depression in freezing point method.To study the association of Benzoic acid in benzene by Beckmann Method . Determine the molecular weight of given electrolyte and non-electrolyte by Landsberger's method and to study the abnormal molecular weight of electrolyte • CO-5: Turbidometry: Determination of SO₄²⁻ and Cl⁻ by turbidimetric method (turbidimetric titration or calibration curve method).To determine the molecular weight of a given polymer by turbidometry Analysis of crystal structure from X-ray diffraction spectra of any two compounds (Calculation d, lattice constant, crystal volume and density, and assigning planes to peaks using JCPDS data)
T.Y.B.Sc.	CH-604 Inorganic Chemistry -II	<ul style="list-style-type: none"> • CO-1: To understand M-C bond and to define organometallic compounds To define organometallic chemistry To understand the multiple bonding due to CO ligand. To know methods of synthesis of binary metal carbonyls. To understand the structure and bonding using valence electron count (18 ele. rule) • CO-2: Understand the phenomenon of catalysis, its basic principles and terminologies Define and differentiate homogeneous and heterogeneous catalysis. Give examples and brief account of homogeneous catalysts. Understand the essential properties of homogeneous catalysts-Give the catalytic reactions for Wilkinson's Catalysis, hydroformylation reaction, Monsanto acetic acid synthesis, Heck reaction Understand the principle of heterogeneous catalyst and development in it. Understand the classification and essential properties of heterogeneous catalysts.

		<ul style="list-style-type: none"> • CO-3: Identify the biological role of inorganic ions & compounds. Know the abundance of elements in living system and earth crust. Give the classification of metals as enzymatic and non-enzymatic. Understand the role of metals in non-enzymatic processes. Know the metalloproteins of iron. Explain the functions of hemoglobin and myoglobin in O₂ transport and storage. Understand the toxicity of CN⁻ and CO binding to Hb. Draw the structure of Vit.B12 and give its metabolism. know thy types of Inorganic polymers • CO-4: Understand Preparation of inorganic solids by various methods, Inorganic liquid crystals Ionic liquids, their preparations, and their significance w.r.t green chemistry. Technological importance of ionic liquids.
T.Y.B.Sc.	CH-605 Inorganic Chemistry -III	<ul style="list-style-type: none"> • CO-1: Student will learn the concept of acid base and their theories. They will also come to know different properties of acids and bases. Strength of various types acids. How acid and base strengths get affected in non-aqueous solvents. Know the nature of solids. Know the crystal structures of solids. Draw the simple cubic, BCC and FCC structures. Identify the C.N. of an ion in ionic solid. Identify the type of void. Know the effect of radius ratio in determining the crystal structure. • CO-2: Be able to define Pauling's univalent radius and crystal radius. Be able to solve simple problems based on Pauling's univalent radii and crystal radii. • CO-3: Know how to draw Born-Haber cycle. Be able to solve simple problems based on Born- Haber cycle. • CO-4: Know the defects in Ionic solids. Be able to differentiate between the defects. Different Zeolite Framework Types and their classification Zeolite synthesis and their structure Application of zeolites • CO-5: Various methods of nanoparticle synthesis Stabilization of Nanoparticles in solution Properties and Application of Nanoparticles Know about carbon nanotube and its application To know toxic chemical in the environment. To know the impact of toxic chemicals on enzyme. To know the biochemical effect of Arsenic, Cd, Pb, Hg. To explain biological methylation.
TYBSc	CH-606 Inorganic Chemistry Practical-II	<ul style="list-style-type: none"> • CO-1: Analysis of Phosphate (PO₄³⁻) from Fertilizer. • CO-2: Analysis of Iodine from Iodized salt. • CO-3: Strength of medicinal H₂O₂. • CO-4: Analysis of Calcium from milk powder. • CO-5: Analysis of Cu from Cu-Fungicide. • CO-6: Estimation of Na by flame photometry by calibration curve method. • CO-7: Estimation of Na by flame photometry by

		<p>regression method.</p> <ul style="list-style-type: none"> • CO-8: Estimation of K by flame photometry by calibration curve method.
TYBSc	CH-607 Organic Chemistry-II	<ul style="list-style-type: none"> • CO-1: Organic Spectroscopic Methods in Structure Determination. (Chapter 1-5) Students will learn the interaction of radiations with matter. They will understand different regions of electromagnetic radiations. They will know different wave parameters. • CO-2: Students will learn the principle of mass spectroscopy, its instrumentation and nature of mass spectrum. Students will understand the principle of UV spectroscopy and the nature of UV spectrum. They will learn types of electronic excitations. • CO-3: Students will be able to calculate maximum wavelength for any conjugated system. And from the value of λ-max they will be able to find out the extent of conjugation in the compound. Students will understand the principle of IR spectroscopy, types of vibrations and the nature of IR spectrum. From the IR spectrum, they will be able to find out IR frequencies of different functional groups. And thus, they will be able to find functional groups present in the compound. • CO-4: Students will understand the principle of NMR spectroscopy and will understand various terms used in NMR spectroscopy. They will learn measurement of chemical shift and coupling constants. Students will be able to interpret the NMR data and they will be able to use it for determination of structure of organic compounds. Students will be able to determine the structure of simple organic compounds on the basis of spectral data such as λ max values, IR frequencies, chemical shift (δ values). • CO-5: The use of models to draw different types of disubstituted cyclohexanes in chair form The geometrical isomerism in disubstituted cyclohexanes The stability, energy calculations and optical activity of these conformers The use models and to draw different types of conformational isomers of decalin in chair form To know the stability of geometrical isomers of decalin
TYBSc	CH-608 Organic Chemistry-III	<ul style="list-style-type: none"> • CO-1: Introduction, Different terms used – Disconnection, Synthons, Synthetic equivalence, FGI, TM. One group disconnection, Retrosynthesis and Synthesis of target molecules: Acetophenone, Crotonaldehyde, Cyclohexene, Benzylbenzoate, and Benzyl diethyl malonate. • CO-2: Chemistry of reactive intermediates (carbocations, carbanions, free radicals, carbenes, nitrenes, benzyne etc...); Wolff rearrangement (Step

		<p>up), Hofmann rearrangement (Step down), Simmons-Smith reaction, Michael reaction, Wittig reaction and McMurry reaction, Diels-Alder reaction, Functional group interconversions and structural problems using chemical reactions.</p> <ul style="list-style-type: none"> • CO-3: Reagents- Preparation and Applications of following reagents. Reducing Reagents: Lithium aluminium hydride LiAlH_4, NaBH_4, DIBAL-H, $\text{Li}(\text{tBuO})_3\text{AlH}$ & Raney Nickel. Oxidizing Reagents: 1. DMSO either with DCC or Ac_2O, Dess Martin reagent, Osmium tetroxide, Selenium dioxide (SeO_2), DDQ. • CO-4: Terpenoids: Introduction, Isolation, And Classification. Citral- structure determination using chemical and spectral methods, Synthesis of Citral by Barbier and Bouveault Synthesis. • CO-5: Alkaloids: Introduction, extraction, Purification, Some examples of alkaloids and their natural resources. Ephedrine- structure determination using chemical methods. Synthesis of Ephedrine by Nagai.
TYBSc	CH-609 Organic Chemistry Practical-II	<ul style="list-style-type: none"> • CO-1: Explain “fingerprint region” of an infrared spectrum can used in the identification of an unknown compound. Identify the functional group or groups present in a compound. Identify the broad regions of the infrared spectrum in which occur absorptions caused by N–H, C–H, and O–H, $\text{C}\equiv\text{C}$ and $\text{C}\equiv\text{N}$, $\text{C}=\text{O}$, $\text{C}=\text{N}$, and $\text{C}=\text{C}$. Understand use NMR spectra to determine the structures of compounds. Interpret integration of NMR spectra Calculate coupling constants from ^1H NMR spectra. Interpret elemental analysis technique • CO-2: Practical knowledge of handling chemicals. Achieve the practical skills required to estimations of glucose and glycine. Achieve the practical skills required to Saponification value of oil. Determine the molecular weight of given tribasic acids. • CO-3: Apply the principles of extraction Understand the equipment for extraction. Gain practical hands-on experience of modern Extraction. Develop basic design of extractor Describe the extraction separation process. • CO-4: Defines the basic parameters in chromatography Explain the processes of a chromatography analysis Describes the types and materials of column. Explains the types of mobile phase and elution. Realize the selection of appropriate mobile phase, column and detector
T.Y.B.Sc.	CH-610 Introduction of	<ul style="list-style-type: none"> • CO-1: The significance of forensic science to human society.

	Forensic Chemistry	<ul style="list-style-type: none"> • CO-2: The fundamental principles and functions of forensic science. • CO-3: The work nature in a forensic science laboratory. • CO-4: Encourage academic students towards the noble career. • CO-5: The forensic identification of illicit liquors. • CO-6: The classification and characteristics of the narcotics, drugs and psychotropic substances. • CO-7: The menace of designer drugs. • CO-8: The methods of identifying of narcotics, drugs and psychotropic substance.
TYBSc	<ul style="list-style-type: none"> • CH-611(A): Analytical Chemistry-II 	<ul style="list-style-type: none"> • CO-1: Define basic terms in solvent extraction, basics of chromatography, HPLC, GC, and AAS and AES. Some important terms are: solvent extraction, aqueous and organic phase, distribution ratio and coefficient, solute remain unextracted, percent extraction, ion association complex, theoretical plate, HETP, retention time, selectivity, resolution, stationary phase, normal and reverse phase, ion exchange, column efficiency, carrier gas, split and spitless injection, packed column, tubular column, atomic absorption and emission spectroscopy, electronic excitation in atoms, nebulization, atomization, reduction of metal ions in flame, absorbance by atoms in flame, flame atomizers, furnace atomizers, interference in AES and FES, HCL, hydride generator, etc. • CO-2: Identify important parameters in analytical processes or estimations. Example: minimum analyte concentration in particular method, reagent concentration for particular analysis, reagent for particular analysis, reaction condition to convert analyte into measurable form, wavelength selection in HPLC with spectrophotometric and fluorometric detector, solvent or carrier gas in HPLC and GC, choice method for the sample preparation in atomic spectroscopic methods, choice of filter and HCL in atomic spectroscopic methods, etc. • CO-3: Explain different principles involved in the analyses using solvent extraction, basics of instrumental chromatography, HPLC, GC, and atomic spectroscopic techniques. • CO-4: Perform quantitative calculations depending upon equations students have studied in the theory. Furthermore, student should able to solve problems on the basis of theory. • CO-5: Discuss / Describe procedure for different types analyses included in the syllabus. • CO-6: Select particular method of analysis if analyte

		<p>sample is given to him.</p> <ul style="list-style-type: none">• CO-7: Differentiate / distinguish / compare among the different analytical terms, process and analytical methods.• CO-8: Demonstrate / explain theoretical principles with help of practical.• CO-9: Design analytical procedure for given sample.• CO-10: Apply whatever theoretical principles he has studied in theory during practical in laboratory.
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Dr. Mangesh Dushing

HOD

Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

Program Outcomes, Program Specific Outcomes, Course specific Outcomes

2021-2022

Department of Botany

Program Outcome: B.Sc. (Botany)	
PO-1	After successful completion of three-year degree program in Chemistry a student will be able to;
PO-2	Compete in different types of science-related branches and examinations
PO-3	Seeks admission to M.Sc. Botany, Biotechnology and other branches of Life sciences
PO-4	Enter in any research field of life science after completion of PG to find out new solutions to biology related issues.
PO-5	Solve the problem and also think methodically, independently and draw a logical conclusion.
PO-6	Employ critical thinking and the scientific knowledge to design, carry Out, record and analyze the results of biological (botanical) concepts.
PO-7	to think practically on various environmental issues like pollution, global warming, soil erosion etc. and act accordingly.
PO-8	To inculcate the scientific temperament in the students and outside The scientific community.
PO-9	Use modern techniques, decent equipment's and biological software's
PO-10	Find out biological solutions to revolutionize agriculture and crop improvement
PO-11	To implement Integrated pest management effectively
PO-12	Take care of the environment, agriculture and society with his knowledge
PO-13	Appear for competitive examinations and defend interviews

Program Specific Outcome: B.Sc. (Botany)	
PSO- 1	Student can get knowledge of plant world and can apply it in his daily life
PSO- 2	He is able to identify and classify any plant with his medicinal properties and basic chemical constituents.
PSO- 3	He is able to get job in agriculture, forest and any other sectors.
PSO- 4	He will become expert in operating various basic and advanced equipment's and chemical solutions for the basic experiments.
PSO- 5	He can compete any subject related competitive examinations like forest

	department.
PSO- 6	Understand good laboratory practices and safety.
PSO- 7	Develop research-oriented skills.
PSO- 8	Gets appropriate knowledge of environment and regarding solutions of various environmental issues by biological way.
PSO- 9	Act and aware people for environmental pollutions and other issues.
PSO- 10	With his knowledge he can effectively run the afforestation programme in the society.

Course Outcomes of B.Sc. (Botany)

Class	Course title & Code	Course Outcome
Semester- I		
F.Y.B. Sc.	BO-111: Plant Life and Utilization	<ul style="list-style-type: none"> • CO-1: Students may get knowledge of world of lower plants. • CO-2: An understanding of morphology, anatomy, reproduction methods, systematic position can be acquired by students. • CO-3: Economic and medicinal importance of different cryptogams like. Algae, fungi, lichens and bryophyte's may be known by the students. • CO-4: The utilization of different types of lower plants for the welfare of man can be understood by the students. • CO-5: Students can make small projects on collection, identification and enumeration of different types of algae, fungi, lichens and bryophytes occurring in the local area.
F.Y.B.Sc.	BO-112: Plant morphology and Anatomy	<ul style="list-style-type: none"> • CO-1: Students will be well acquainted with morphology and different terms used for the study of morphology of plants • CO-2: They can also study plant identification, nomenclature systems and classification of plants. • CO-3: Students will get knowledge of different anatomical terms and different tissue system • CO-4: They will be well acquainted with the morphological and anatomical differences of monocot and dicot plants.
F.Y.B.Sc.	BO-113: Botany Practical Course I	<ul style="list-style-type: none"> • CO-1: Actual practical of lower plants like algae, fungi, bryophytes and lichens gives student the better understanding of lower plants. • CO-2: They may also get familiar with different

		<p>morphological terms with direct practical experience by handling different plants.</p> <ul style="list-style-type: none"> • CO-3: They may know diversity of flowers and fruits in Angiospermic plants and get knowledge to identify the plant. • CO-4: By practicing taking sections of various plant parts, students may become familiar with anatomical studies and get skills of sectioning and staining of different plant parts.
Semester- II		
F.Y.B.Sc.	BO-121: Plant Life and Utilization-II	<ul style="list-style-type: none"> • CO-1: Students will get an idea of vascular plants • CO-2: They may know the morphology, reproduction and systematic position of different pteridophytes like <i>Nephrolepis</i>. • CO-3: Economic and medicinal importance and utilization of different Pteridophytes can be learnt by the students. • CO-4: Students will definitely learn difference between phanerogamas and cryptogams, i.e. higher plants and lower plants. • CO-5: The morphology, anatomy and reproductive organs of gymnosperms like Cycas can be better understood by students with their economic importance. • CO-6: Students will be well acquainted with the different systems of classification of higher plants. • CO-7: The economic importance and utilization of different food, fodder, fiber and medicinal plant can be better understood by students.
F.Y.B.Sc.	BO: Principles of Plant Science	<ul style="list-style-type: none"> • CO-1: Important physiological phenomenon like diffusion, osmosis, plasmolysis, plant growth etc. can be learnt by the students. • CO-2: The role of all these physiological process in plant life can be better understood by the students. • CO-3: The students will be better familiar with basics of plant cells and also get knowledge of various cell organelles. • CO-4: They may become familiar with the cell cycle and different stages of mitosis and meiosis. • CO-5: Advanced knowledge of molecular biology can be acquired by students. • CO-5: They may also know the structure of DNA and nucleotides and also learn popular theory of DNA proposed by Watson and Crick. • CO-7: They will known different types of DNA. Chromosomes etc.

		<ul style="list-style-type: none"> • CO-8: Students will get thorough knowledge of DNA replication and enzymes involved in it which will be applicable for the for the better understanding of important concepts of molecular biology and molecular basis of inheritance.
F.Y.B.Sc.	BO-123: Botany Practical –II	<ul style="list-style-type: none"> • CO-1: In this practical student can handle the plants like <i>Nephrolepis</i> for the better understanding of these plants. • CO-2: Also, they will be well acquainted with the gymnosperms by handling specimens of <i>Cycas</i>. • CO-3: Students can easily make comparison between Dicot and monocot plants. • CO-4: They will practically study importance of angiospermic plants which includes, food, fodder, fiber, medicine etc. • CO-5: Students with a study tour van better be know about plant diversity in the local area. • CO-6: Students will be well acquainted with mitosis and meiosis processes by using various plant parts. • CO-7: They can understand the concepts of plasmolysis, osmosis and DPD by direct practicals.
Semester- III		
S.Y.B.Sc.	BO-231: Taxonomy of Angiosperms and Plant Ecology	<ul style="list-style-type: none"> • CO-1: In this course students will get basic knowledge of plant taxonomy. • CO-2: They can acquainted with the different systems of classification, Rules of plant nomenclature and Identification. • CO-3: Student may learn basic knowledge of plant identification. • CO-4: Students are well acquainted with some basic terms like typification, binomial nomenclature etc. • CO-5: Students will study some representative families in detail. • CO-6: In other half of course students are get knowledge of some basic phenomenon of ecology • CO-7: Different plants and ecological grouping will also be studied by the students.
S.Y.B.Sc.	BO-232: Plant Physiology	<ul style="list-style-type: none"> • CO-1: Students will be familiar with many physiological phenomenon like Water absorption, ascent of sap, transpiration, nitrogen metabolism, seed dormancy and germination and physiology of flowering. • CO-2: Students may get answers of the questions in their mind about the metabolic activities of the plants. • CO-3: Students will get an idea of various phenomenon of flowering, how plants absorb water from soil and provide it to upper plant parts.

		<ul style="list-style-type: none"> • CO-4: They may get knowledge of seed dormancy and germination. • CO-5: Students may be well acquainted with basic phenomenon of nitrogen fixation and microorganisms associated with it.
S.Y.B.Sc.	BO-233: Practical Botany-III	<ul style="list-style-type: none"> • CO-1: In this practical course, students will have hands on training on • CO-2: Identification of plant families • CO-3: Description of flowering plants • CO-4: Study of different types of taxonomic and ecological instruments. • CO-5: Different physiological processes like, DPD, Leaf protein isolation, transpiration etc. • CO-6: Some ecological field work practical's also carried out by students including seed germination percentage, study of vegetation by list count quadrat method etc. • CO-7: Students will also experience the field trips, excursion visits arranged by department.
Semester- IV		
S.Y.B.Sc.	BO-241: Plant Anatomy and Embryology	<ul style="list-style-type: none"> • CO-1: In this basic theory course, students will be familiar to • CO-2: Basics of plant anatomy • CO-3: Plant embryology • CO-4: Different types of tissue systems which includes, epidermal, mechanical and other. • CO-5: Students may learn how secondary normal and abnormal growth takes place in dicot and monocot plants. • CO-6: In the second half of this course, students will get an idea of plant embryology. • CO-7: They may learn in details about the concepts of microsporangium and mega sporangium with their stepwise development. • CO-8: . Students will get knowledge of pollination and its various types. • CO-9: They may also get familiar with the fertilization and formation of endosperm and embryo.

S.Y.B.Sc.	BO-242: Plant Biotechnology	<ul style="list-style-type: none"> • CO-1: In this advanced subject, students will get an idea of plant biotechnology and its importance. • CO-2: Students will learn in detail about emerging branch which is known as Plant tissue culture. • CO-3: They also get knowledge of single cell proteins and their application. • CO-4: Plant genetic engineering and its different techniques may be learned by the students with different types of enzymes associated with. • CO-5: Students also will learn the concepts of genomics, proteomics and bioinformatics. • CO-6: A new and emerging field, bioremediation is included in the syllabus which can be utilized by the students for pollution control. • CO-7: Biofuel is an emerging technology and it is need of time. Students by studying the concept of biofuel may be well acquainted with the techniques and significance of biofuel over fossil fuels.
S.Y.B.Sc.	BO-243: Practical Botany-IV	<ul style="list-style-type: none"> • CO-1: In this, practical paper, students will practice hands on training on sectioning for the better understanding of concepts like different types of tissue system, including epidermal, meristamatic, vascular etc. • CO-2: Students may get practical knowledge of staining. • CO-3: In the biotechnology section, they may learn practicals of tissue culture, media preparation, stant preparation, sterilization etc. • CO-4: Students may practice laboratory cultivation of Spirullina. • CO-5: They will have demonstration of some practical's like gel electrophoresis, transgenic crops, tissue culture etc. • CO-6: Students will visit any tissue culture laboratory for the better understanding of different steps. • CO-7: By better understandings of the cultivation techniques of spirullina, students may start their own business.
Semester-V		
T.Y.B.Sc.	BO-351: Cryptogamic Botany (Algae and Fungi)	<ul style="list-style-type: none"> • CO-1: This course is important for the better understanding of the basic botany especially Algae and fungi. • CO-2: Algae, fungi, bryophytes and pteridophytes will be better understood by the students in here. • CO-3: General characteristic features of different cryptogamic plants including algae, fungi can be

		<p>better understood by the students.</p> <ul style="list-style-type: none"> • CO-4: Nutrition, taxonomic positions, and reproduction of different cryptogams will be better understood by the students. • CO-5: Students would learn Morphological and anatomical characteristics, life cycles and classification of different algae and fungi. Classification of different cryptogamic plants can be studied by students. • CO-6: Students will also become acquainted with the symbiotic associations of various algae and fungal groups.
T.Y.B.Sc.	BO-352: Archegoniate	<ul style="list-style-type: none"> • CO-1: The present course deals with detailed study of higher cryptogams including bryophytes and pteridophytes. • CO-2: In the first credit, students will learn about general account, classification, thallus organization origin of different bryophytes. Students will also learn life cycles, morphology, anatomy and reproduction of different species of bryophytes. • CO-3: Second credit of the course deals with the study of general characteristics, classification and distribution of pteridophytes. Students will also learn about classification morphology, anatomy, reproduction of selected groups of pteridophytes. Lastly students will get know about ecological and economical applications of pteridophytes.
T.Y.B.Sc.	BO-353: Spermatophyta and Paleobotany	<ul style="list-style-type: none"> • CO-1: Spermatophytes are the higher plants which includes gymnosperms and angiosperms. • CO-2: Through this course, students will learn the different types of classifications systems associated with gymnosperms and angiosperms. • CO-3: The first credit deals with angiosperms in which students will learn about concepts like, origin of angiosperms, speciation, endemism, classification systems, herbaria and botanical garden. • CO-4: Second credit is devoted to gymnosperms in which students are able to learn distribution, morphology, anatomy, reproduction, gametophyte and sporophyte of the plants <i>Pinus</i> and <i>Gnetum</i>. • CO-5: In the last chapter of course, students will learn about palaeobotany and fossils with different type of fossil groups. • CO-6: This course is very important for students to differentiate angiosperms and gymnosperms and also to describe and identify different plants.
T.Y.B.Sc.	BO-354: Plant Ecology	<ul style="list-style-type: none"> • CO-1: This is basic course associated with environment. • CO-2: In the first credit, students are able to learn about concepts of ecosystem, biogeography,

		<p>population ecology, community ecology and various biogeochemical cycles.</p> <ul style="list-style-type: none"> • CO-3: Second credit is associated with some advanced concepts like ecological Impact assessment, environmental audit, remote sensing and ecological management. • CO-4: This course will be very helpful from students to know the ecology and help them to take efforts for environmental conservation.
T.Y.B.Sc.	BO-355: Cell and Molecular Biology	<ul style="list-style-type: none"> • CO-1: Cell is basic fundamental unit of life. How it is can be learnt by students in this paper. • CO-2: Introduction to cell and cell biology with its brief history will be learned by the students. • CO-3: Students will be familiar with cell and different types of cell organelles. • CO-4: Cell organelles like, cell wall, plasma membrane, Endoplasmic reticulum, mitochondria, chloroplast etc can be learn by the students with their morphology, chemical constituents and functions. • CO-5: It is very important for the better understanding of prokaryotic and eukaryotic cells. • CO-6: Cell signaling is an important aspect of cell science which also will be learnt by the students. • CO-7: In the second half of this course students are able to learn various phenomenon of molecular biology which includes central dogma, transcription, translation, DNA replication, damage and repair, genetic code etc. • CO-8: Students may also get familiar with different gene actions and regulations
T.Y.B.Sc.	BO-356: Genetics	<ul style="list-style-type: none"> • CO-1: In this course students can learn concepts of Genetics. • CO-2: In the first credit, students will learn basics of genetics, Mendelism and his laws and different crosses. • CO-3: They will also learn concepts like gene interaction, multiple alleles, linkage and crossing over and mutations. • CO-4: In the second credit, students will learn about quantitative and cytoplasmic inheritance, sex linked inheritance, chromosomal aberrations (structural and functional alterations in chromosomes), euploidy and aneuploidy with suitable examples. • CO-5: Students also will get an idea of • CO-6: In the second half, students may get an idea of different
T.Y.B.Sc.	BO-3510 Medicinal Botany	<ul style="list-style-type: none"> • CO-1: Actually this course is added newly in the syllabus as a skill enhancement course. • CO-2: This course is very important for students to enhance their skills in the field of medicinal plants

		<p>and Ayurveda which will make them an expertise in the field.</p> <ul style="list-style-type: none"> • CO-3: In the first credit, students will learn about history and scope of medicinal plants and concepts of indigenous medicinal sciences. They will also learn in detail about different medical systems like Ayurveda, Siddha and Unani. • CO-4: Students will also learn how to conserve endangered and endemic medicinal plants. • CO-5: Second credit of the course deals with propagation of medicinal plants in nursery and associated practices. They will also learn about ethnobotany and folk medicines used for the treatment of common and severe ailments. • CO-6: As it is a skill enhancement course, it will develop students with skills of business and inculcate skills among them.
	BO-3511 Plant Diversity and Human health	<ul style="list-style-type: none"> • CO-1: This course is also included in the syllabus as a skill enhancement course which is related to human health. • CO-2: In the first half of the course, students will learn about concepts of plant diversity, agrobiodiversity, losses of biodiversity and management of plant diversity. • CO-3: Second credit deals with conservation of biodiversity, biodiversity awareness, sustainable development. • CO-4: Students will also learn about role plants in human life. Importance of forestry with their utilization and commercial aspects. • CO-5: This course is helpful for students to make themselves expert in social forestry, in-situ and ex-situ conservation of plants, sustainable development etc.
T.Y.B.Sc.	BO-357: Botany Practical-I	<ul style="list-style-type: none"> • CO-1: This practical course is dependent on the theory courses Cryptogamic botany (Algae and fungi) and Archegoniate. • CO-2: In this course students will learn thallus structure and structure of different algal and fungal species practically (<i>Nostoc</i>, <i>Oedogonium</i>, <i>Chara</i>, <i>Sargassum</i>, <i>Palmaria</i>, <i>Mucor</i>, <i>Saccharomyces</i>, <i>Penicillium</i>, <i>Puccinia</i> and <i>Cercospora</i>). • CO-3: Also they will study morphology of thallus of different bryophytes and pteridophytes with their systematic position and reproductive structures (<i>Marchantia</i>, <i>Anthoceros</i>, <i>Funaria</i>, <i>Psilotum</i>, <i>Selaginella</i> and <i>Equisetum</i>). • CO-4: Stellar evolution is an important concept in the life of pteridophytes. Students will practically get acquainted with it through sections and permanent slides.

T.Y.B.Sc.	BO-358: Botany Practical-II	<ul style="list-style-type: none"> • CO-1: This practical course is depending on two theory courses, Spermatophyta & Palaeobotany and Ecology. • CO-2: Students will practically dissect flowers of plant species belonging to families, <i>Nymphaeaceae</i>, <i>Oleaceae</i>, <i>Amaranthaceae</i> and <i>Cannaceae</i> and learn floral diagram, morphological features, floral diagram and systematic position of those plants. • CO-3: Students will practically learn how to make different types of artificial keys. • CO-4: In the gymnosperms, students will learn about internal and external morphology of <i>Gnetum</i> and <i>Pinus</i> by taking sections of leaf, stem roots, reproductive parts, • CO-5: Fossils are important sources of plant identification and for the study of ancient plants. Through permanent slides students will practically know about the concepts of impression, compression and petrification. • CO-6: In the practical's of ecology, students will learn practical's based on Study of BOD, Turbidity, pH etc of polluted water body. • CO-7: Also, students are able to learn practical applications of GPS and study of vegetation by various methods.
T.Y.B.Sc.	BO-359: Botany Practical-III	<ul style="list-style-type: none"> • CO-1: This practical course is dependent on theory courses cell and molecular biology and Genetics. • CO-2: Some advanced practicals are included in this practical course. • CO-3: Students will learn how to prepare different stains and fixatives, technique of isolation of nuclei, stages of mitosis and meiosis, c-metaphase, study of chromosomal morphology, Isolation of plant genomic DNA, Estimation of plant DNA by DPA method. • CO-4: Students will also learn to solve problems based on monohybrid and dihybrid crosses, human genetic traits, quantitative inheritance, multiple alleles etc.
Semester-IV		
T.Y.B.Sc.	BO- 361: Plant Physiology and Metabolism	<ul style="list-style-type: none"> • CO-1: In the first half of this course, the concepts like photosynthesis, respiration, translocation of solutes, stress physiology will be studied in detail. • CO-2: Different physiological phenomenon like mineral nutrition, light reaction, dark reaction, photophosphorylation, HSK pathways, C4 pathways, Glycolysis, ETS, etc can be studied by students in detail. • CO-3: In the the second half, student will learn about

		stomatal biology, translocation in phloem, different plant growth regulators and concept of photomorphogenesis.
T.Y.B.Sc.	BO-362: Biochemistry	<ul style="list-style-type: none"> • CO-1: This course is very important for students as far as competitive examinations are concern. • CO-2: In this course, the first credit is associated with the study of foundation of biochemistry, biochemistry of water. • CO-3: Study of different types of amino acids and proteins with their properties and functions. • CO-4: Enzymology is also an important part of the courses in which students will learn about nature, properties activities and functions of various enzymes. • CO-5: In the second half of the course students will become well acquainted with classification, properties, classification configuration and functions of carbohydrates. • CO-6: Also students will learn about properties, classification and functions of lipids and different vitamins.
T.Y.B.Sc.	BO-363: Plant Pathology	<ul style="list-style-type: none"> • CO-1: In this course students will get knowledge of some important terms of plant pathology, incitants, host etc. • CO-2: Also, students will also get knowledge of the mechanism of disease development, defense mechanism etc. • CO-3: Students also learn the methods of studying plant diseases. • CO-4: The students can get knowledge of different fungal, bacterial, mycoplasma, nematodal, viral diseases with causal organisms, symptoms and control measures. • CO-5: Some non-parasitic plants diseases are also included under the syllabus which are also beneficial for students to get better knowledge of plant diseases. • CO-6: Students will also learn about principles of plant disease control and molecular diagnostic features and transgenic in crop protection. • CO-7: By the knowledge of this course students will get basic knowledge of local crop diseases.
T.Y.B.Sc.	BO-364: Evolution and Population Genetics	<ul style="list-style-type: none"> • CO-1: This course is newly introduced in the syllabus but it is very important. • CO-2: Credit first of the course includes study of organic evolution, origin of life, origin of earth, fossils early life and origin of genetic code. • CO-3: It also depends on theories of evolution, Darwinism, natural selection theory, and evidences of evolution.

		<ul style="list-style-type: none"> • CO-4: In the second credit students will learn concepts of evolution through ages, population genetics, speciation and isolating mechanism in detail. • CO-5: By the study of this students can get a detailed insight about how life and earth originated and hown plants are evolved with time.
T.Y.B.Sc.	BO-365: Advanced Plant Biotechnology	<ul style="list-style-type: none"> • CO-1: This is advanced course of botany in which some biotechnological principles will be learnt by students. • CO-2: In the plant tissue culture section, students are able to study techniques, and applications of callus, cell suspension, protoplast, and embryo culture. Apart from this, students may get knowledge of some concepts like somatic hybridization, micropropagation, embryo rescue etc. • CO-3: Students will also become familiar with the concept of germplasm and cryopreservation, microbial biotechnology. • CO-4: Through this course students will learn essential steps of genetic engineering and its tools and vectors. • CO-5: . Students will also get a knowledge of genomics and proteomics with their concept and applications. • CO-6: Students can get know how transgenic plants serves as bioreactors. • CO-7: With the proper study of this course students will become well acquainted with advanced concepts related to biotechnology.
T.Y.B.Sc.	BO-366: Plant Breeding and Seed Technology	<ul style="list-style-type: none"> • CO-1: This course deals with two branches 1. Plant breeding and 2. Seed technology. • CO-2: In the first half of this course, students will learn basics of plant breeding, plant introduction and acclimatization. • CO-3: Also students will learn about different selection methods like mass, pure line and clonal selection. • CO-4: Also students will learn about different concepts of hybridization, breeding methodology, heterosis and hybrid vigour, mutation breeding. • CO-5: Students may know the different types of mutagens like chemical and physical to carryout mutation breeding. • CO-6: Students also get an idea of polyploidy and aneuploidy in crop improvement. • CO-7: Also, students become acquainted with breeding for stress tolerance.

		<ul style="list-style-type: none"> • CO-8: Seed technology is another section of this course in which students would learn about different types of seeds. • CO-9: Students also get knowledge about different concepts of seed technology including, seed certification, seed processing, seed sampling, storage and packaging, testing and marketing.
T.Y.B.Sc.	BO-3610: Nursery and Gardening Management	<ul style="list-style-type: none"> • CO-1: This is skill enhancement course newly introduced in the syllabus. • CO-2: First credit of this course is based on nursery management. Students of botany through this course will get knowledge of erection of nursery. They get know about concept and scope of nursery. Also students will get knowledge of seed and associated terms like seed dormancy, seed structure, storage, propagation, seed bank etc. • CO-3: Some plants in a Nursery can be grown by using vegetative propagation methods like cutting, layering, budding and hardening of plants. Student will earn skill of plant propagation in nursery through sexual and vegetative propagation methods. • CO-4: In the second credit, students will learn about Gardening management. In this they will learn about skills of gardening, landscaping etc. • CO-5: Student will also learn seed sowing, testing and transplanting of seedlings of various vegetable plants. • CO-6: In this way students thorough this course will become skilled in nursery management and landscaping.
T.Y.B.Sc.	BO-3611: Biofertilizers	<ul style="list-style-type: none"> • CO-1: This course is also skill enhancement course under which students will get knowledge of different biofertilizers. • CO-2: By successful completion of this course students will become able to erect a biofertilizer company. • CO-3: They will get knowledge about mass cultivation of various bacterial biofertilizers. • CO-4: Students may also practice cultivation of algal as well as fungal biofertilizers. • CO-5: Students will also get knowledge of composting and green manure synthesis. • CO-6: Students can achieve expertise in vermicomposting. • CO-7: With the knowledge of this course, students will reach up to the farmers and help them to increase their productivity without causing any type of

		<p>pollution and will also earn money by selling biofertilizers.</p> <ul style="list-style-type: none"> • CO-8: Thus this course is definitely helpful to students to become an entrepreneur.
T.Y.B.Sc.	BO-367: Botany Practical-I	<ul style="list-style-type: none"> • CO-1: This practical paper is based on two theory courses, 1. Plant physiology & metabolism and 2. Biochemistry • CO-2: Students can learn some advanced practical experiments in this course. • CO-3: Students will get practical knowledge of the courses like, plasmolysis, stomatal index and stomatal frequency, effect of certain enzymes, photosynthesis, respiration etc. • CO-4: Students will also learn about biochemical experiments like paper chromatography, protein estimation, enzyme activity, spectrophotometry, estimation of vitamins, qualitative tests for starch, lipids and proteins etc.
T.Y.B.Sc.	BO-368: Botany Practical-II	<ul style="list-style-type: none"> • CO-1: This practical course is based on two theory courses, plant pathology and Evolution & population genetics. • CO-2: This practical course is really helpful for students to know various crop diseases caused due to bacteria, fungi and viruses with their symptoms, life cycle and control measures. • CO-3: Students can also learn about preparation of different mixtures like <i>Bordeaux</i>, <i>Jivamruta</i> for the control of different crop diseases. • CO-4: This course if also helpful for students to known about different fungicides and pesticides. • CO-5: Students can also learn about various fossil groups. • CO-6: In the second half of the paper, students will also learn about organic evolution, problems based on allele and genotype frequency, Hardy-Weinberg equilibrium, Sympatric and Allopatric speciation etc.
T.Y.B.Sc.	BO- 369: Botany practical- III	<ul style="list-style-type: none"> • CO-1: All the practical's included in this course are based on two papers, Advanced Plant Biotechnology and Plant breeding & Seed Technology. • CO-2: This practical paper is also having advanced practical's of plant biotechnology like Tissue culture, secondary metabolites, artificial seed production,

		<p>nanoparticle preparation etc.</p> <ul style="list-style-type: none">• CO-3: Students will learn about demonstration of transgenic plants, hybridization, preparing of nanoparticles etc.• CO-4: Students will learn some problems on genetic engineering.• CO-5: In the second half, students will learn about effects of chemical mutagens on seed germination and growth, seed testing methods, seed germination methods seed diseases.
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Maratha Vidya Prasarak Samaj's
Arts, Commerce and Science College, Nandgaon,
Tal- Nandgaon, Dist- Nashik

**Program Outcomes, Program Specific Outcomes, Course specific
Outcomes**

2021-2022

Department of Physics

Program Outcome: B.Sc. (Physics)	
PO-1	After successful completion of three-year degree program in Physics a student will be able to;
PO-2	Compete in different types of science-related branches and examinations
PO-3	Seeks admission to M.Sc. Physics.
PO-4	To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
PO-5	To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, participation in scientific events, study visits, etc.
PO-6	To familiarize with recent scientific and technological developments.
PO-7	Appear for competitive examinations and defend interviews

Program Specific Outcome: B.Sc. (Physics)	
PSO- 1	To help students to build-up a progressive and successful career in Physics.
PSO- 2	To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.
PSO- 3	To create foundation for research and development in Physics.

Course Outcomes of B.Sc. (Physics)

Class	Course title & Code	Course Outcome
Semester- I		
F.Y.B. Sc.	Mechanics and Properties of Matter (PHY-111)	<ul style="list-style-type: none"> • CO 1: Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems. • CO 2: Use the free body diagrams to analyze the forces on the object. • CO 3: Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them. • CO 4: Understand the concepts of elasticity and be able to perform calculations using them. • CO 5: Understand the concepts of surface tension and viscosity and be able to perform calculations using them. • CO 6: Use of Bernoulli's theorem in real life problems. • CO 7: Demonstrate quantitative problem solving skills in all the topics covered.
F.Y.B.Sc.	Physics Principles and Applications (PHY-112)	<ul style="list-style-type: none"> • CO 1: To understand the general structure of atom & spectrum of hydrogen atom. • CO 2: To understand the atomic excitation and LASER principles. • CO 2: To understand the bonding mechanism and its different types. • CO 2: To demonstrate an understanding of electromagnetic waves and its spectrum. • CO 2: Understand the types and sources of electromagnetic waves and applications. • CO 2: To demonstrate quantitative problem solving skills in all the topics covered.
F.Y.B.Sc.	Physics Laboratory- IA (PHY-112)	<ul style="list-style-type: none"> • CO 1: Use various instruments and equipment. • CO 2: Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3: Investigate the theoretical background of an experiment. • CO 4: Setup experimental equipment to implement an experimental approach. • CO 5: Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6: Work in a group to plan, implement and report on an experiment. • CO 7: Keep a well-maintained and instructive laboratory Practical book.
Semester- II		

F.Y.B.Sc.	Heat and Thermodynamics (PHY-121)	<ul style="list-style-type: none"> • CO 1: Describe the properties of and relationships between the thermodynamic properties of a pure substance. • CO 2: Describe the ideal gas equation and its limitations. • CO 3: Describe the real gas equation. • CO 4: Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process. • CO 5: Analyze the heat engines and calculate thermal efficiency. • CO 6: Analyze the refrigerators, heat pumps and calculate coefficient of performance. • CO 7: Understand property 'entropy' and derive some thermodynamical relations using entropy concept. • CO 8: Understand the types of thermometers and their usage
F.Y.B.Sc.	Electricity and Magnetism (PHY-122)	<ul style="list-style-type: none"> • CO 1: To understand the concept of the electric force, electric field and electric potential for stationary charges. • CO 2: Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law. • CO 3: To understand the dielectric phenomenon and effect of electric field on dielectric. • CO 4: To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws. • CO 5: To study magnetic materials and its properties. • CO 6: Demonstrate quantitative problem solving skills in all the topics covered.
F.Y.B.Sc.	Physics Laboratory-IB (PHY-123)	<ul style="list-style-type: none"> • CO 1: Use various instruments and equipment. • CO 1: Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3: Investigate the theoretical background of an experiment. 2Setup experimental equipment to implement an experimental approach. • CO 4: Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 5: Work in a group to plan, implement and report on a project/experiment. • CO 6: Keep a well-maintained and instructive laboratory Practical book.
Semester- III		
S.Y.B.Sc.	Mathematical Methods in Physics I (PHY-231)	<ul style="list-style-type: none"> • CO 1: To understand the complex algebra useful in physics courses. • CO 2: To understand the concept of partial differentiation. • CO 3: To understand the role of partial differential equations in Physics. • CO 4: To understand vector algebra useful in mathematics and Physics. • CO 5: To understand the concept of singular points of differential equations.

S.Y.B.Sc.	Electronics I (PHY-232)	<ul style="list-style-type: none"> • CO 1: Apply different theorems and laws to electrical circuits. • CO 2: To understand the relations in electricity. • CO 3: To understand the parameters, characteristics and working of transistors. • CO 4: To understand the functions of operational amplifiers. • CO 5: Design circuits using transistors and applications of operational amplifiers. • CO 6: To understand the Boolean algebra and logic circuits.
S.Y.B.Sc.	Physics Laboratory-2A (PHY-233)	<ul style="list-style-type: none"> • CO 1: Use various instruments and equipment. • CO 2: Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3: Investigate the theoretical background of an experiment. • CO 4: Setup experimental equipment to implement an experimental approach. • CO 5: Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6: Work in a group to plan, implement and report on a project/experiment. • CO 7: Keep a well-maintained and instructive laboratory Practical book.
Semester- IV		
S.Y.B.Sc.	Oscillations, Waves and Sound (PHY-241)	<ul style="list-style-type: none"> • CO 1: study underlying principles of oscillations and it's scope in development • CO 2: To understand and solve the equations / graphical representations of motion for simple harmonic, damped, forced oscillators and waves. • CO 3: To explain oscillations in terms of energy exchange with various practical applications. • CO 4: To solve numerical problems related to undamped, damped, forced oscillations and superposition of oscillations. • CO 5: To study characteristics of sound, decibel scales and applications.
S.Y.B.Sc.	Optics (PHY-242)	<ul style="list-style-type: none"> • CO 1: Acquire the basic concept of wave optics. • CO 2: Describe how light can constructively and destructively interfere. • CO 3: Explain why a light beam spread out after passing through an aperture. • CO 4: Summarize the polarization characteristics of electromagnetic wave. • CO 5: Understand the operation of many modern optical devices that utilize wave optics • CO 6: Understand optical phenomenon such polarization, diffraction and interference in terms of the wave model. • CO 7: Analyze simple example of interference and diffraction

S.Y.B.Sc.	Physics Laboratory-2B (PHY-243)	<ul style="list-style-type: none"> • CO 1: Use various instruments and equipment. • CO 2: Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3: Investigate the theoretical background of an experiment. • CO 4: Setup experimental equipment to implement an experimental approach. • CO 5: Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6: Work in a group to plan, implement and report on a project/experiment. • CO 7: Keep a well-maintained and instructive laboratory Practical book.
Semester-V		
T.Y.B.Sc.	Mathematical Methods in Physics II (PHY-351)	<ul style="list-style-type: none"> • CO 1: To understand Cartesian, Spherical polar and Cylindrical co-ordinate systems, transformation equations. • CO 2: To understand General Curvilinear co-ordinate system: Co-ordinate surface, co-ordinate lines, length, surfaces and volume elements in curvilinear co-ordinate system, metric coefficient. • CO 3: To know the Newtonian relativity, Postulates of special relativity, Michelson-Morley experiment, Mass-energy relation. • CO 4: Can solve Frequently occurring partial differential equations, degree, order, linearity and homogeneity • CO 5: To understand Legendre, Hermite Polynomials, Recurrence relations, their differential equations and orthogonality properties. Bessel function of first kind and their properties. • CO 6: Demonstrate quantitative problem solving skills in all the topics covered.
T.Y.B.Sc.	Classical Electrodynamics (PHY-352)	<ul style="list-style-type: none"> • CO 1: To understand the concept of the electric force, electric field and electric potential for stationary charges • CO 2: Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law. • CO 3: To understand the dielectric phenomenon and effect of electric field on dielectric. • CO 4: To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws. • CO 5: To study magnetic materials and its properties • CO 6: To understand Maxwell's equations. • CO 7: Developed problem solving Skill.
T.Y.B.Sc.	Classical Mechanics (PHY-353)	<ul style="list-style-type: none"> • CO 1: To understand the concepts of Applications of Newton's laws of motion Projectile motion in various medium, Rocket motion, Motion of a charged particle in constant electric, magnetic and electromagnetic field. • CO 2: Can solve Central force, equivalent one body problem, Motion in central force field. • CO 3: To know Elastic and inelastic scattering, Elastic scattering - Laboratory and centre of mass system. Scattering,

		<ul style="list-style-type: none"> • CO 4: Limitations of Newtonian formulation 2 Types of constraints, degrees of freedom, generalized coordinates, configuration space D' Alembert's principle of virtual work ,Langrangian equation from D' Alembert's principle, cyclic coordinates • CO 5: Able to develop quantitative problem solving skills in all the topics covered
T.Y.B.Sc.	Atomic and Molecular Physics (PHY-354)	<ul style="list-style-type: none"> • CO 1: To understand the general structure of atom & spectrum of hydrogen atom. • CO 2: Understand Zeeman effect, Raman effect & Stark effect. • CO 3: Understand rotational, vibrational and vibrational – rotational spectra. • CO 4: Understand production of X-ray and its applications • CO 5: Developed problem solving Skill.
T.Y.B.Sc.	Computational Physics (PHY-355)	<ul style="list-style-type: none"> • CO 1: Able to understand Concepts of programming like algorithm, flow charts, etc. • CO 2: To know the Structure of C program, Character set, key words, Constants and variables, Variable names, Data types and their declarations, Symbolic Constants. • CO 3: To use the Arrays and Pointers in C, User Defined Function in C, Graphics in C while writing the program. • CO 4: Able to find out Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors. • CO 5: Able to write program independently and correct the errors occurred in program.
T.Y.B.Sc.	Elective-I : Elements of Material Science (PHY-354 (B))	<ul style="list-style-type: none"> • CO 1: To understand defects in Solids ,Material Properties – Mechanical, Electrical, and thermal, Impurities in solids. • CO 2: To understand Single Phase Metals alloys, Elastic Deformation and Plastic Deformation • CO 3: To understand Classification of ceramic materials, Ceramic crystals, Mechanical behavior of ceramics, Electromagnetic behavior of ceramics • CO 4: To know Phase Diagrams Basic terms System, Surrounding, Component, Coordinates, Phase, Equilibrium, Phase Diagram definition, importance, and objective, Lever rule, Gibb's phase rule • CO 5: To know smart materials Types and structure of smart materials, Properties of smart materials, Applications of smart materials
T.Y.B.Sc.	Energy Studies (PHY-3510 H)	<ul style="list-style-type: none"> • CO 1: Students become capable of conducting energy audits and give consultancy in that field. • CO 2: Students can design different types of solar heaters for small domestic as well as large scale community level applications. • CO 3: Students acquire skills to implement solar P-V systems at domestic levels as well as for office premises and educational

		<p>institutions. Students become able to start their own enterprise in net metering.</p> <ul style="list-style-type: none"> • CO 4:Students get ideas and hence become self-employed in the field of design , production, commissioning and implementation of bio-mass energy sources , bio-gas plants, gasifiers, wind mills, hybrid systems etc. • CO 5:Students can go for research in the fields of super-capacitors, battery technologies, fuel cells and material synthesis for implementation of these technologies. 6. Students become successful entrepreneurs in the energy field.
	Physics Workshop Skill (PHY-3511K)	<ul style="list-style-type: none"> • CO 1:After completion of this course students will able to handle and test various instruments.
T.Y.B.Sc.	Laboratory Course I (PHY-356)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a experiment.
T.Y.B.Sc.	Laboratory Course II (PHY-357)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a experiment.
T.Y.B.Sc.	Laboratory Course III (Project) (PHY-358)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a project. • CO 7:To enrich knowledge through problem solving, projects, review of research articles/papers, participation in scientific events, study visits, etc.

		<ul style="list-style-type: none"> • CO 8:To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
Semester-IV		
T.Y.B.Sc.	Solid State Physics (PHY-361)	<ul style="list-style-type: none"> • CO 1:Can explain & understand crystal system, 2-D,3-D Bravaislattics, Miller indices, Crystal Structures & concept of Reciprocal lattice. • CO 2:Can explain & understand Bragg's diffraction condition, different experimental methods. • CO 3:Can explain & understand free electron model, Fermi energy, Fermi level, Hall Effect and origin of energy gap and difference between metal, Semiconductor and insulators. • CO 4:Can explain & understand different types of magnetic material and its applications. • CO 5:Can explain & understand occurrence of Superconductivity, Meissner effect, Curie temperature Neel temperature and critical temperature. • CO 6:Developed problem solving Skill.
T.Y.B.Sc.	Quantum Mechanics (PHY-362)	<ul style="list-style-type: none"> • CO 1:Able to understand the Origin of Quantum Mechanics. • CO 2:Can understand and solve problems related with Physical interpretation of wave function, Schrodinger time dependent equation, Schrodinger time independent equation. • CO 3: To understand Applications of Schrodinger Steady state equation Like Free particle, Particle in infinitely deep potential well, Particle in three dimension rigid box, Step potential, Potential barrier, Barrier penetration and tunneling effect, Harmonic oscillator. • CO 4:To understand the Operators in Quantum Mechanics. • CO 5:Demonstrate quantitative problem solving skills in all the topics covered.
T.Y.B.Sc.	Thermodynamics and Statistical Physics (PHY-363)	<ul style="list-style-type: none"> • CO 1:To understand basics of Kinetic Theory of Gases. • CO 2:Able to interpret Maxwell Relations and Application. • CO 3:To understand Elementary Concepts of Statistics, Probability, distribution functions, Random Walk and Binomial distribution, Simple random walk problem. • CO 4:To know the concepts of Statistical Distribution of System of Particles: • CO 5:To understand the concepts of Quantum Statistics, Quantum distribution function, Maxwell-Boltzmann's statistics, Bose-

		Einstein Statistics, Fermi Dirac Statistics, Comparison of the distributions.
T.Y.B.Sc.	Nuclear Physics (PHY-364)	<ul style="list-style-type: none"> • CO 1:To understand basic nuclear properties. • CO 2:To understand radioactivity disintegration, half-life, specific activity, successive disintegration and application of radioactivity. • CO 3:To understand meson theory of nuclear forces, elementary particle and quarks model, • CO 4:To understand working of Linear accelerators, Cyclotron, Gas filled detector & solid state detector. • CO 5:To understand compound nucleus, Q-value equation, exothermic and endothermic nuclear reactions. • CO 6:To understand nuclear fission, fusion, chain reaction. • CO 7:To understand working and construction of Power reactor, • CO 8:Developed problem solving Skill.
T.Y.B.Sc.	Electronics (PHY-365)	<ul style="list-style-type: none"> • CO 1:To understand Special Purpose of diodes (LED, Photodiode, Varactor and Optocoupler.) • CO 2:To understand the parameters, characteristics and working of transistors. • CO 3:To understand the parameters, characteristics and working of JFET, MOSFET, CMOS and Application of FET. • CO 4:To understand the functions of operational amplifiers. • CO 5:To understand the functions of Astable, Monostable and Bistable Multivibrator. • CO 6:To understand the functions of IC- Regulator, IC-78XX and 79XX. • CO 7:To understand the digital non-memory and memory types combinational and Sequential circuits respectively.
T.Y.B.Sc.	Lasers (PHY-366R)	<ul style="list-style-type: none"> • CO 1:Able to understand the concepts of Ordinary light and Lasers, Brief history of Lasers, Interaction of radiation with matter, Energy levels, Population density, Boltzmann distribution, • CO 2:To know the Transition Lifetimes, Allowed and Forbidden Transitions, Stimulated Absorption, Spontaneous Emission and Stimulated Emission, Einstein's Coefficients, Einstein's relations • CO 3:To understand the Laser Action. • CO 4:To know the Laser Output • CO 5:To demonstrate the Characteristics of Laser, Directionality, Monochromaticity Coherence Brightness. • CO 6:Able to perform experiments regarding lasers.
T.Y.B.Sc.	Solar PV System: Installation, Repairing and Maintenance (PHY-3610V)	<ul style="list-style-type: none"> • CO 1:Learn basics of light conversion in electricity. • CO 2:Hands on training will motivate to use Solar PV system. • CO 3:Become entrepreneur / self-employed. • CO 4:Analyzed of MSEB electricity bill and design and sizing of off-grid PV system

		<ul style="list-style-type: none"> • CO 5:Participants will learn about solar PV module and batteries used in solar PV plant.
T.Y.B.Sc.	Radiation Physics (PHY-3611AA)	<ul style="list-style-type: none"> • CO 1:Students can use the knowledge in the applications of Radiation Physics in the fields like radio carbon dating, medical diagnostic tools. • CO 2:Students acquire skill in operating different types of radiation detectors to detect and measure radiation levels in different places. • CO 3:Students can work as advisers in maintenance of radiation safety standards and following of strict protocols at various places like Hospitals, Industry, and Laboratories etc. • CO 4:Students become able to employ their skills to develop applications of radio activity in the fields like agriculture, industry, hospitals etc.
T.Y.B.Sc.	Laboratory Course I (PHY-367)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a experiment.
T.Y.B.Sc.	Laboratory Course II (PHY-368)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a experiment.
T.Y.B.Sc.	Laboratory Course III (Project) (PHY-369)	<ul style="list-style-type: none"> • CO 1:Use various instruments and equipment. • CO 2:Design experiments to test a hypothesis and/or determine the value of an unknown quantity. • CO 3:Investigate the theoretical background of an experiment. • CO 4:Setup experimental equipment to implement an experimental approach. • CO 5:Analyze the data, plot appropriate graphs and reach conclusions from data analysis. • CO 6:Work in a group to plan, implement and report on a project. • CO 7:To enrich knowledge through problem solving, projects,

		<p>review of research articles/papers, participation in scientific events, study visits, etc.</p> <ul style="list-style-type: none">• CO 8:To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
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Maratha Vidya Prasarak Samaj's
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**Program Outcomes, Program Specific Outcomes, Course specific
 Outcomes**

2021-2022

Department of Zoology

Program Outcome: B.Sc. (Zoology)	
PO-1	To compete for higher education, various entrance examinations, Competitive examinations for employment and entrepreneurship.
PO-2	To acquire basic skills in the observation and study of nature, biological techniques, experimental skills and scientific investigation
PO-3	To develop awareness about environment and its conservation processes pollution control and its importance.
PO-4	Communicate mathematical ideas both orally and in writing
PO-5	To development of scientific temperament, critical thinking and reasoning ability.
PO-6	Develop interdisciplinary approach for quality research.
Program Specific Outcome: B.Sc. (Zoology)	
PSO-1	To gained the knowledge and application of animals in our daily lives and the techniques used in its sustainable development.
PSO-2	To apply the knowledge of various branches of Zoology and General biology meant both for a graduate terminal course and for higher studies.
PSO-3	To understands the basic concepts of zoology and understands the base of classification, identification and diversity of ecosystem.
PSO-4	Develop information and skill of applied zoology including sericulture, apiculture, fisheries, poultry, Vermiculture, agricultural pests and their control etc.
PSO-5	To gain knowledge of protection of vulnerable and endangered species.
PSO-6	To identify and list out common animals.
PSO-7	To develop respect for nature.

PSO-8	The students are equipped with skills, handling of zoological tools, equipment's.
PSO-9	To identify animals beneficial to humans.

Course Outcomes of B.Sc. (Zoology)

Class	Course title & Code	Course Outcome
Semester-I & II		
F.Y. B.Sc.	ZO-111 & ZO-121: Animal Diversity I & II	<ul style="list-style-type: none"> • CO-1: The student will be able to understand classify and identify the diversity of animals.
		<ul style="list-style-type: none"> • CO-2: The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.
		<ul style="list-style-type: none"> • CO-3: The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.
F.Y. B.Sc.	ZO-112: Animal Ecology	<ul style="list-style-type: none"> • CO-1: The students will be able to Identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.
		<ul style="list-style-type: none"> • CO-2: To understand anticipate, analyse and evaluate natural resource issues and act on a lifestyle that conserves nature.
		<ul style="list-style-type: none"> • CO-3: The Learner understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.
		<ul style="list-style-type: none"> • CO-4: The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.
		<ul style="list-style-type: none"> • CO-5: The working in nature to save environment will help development of leadership skills to promote betterment of environment.
F.Y. B.Sc.	ZO-122: Cell Biology	<ul style="list-style-type: none"> • CO-1: The learners will understand the importance of cell as a structural and functional unit of life.
		<ul style="list-style-type: none"> • CO-2: The learners understand and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.
		<ul style="list-style-type: none"> • CO-3: The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.

		<ul style="list-style-type: none"> • CO-4: The cellular mechanisms and its functioning depends the on endo- membranes and structures. They are best studied with microscopy.
F.Y. B.Sc.	ZO-113 & ZO 123: Practical	<ul style="list-style-type: none"> • CO-1: Gain knowledge to identify various animals based on morphological features.
		<ul style="list-style-type: none"> • CO-2: Prepare the culture of Paramecium
		<ul style="list-style-type: none"> • CO-3: To understand the principle and use of microscopes and micrometry.
		<ul style="list-style-type: none"> • CO-4: List the various invertebrate and vertebrate animals in a given class.
		<ul style="list-style-type: none"> • CO5-: Identify various larval stages and development in invertebrate and vertebrate groups.
Semester-III & IV		
S.Y. BSc.	ZO-231 & ZO-241: Animal Diversity III & IV	<ul style="list-style-type: none"> • CO-1: The students will be able to understand, classify and identify the diversity of higher vertebrates.
		<ul style="list-style-type: none"> • CO-2: The students will able to understand the complexity of higher vertebrates.
		<ul style="list-style-type: none"> • CO-3: The students will be able to understand different life functions of higher vertebrates.
		<ul style="list-style-type: none"> • CO-4: The students will be able to understand the linkage among different groups of higher vertebrates.
		<ul style="list-style-type: none"> • CO-5: The student will become aware regarding his role and responsibility towards nature as a protector, to understand his role as a trustee and conservator of life which he has achieved by learning, observing and understanding life.
S.Y. BSc.	ZO-232 & ZO-242: Applied Zoology I & II	<ul style="list-style-type: none"> • CO-1: The learner understands the basics about beekeeping tools, equipment, and managing beehives.
		<ul style="list-style-type: none"> • CO-2: The learner understands the basic information about fishery, cultural and harvesting methods of fishes and fish preservation techniques.
		<ul style="list-style-type: none"> • CO-3: The learner understands the biology, varieties of silkworms and the basic techniques of silk production.
		<ul style="list-style-type: none"> • CO-4: The learner understands the types of agricultural pests, Major insect pests of agricultural importance and Pest control practices.
S.Y. B.Sc.	ZO-133 & ZO-143: Practical	<ul style="list-style-type: none"> • CO-1: To demonstrate an understanding of laboratory procedures including safety and scientific methods.
		<ul style="list-style-type: none"> • CO-2: To acquire the complementary skills of collaborative learning and teamwork in laboratory settings.
		<ul style="list-style-type: none"> • CO-3: To work in a group to plan, implement and report on a project/experiment.

		<ul style="list-style-type: none"> • CO-4: To understand the systematic classification with distinguishing characteristics of Classes with subclasses of Reptilian, Aves and Mammals.
		<ul style="list-style-type: none"> • CO-5: To get the knowledge of poisonous and non-poisonous snakes.
		<ul style="list-style-type: none"> • CO-6: To study the special modifications in animals of Reptilia, Aves and Mammals
		<ul style="list-style-type: none"> • CO-7: They will get the knowledge about different products of honey bees- major and minor
		<ul style="list-style-type: none"> • CO-8: They will also understand the types of crafts and gears used in fishing industry.
		<ul style="list-style-type: none"> • CO-8: The students will have the knowledge about scientific method of setting of the Aquarium..

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Program Outcomes, Program Specific Outcomes, Course specific Outcomes

2021-2022

Department of Mathematics

Program Outcome: B.Sc. (Mathematics)	
PO-1	Demonstrate basic manipulative skills in algebra, geometry, trigonometry, and beginning calculus
PO-2	Apply the underlying unifying structures of mathematics (i.e. sets, relations and functions, logical structure) and the relationships among them
PO-3	Demonstrate proficiency in writing proofs
PO-4	Communicate mathematical ideas both orally and in writing
PO-5	Investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods
PO-6	Investigate and solve unfamiliar math problems
PO-7	Use their mathematical knowledge to solve problems
PO-8	Undertake further studies related to mathematics

Program Specific Outcome: B.Sc. (Mathematics)	
PSO-1	Gain knowledge in foundational areas of mathematics
PSO-2	Communicate mathematics accurately, precisely and effectively
PSO-3	Develop mathematical thinking
PSO-4	Apply mathematical knowledge

PSO-5	Be able to solve mathematical problems using technology
PSO-6	Student will be able to, the mathematical maturity of in their current and future courses shall develop.
PSO-7	The student develops theoretical, applied and computational skills
PSO-8	The student gains confidence in proving theorems and solving problems
PSO-9	Student can compete any subject related competitive examinations like banking sector

Course Outcomes of B.Sc. (Mathematics)

Class	Course title & Code	Course Outcome
Sem-I		
F.Y.B.Sc.	MT-111: Algebra	<ul style="list-style-type: none"> • CO-1: Students can prove various properties of sets, properties of divisibility & congruence
		<ul style="list-style-type: none"> • CO-2: Students can differentiate between functions & relations
		<ul style="list-style-type: none"> • CO-2: Students can perform operations on complex numbers
F.Y.B.Sc.	MT-112: Calculus I	<ul style="list-style-type: none"> • CO-1: Students can various properties of set of all reals
		<ul style="list-style-type: none"> • CO-2: Students can find supremum & infimum of subsets of set of all reals
		<ul style="list-style-type: none"> • CO-3: Students can prove theorems on sequences
		<ul style="list-style-type: none"> • CO-4: Students can prove theorems & solve examples on limit & continuity of functions
F.Y.B.Sc.	MT-113: Practical	<ul style="list-style-type: none"> • CO-1: Students can visualize the functions using Maxima software then can predict limit & continuity of functions
		<ul style="list-style-type: none"> • CO-2: Students can solve complex examples
Sem-II		
F.Y.B.Sc.	MT-121: Analytical Geometry	<ul style="list-style-type: none"> • CO-1: Students can translate & rotate axes to identify nature of conic represented by equation
		<ul style="list-style-type: none"> • CO-2: Student can transform one form to another form of a plane

		<ul style="list-style-type: none"> • CO-3: Students can transform one form to another form of a line in three dimensions
		<ul style="list-style-type: none"> • CO-4: Students can transform one form to another form of a sphere
F.Y.B.Sc.	MT-122: Calculus II	<ul style="list-style-type: none"> • CO-1: Students can apply rules of differentiation & mean value theorems
		<ul style="list-style-type: none"> • CO-2: Students can deal with indeterminate forms
		<ul style="list-style-type: none"> • CO-3: Students can find nth derivatives of a function
		<ul style="list-style-type: none"> • CO-4: Students can solve first order linear, exact & non-exact differential equations
F.Y.B.Sc.	MT-123: Practical	<ul style="list-style-type: none"> • CO-1: Students can solve various examples on geometry using Maxima software
		<ul style="list-style-type: none"> • CO-2: Students can visualize & solve the derivative of functions using Maxima software
		<ul style="list-style-type: none"> • CO-3: Students can solve complex examples
Sem-III		
S.Y.BS.c.	MT-231: Calculus of Several Variables	<ul style="list-style-type: none"> • CO-1: Students can solve & prove theorems on limit & continuity of multivariable functions
		<ul style="list-style-type: none"> • CO-2: Students can find partial & directional derivatives & extreme values of functions
		<ul style="list-style-type: none"> • CO-3: Students can find derivatives of composite functions
		<ul style="list-style-type: none"> • CO-4: Students can solve multiple integrals
S.Y.BS.c.	MT-232(A): Numerical Methods and Its Applications	<ul style="list-style-type: none"> • CO-1: Students can round-off numbers
		<ul style="list-style-type: none"> • CO-2: Students can find different errors
		<ul style="list-style-type: none"> • CO-3: Students can find solution of algebraic & transcendental equations
		<ul style="list-style-type: none"> • CO-4: Students can find interpolating polynomial
		<ul style="list-style-type: none"> • CO-5: Students can fit data to curves
		<ul style="list-style-type: none"> • CO-6: Students can numerically differentiate & integrate
		<ul style="list-style-type: none"> • CO-7: Students can find solution of first order ordinary differential equations
S.Y.BS.c.	MT-232(B): Graph Theory	<ul style="list-style-type: none"> • CO-1: Students can find Incidence matrix by using graph

		<ul style="list-style-type: none"> • CO-2: Students can solve examples on Path and Circuits
		<ul style="list-style-type: none"> • CO-3: Students can solve Travelling Salesman Problem by using Hamiltonian circuit
		<ul style="list-style-type: none"> • CO-4: Students can Solving problems on Trees and Fundamental Circuits
S.Y.BS.c.	MT-233: Practical	<ul style="list-style-type: none"> • CO-1: Students can solve complex examples on limit, continuity, differentiability, extreme values, multiple integrals, logic, counting
Sem-IV		
S.Y.BS.c.	MT-241: Linear Algebra	<ul style="list-style-type: none"> • CO-1: Students can solve examples on basis, dimension. Vector spaces & Subspaces
		<ul style="list-style-type: none"> • CO-2: Students can solve examples on inner product spaces
		<ul style="list-style-type: none"> • CO-3: Students can find orthonormal basis
		<ul style="list-style-type: none"> • CO-4: Students can find linear transformations its rank, kernel & matrix
S.Y.BS.c.	MT-242(A): Vector Calculus	<ul style="list-style-type: none"> • CO-1: Students can solve & prove theorems on limit & continuity of vector valued functions
		<ul style="list-style-type: none"> • CO-2: Students can find Arc Length, Speed, Tangent Vector, Curvature of a Plane Curve, Normal Vectors
		<ul style="list-style-type: none"> • CO-3: Students can find derivatives of composite functions
		<ul style="list-style-type: none"> • CO-4: Students can solve multiple integrals of vector valued function by using Green's Theorem, Stokes Theorem and Divergence Theorem.
		<ul style="list-style-type: none"> • CO-5: Students can find line integral of the curve matrices
S.Y.BS.c.	MT-242(B): Dynamical Systems	<ul style="list-style-type: none"> • CO-1: Students can find eigenvalues and eigenvectors of Matrices
		<ul style="list-style-type: none"> • CO-2: Students can solve examples on Phase Portraits for Planar Systems
		<ul style="list-style-type: none"> • CO-3: Students can find Exponential of a matrix
		<ul style="list-style-type: none"> • CO-4: Students can Solving Linear Systems by using differentiation
S.Y.BS.c.	MT-243: Practical	<ul style="list-style-type: none"> • CO-1: Students can solve complex examples on vector spaces, subspaces, basis, dimension, inner product spaces, linear transformations, numerical solutions of equations, first order differential equations, interpolation, curve fitting, numerical differentiation & integration