

**Kavayitri Bahinabai Chaudhari  
North Maharashtra University,  
Jalgaon**



**S. Y. B.A  
(Semester III & IV)  
Syllabus of Geography  
(Under the Faculty of Science)**

**Choice Based Credit System (CBCS)**

**With effect from June-2019**

## Structure of S.Y.B.A. under CBCS pattern- Geography w.e.f. June-2019

Semester	Discipline Specific Core Courses DSC	Ability Enhancement Compulsory Course AEC	Skill Enhancement Course SEC	Discipline Specific Elective Courses DSE	Generic Grade GE
<b>III</b> Credits: 18 (07 Papers)	<b>Compulsory English</b> (Credits 03) <b>MIL 1</b> (Credits 03) <b>DSC1 C</b> (Credits 02)** <b>DSC 2 C</b> (Credits 02)**	-----	<b>SEC 1</b> (Credits 02)	<b>DSE 1 A</b> (Credits 03) <b>DSE 2 A</b> (Credits 03)	-----
<b>IV</b> Credits: 20 (08 Papers)	<b>Compulsory English</b> (Credits 03) <b>MIL 2</b> (Credits 03) <b>DSC 1 D</b> (Credits 02)** <b>DSC 2 D</b> (Credits 02)** <b>DSC3 D</b> (Credits 02)*	-----	<b>SEC 2</b> (Credits 02)	<b>DSE 1 B</b> (Credits 03) <b>DSE 2 B</b> (Credits 03)	-----

Gg. 231 **(DSC)** Sem. III General Cartography **(DSC1 C)**

Gg. 241 **(DSC)** Sem. IV Human Geography **(DSC1 D)**

Gg. 232 **(DSE 1 A)** Sem. III Geography of Tourism

Gg. 242 **(DSE 1 B)** Sem. IV Geography of India

Gg. 233 **(DSE 2 A)** Sem. III Practical Geography (Scale and Map Projection)

Gg. 243 **(DSE 2 B)** Sem. IV Practical Geography (Surveying)

Gg. 234 **(SEC 1)** Sem. III Regional Planning and Development

Gg. 244 **(SEC 2)** Sem. IV Remote Sensing and GPS Based Project Report

Gg. 245 **(DSC 3 D)** Sem. IV Minor Study Project

In semester IV, DSC 3 D will be Minor Study Project of DSE 1 B and 2 B (Papers of Special Subject)

\* In Sem. IV, DSC 3D will be Minor Study Project of DSE 1 B & 2 B (Papers of specific subject)

\*\* For all other DSC Papers there will be 01 Credit for Practical. ( 01 Credits of Practical= 02 Hours)

## सूचना

1. MIL हि अनिवार्य अभ्यासपत्रिका आहे. द्वितीय वर्षात प्रवेशित प्रत्येक विद्यार्थ्यांने मराठी, हिंदी, संस्कृत, पाली, अर्धमागधी यापैकी महाविद्यालयात शिकवल्या जाणाऱ्या इंग्रजी व्यतिरिक्त कोणत्याही एका भाषा विषयाच्या MIL मधील अभ्यासपत्रिकेची निवड करणे अनिवार्य आहे.
2. DSE 1, 2 मध्ये भूगोल या विषयाच्या अभ्यासपत्रिकांची निवड करणाऱ्या विद्यार्थ्यांनी DSC मधील भूगोल विषयाच्या उपलब्ध सामान्य नकाशाशास्त्र (General Cartography- Sem: III ) आणि मानवी भूगोल (Human Geography- Sem: IV ) अभ्यासपत्रिकेची निवड करणे अनिवार्य आहे.
3. DSE 1, 2 मध्ये भूगोल या विषयाच्या अभ्यासपत्रिकांची निवड करणाऱ्या विद्यार्थ्यांनी चौथ्या सत्रात DSC 3 मधील लघुअभ्यास प्रकल्प (**Minor Study Project**) या अभ्यासपत्रिकेसाठी भूगोल या विषयाची निवड करणे अनिवार्य आहे. प्रकल्पलेखनाची हि अभ्यासपत्रिका फक्त चौथ्या सत्रासाठी आहे.
4. SEC च्या सत्र तीन व चार यांमधील अभ्यासक्रमांसाठी विद्यार्थी महाविद्यालयात उपलब्ध विषयांपैकी कोणत्याही विषयाची निवड करू शकतात.
5. विद्यापीठ परीक्षा **60 गुणांची** आणि अंतर्गत/प्रात्यक्षिक परीक्षा **40 गुणांची** असेल.

## Equivalence courses for SYBA Geography Students

S.Y.B.A Geography (Old Courses)	New Syllabus of S.Y.B.A Geography W.E.F. June 2019
Gg: 211(A) - Sem. III - G2: Human Geography <b>OR</b> Gg: 211(B) – Sem. III - G2: Geography of Resources	Gg. 231 (DSC) Sem. III General Cartography
Gg: 221(A) - Sem. IV - G2: Economic Geography <b>OR</b> Gg: 221(B) - Sem. IV - G2: Geography of Water Resource	Gg. 241 (DSC) Sem. IV Human Geography
Gg: 212(A) - Sem. III - S1: Geography of Tourism - I <b>OR</b> Gg: 212(B) - Sem. III - S1: Physical Geography of Maharashtra	Gg. 232 (DSE 1 A) Sem. III Geography of Tourism
Gg: 222 (A)- Sem. IV - S1: Geography of Tourism - II <b>OR</b> Gg: 222(B) - Sem. IV - S1: Economic Geography of Maharashtra	Gg. 242 (DSE 1 B) Sem. IV Geography of India
Gg: 213 - Sem. III - S2: Practical Geography – I (Scale and Map Projections)	Gg. 233 (DSE 2 A) Sem. III Practical Geography (Scale and Map Projection)
Gg: 214 - Sem. IV - S2: Practical Geography – II (Cartographic Techniques, Surveying and Excursion / Village / Project Report)	Gg. 243 (DSE 2 B) Sem. IV Practical Geography (Surveying)
--	Gg. 234 (SEC 1) Sem. III Regional Planning and Development
--	Gg. 244 (SEC 2) Sem. IV Remote Sensing and GPS Based Project Report
--	Gg. 245 (DSC 3 D) Sem. IV Minor Study Project <i>In semester IV, DSC 3 D will be Minor Study Project of DSE 1 B and 2 B (Papers of Special Subject)</i>

# Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Under faculty of Science and Technology

S.Y.B.A. SEMESTER- III

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

**Gg. 233 (DSE 2 A): PRACTICAL GEOGRAPHY**

**(Scale and Map Projections)**

(Work load – 06 Periods per week per batch of 12 students)

Total Credits – 3.

Internal Marks - 40

Total Clock Hours – 90

External Marks – 60

## Objectives

1. To give basic information about various tools and techniques used in making maps.
2. To understand the concept of scale at the initial stage
3. To know how to draw the maps on various scale
4. To acquaint the students with basic of Scale, Map Projections and cartographic Techniques
5. To enable the students to use Scale Map Projections and cartographic techniques

Sr.No.	Unit	Sub Unit	Hours
1	Scale	Definition of Map Scale Methods of Scale Representation Conversion of Scale ( British & Metric System) 1. Verbal Scale to R.F. 2. R. F. to Verbal Scale Construction of scales 1. Simple Graphical Scale 2. Time and Distance Scale 3. Comparative Scale	30
2	Classification of Map Projection	A. Maps and Globe : Definition, Meaning B. Classification and Types of Map C. Importance and use of maps D. Need and Use of Map Projections E. Classification of Map Projection on the basis of their development 1. Perspective Projections 2. Non Perspective Projections 3. Conventional Projections	25
3	Construction of Map Projections	A. Zenithal Polar Projection 1. Zenithal Polar Gnomonic Projection 2. Zenithal Polar Stereographic Projection B. Cylindrical Projection 1. Cylindrical Equal Area Projection	

		2. Mercator's Projection 3. Introduction to Universal Transverse Mercator's (UTM) Projection C. Conical Projection 1. Conical Projection with one Standard Parallel 2. Bonne's Projection. D. Choice of Map Projections	35
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### Weightage of Marks

Unit	Unit	Weightage
1	Scales	20
2	Map Projections	10
3	Construction of Map Projections	30
	University Assessment (U.A.)	60
	College Assessment (C.A.)	40
	<b>Total Marks</b>	<b>100</b>

### Internal Practical Test Exam.

- 1) Attendance and Behavioral: 10 Marks  
 2) Internal Test : 30 Marks

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**Total : 40 Marks**

### References Books

- Dent B. D., 1999: Cartography: Thematic Map Design, (Vol. 1), McGraw Hill.
- Gupta K. K and Tyagi V. C., 1992: Working with Maps, Survey of India, DST NewDelhi.
- Mishra R. P. and Ramesh A., 1989: Fundamentals of Cartography, ConceptPublishing.
- Sharma J. P., 2010: Prayogic Bhugol, Rastogi Publishers.
- Singh R. L. 1979: Elements of Practical Geography, Kalyani publishers, New DelhiPublishers
- Singh R. L., 1998: Prayogic Bhoogol Rooprekha, Kalyani Publications.
- Sharma J. P., 2010: PrayogicBhugolRastogiPublishers,Meerut.
8. Singh R.L.and Singh R.P.B., 1999: Elements of Practical Geography, Kalyani Publishers.
- Singh RL&Rana PB Singh (1991)Prayogtmak Bhugol ke Mool Tatva, Kalyani Publishers, New Delhi
- Steers J. A., 1965: An Introduction to the Study of Map Projections, University ofLondon.
- Kennedy, M., Kopp, S. 2001. Understanding Map Projections, Esri Press.
- Kimerling, A.J., Buckley, A.R., Muehrcke, P.C., Muehrcke, J.O. 2011. Map Use: Reading, Analysis, Interpretation, 7th ed, Esri Press.
- Monkhouse, F.J., Wilkinson, H.R. 1971. Maps and Diagrams: Their Compilation and Construction, 3<sup>rd</sup>ed (2017 reprint), Alphaneumera-Kolkata.
- Monkhouse F.J. and Wilkinson H.R., 1973: Maps and Diagrams, Methuen, London.
- Geore p. Kellaway 1979: Map Projection B.I.Publicationsnew Delhi
- Pearson II, F. 1990. Map Projections: Theory and Applications 2nd ed, CRC Press.
- Robinson, A.H., Morrison, J.L., Phillip, C.M., Kimerling, A.J., Guptill, S.C. 1995. Elements of Cartography, 6th ed, JohnWiley.
- Robinson A.H., 2009: Elements of Cartography, John Wiley and Sons, New York.

19. Sarkar, A. 2015. Practical Geography: A Systematic Approach, 3rd ed, Orient Blackswan Private Ltd.
20. Singh, R.L., Singh, R.P.B. 2008. Elements of Practical Geography, Kalyani Publishers.
21. Anson R. and Ormelling F.J., 1994: International Cartographic Association: Basic Cartographic Vol. Pregmen Press.
22. Gupta K.K. and Tyagi, V. C., 1992: Working with Map, Survey of India, DST, New Delhi.
23. Rhind D.W. and Taylor D.R. F., (eds.), 1989: Cartography: Past, Present and Future, Elsevier, International Cartographic Association.

**Websites**

- a) Geological Survey of India: [www.gsi.gov.in](http://www.gsi.gov.in)
- b) Indian National Cartographic Association: [www.incaindia.org](http://www.incaindia.org)
- c) Indian Naval Hydrographic Department: [www.hydrobharat.nic.in](http://www.hydrobharat.nic.in)
- d) National Bureau of Soil Survey and Land Use planning: [www.nbsslup.in](http://www.nbsslup.in)
- e) Survey of India: [www.surveyofindia.gov.in](http://www.surveyofindia.gov.in)

# Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Under faculty of Science and Technology

S.Y.B.A. SEMESTER- IV

New Syllabus (CBCS Pattern)

(with effect from: June 2019)

Gg. 243 (DSE 2 B): PRACTICAL GEOGRAPHY

(Surveying)

(Work load – 06 Periods per week per batch of 12 students)

Total Credits – 3.

Internal Marks - 40

Total Clock Hours – 90

External Marks – 60

## Objectives

1. To acquire knowledge of survey language and sense of technique of surveying.
2. To know the scale and distance of surveying.
3. To know how to draw layout by surveying of region.
4. To acquaint the students with basic knowledge and technique of ground survey.
5. To acquire the knowledge of survey instruments.
6. To provide basic information about mechanism of survey instruments.
7. To acquaint the knowledge how to use survey instruments.
8. To know the importance of surveying and survey instruments.

Unit	Topic	Sub-Topic	Hours
1.	Introduction to Surveying	<b>A) Introduction to Surveying:</b> Definitions <b>B) Basic principles of surveying.</b> <b>C) Types of Survey:</b> a) Plane Survey b) Geodetic Survey <b>D) Classification of Survey:</b> a) <b>According to purpose:</b> 1) Topographical 2) Cadastral 3) Geodetic 4) Engineering 5) Railway 6) Military b) <b>According to instruments used:</b> 1) Chain or Tape Survey 2) Compass Survey 3) Levelling Survey 4) Theodolite Survey <b>E) Various Methods of deciding North direction:</b> True, Magnetic and Grid North.	30

2.	Plane Table Survey	<b>A) Plane Table Survey.</b> <b>B) Necessary Equipments of Plane Table Survey:</b> 1) The plane table with a tripod stand 2) Alidade 3) Chain or Tape 4) Spirit level 5) Trough Compass 6) Ranging Rods 7) Plumb bob 8) Drawing essential: Paper, pencil, rubber, drawing pins, pencil, sharpener, scale etc. <b>C) Methods of Plane Table Survey:</b> 1) Radiation Method 2) Intersection Method <b>D) Advantages and Disadvantages of Plane Table Survey.</b> <b>E) At Least Experiment of Actual Measurement of Piece of Land or Ground.</b>	40
3.	Study Tour/ Village Survey	Tour / Excursion or Village Survey Report	20

### **Weightage of Marks**

Unit No	Weightage
1	15
2	25
3	20
<b>Total</b>	<b>60</b>

University Assessment (U.A)	60
College Assessment (C.A)	40
<b>Total Marks</b>	<b>100</b>

### **Internal Practical Test Exam.**

- 1) Attendance and Behavioral: 10 Marks  
 2) Internal Test : 30 Marks

-----  
**Total : 40 Marks**

**Note:** The educational tour or village survey should be conduct and organized by the directions of Maharashtra Govt. rules and regulations.

## Reference Books:

1. Monkhouse, F.X.J. & Wilkinson, H.R.(1971): Maps & Diagrams, London Methuen
2. Mishra, R.P and Ramesh A. (2000): Fundamental of Cartography, Concept Publishing Company, New Delhi.
3. Robinson, A.H. & Sleep, R.D.(1969): Elements of Practical Geography. New York, John Wiley
4. Singh Gopal (1996): Map Work and Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi
5. Singh, R.C. and Dutta (1993): Elements of Practical Geography, Kalyani Publications, New Delhi
6. Singh, Lekhraj & Singh Raghunandan (1973): Map work and Practical, Central Book Deopt. Allahabad
7. Singh, R.L. and Singh, R.P.B. (1997): Elements of Practical Geography, Kalyani Publishers, New Delhi.
8. Sing, R.L.& Kanaujia L.R.S.(1963): Map Work and Practical Geography, Allahabad Central Book Depot
9. Gopal Sing (1973): Map work and Practical Geography, Vikas Publication, Ravindra Mansion, Ram Nagar, New Delhi-110055
10. Dr. D. Y. Ahirrao and Dr. E. K. Karanjkele, (2002) : Pratyakshik Bhugol, Sudarshan – Nashik
11. Dr. P. G. Saptarshi and Dr. S. R. Jog, Statistical Methods.
12. T. P. Kanetkar and S. V. Kulkarni, (1986) : Surveying and Leveling, Pune Vidyarthi Griha Prakashan – Pune
13. डॉ. अर्जुन कुंभार – प्रात्यक्षिक भूगोल, सुमेरू प्रकाशन, डोंबिवली.
14. डॉ. अहिरराव, करंजखेले (2002) – प्रात्यक्षिक भूगोल, सुदर्शन प्रकाशन, नाशिक.

## **Nature of Question Paper (CBCS Pattern Class S.Y.B.A.)**

**Time: 2 Hours**

**Total Marks: 60**

**Instructions:**

1. All questions have equal marks.
  2. All questions are compulsory
  3. Draw neat and labeled diagram wherever necessary.
  4. Use of map stencil is allowed.
  5. Figures to right indicate full marks.
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**Q.-1 Answer in one sentence: (Any 6 out of 9) 12 Marks**

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_
- g) \_\_\_\_\_
- h) \_\_\_\_\_
- i) \_\_\_\_\_

**Q.-2 Write answer in 3 to 4 sentences. (Any 4 out of 6) 12 Marks**

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_
- f) \_\_\_\_\_

**Q.-3 Answer briefly. (Any 3 out of 5) 12 Marks**

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_
- e) \_\_\_\_\_

**Q.-4 Write Notes (Any 2 out of 4) 12 Marks**

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_
- d) \_\_\_\_\_

**Q.-5 Write Answer in Detail (Any 1 out of 3) 12 Marks**

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_



The Shirpur Education Society's  
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NAAC Reaccredited "A" GRADE (CGPA 3.02),  
KBCNMU Academic Grading: "A" Grade

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**President**  
**Hon. Amrishbhai Patel**

**Ph.No. Off 255302 (02563), Resi 259821**

**Principal**  
**Dr.S.P.Patil**

## Environment Studies (F.Y.B.A)

### List of Student year 2015-16

1.	Ahire Dipali Tarachand	37	Jain Krupali Bharatkumar	73	More Vaishnavi Yashvant
2.	Ajabe Punam Somnath	38	Kadam Jyoti Rajendra	74	Nhavi Punam Adhar
3.	Badgujar Puja Rajendra	39	Kadam Madhuri Sanjay	75	Nikam Trupti Shekhar
4.	Badgujar Roshani Devidas	40	Kapade Prajvala Rajendra	76.	Pagare Vaishali Sahebrao
5.	Badgujar Savita Rajendra	41	Khairnar Surekha Namdev	77.	Pansare Madhuri Magan
6.	Beldar Divya Dilip	42	Khasawat Priyanka Bhatusing	78.	Patel Dipali Sham
7.	Bhavsar Vrushali Dagadu	43	Koli Kirti Suresh	79.	Patil Anita Bhausaheb
8.	Bidkar Komal Santosh	44	Koli Maya Narayan	80.	Patil Ankita Sahebrao
9.	Borse Harshada Ramchandra	45	Koli Meena Ashok	81.	Patil Ashvini Brijlal
10.	Buwa Hirabai Pandharinath	46	Kulkarni Vaishali Pradeep	82.	Patil Ashwini Gajendrasing
11.	Buwa Kiran Bharat	47	Kumbhar Mamta Kantilal	83.	Patil Bhagyashri Bhatu
12.	Chaudhari Madhuri Deelip	48	Lohar Harshala Nandalal	84.	Patil Darshana Ashok
13.	Chaudhari Priyanka Prakash	49	Mahajan Jyoti Dnyaneshwar	85.	Patil Darshana Nandu
14.	Chaudhary Bhagyashri Bhikan	50	Ahire Dipali Tarachand	86.	Patil Deepali Kailas
15.	Chavan Himanee Chatur	51	Mahale Pramila Uttam	87.	Patil Deepali Premlal
16.	Chavan Rajshri Premsing	52	Mali Archana Dilip	88.	Patil Deepika Jagnnath
17.	Chavan Savita Ashok	53	Mali Dipali Pralhad	89.	Patil Dipali Kailas
18.	Deore Bharati Bandurao	54	Mali Gayatri Sanjay	90.	Patil Gayatri Balasaheb
19.	Deore Puja Gokul	55	Mali Harsha Ashok	91.	Patil Hema Pralhad
20.	Deshmukh Kavita Vasant	56	Mali Jyoti Dnyaneshwar	92.	Patil Kajal Suresh
21.	Dhangar Shital Sunil	57	Mali Neeta Shriram	93.	Patil Karuna Suresh
22.	Dhiware Yogita Yashwant	58	Mali Rupali Rajendra	94.	Patil Kavita Vilas
23.	Gadge Gitanjali Rajendra	59	Mali Sarita Santosh	95.	Patil Lalita Ashok
24.	Gangurde Vaishali Ramesh	60	Mali Shalini Hukumchand	96.	Patil Madhuri Harichandra
25.	Gavali Poonam Siddhu	61	Mali Swati Ravindra	97.	Patil Madhuri Rangrao
26.	Gavane Sunanda Tukaram	62	Mali Varsha Suresh	98.	Patil Manisha Rajendra
27.	Gavhane Sadhana Vinod	63	Marathe Meghana Prakash	99.	Patil Mona Prakash
28.	Girase Bhagyashri Bharatsing	64	Marathe Nilima Dilip	100	Patil Pooja Dilip
29.	Girase Monika Sudamsing	65	Marathe Punam Rajendra	101	Patil Pratibha Brijlalal
30.	Gujar Rupali Hiralal	66	Marathe Rina Ashok	102	Patil Priyanka Sanjay
31.	Gujar Suvarna Ramesh	67	Marathe Shital handrashekhar	103	Patil Puja Piran
32.	Gujar Vaishali Arun	68	Marathe Shital Rajdhar	104	Patil Punam Suresh
33.	Jadhav Pranali Bhausaheb	69	Marathe Sneha Lalchand	105	Patil Rajashri Himmatrao
34.	Jadhav Priyanka Bharat	70	Marathe Urmila Devaji	106	Patil Rajnandini Ratilal
35.	Jagtap Devayani Pandharinth	71	More Dhanshree Dattatray	107	Patil Reenabai Vasant
36.	Jain Hema Girdhar	72	More Manisha Amrut	108	Patil Renuka Ratilal



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**Principal**  
**Dr.S.P.Patil**

109.	Patil Rupali Shravan	134	Pawara Sangita Jamsing	159	Sonawane Hemlata Subhash
110.	Patil Seema Nimbadas	135	Pawara Sarikabai Durga	160	Sonawane Kajal Rajendra
111.	Patil Shital Chhotu	136	Pawara Saritabai Gildar	161	Sonawane Mayuri Ashok
112.	Patil Shubhangi Sham	137	Pawara Suki Jamadar	162	Sonawane Megha Kailas
113.	Patil Snehal Jagganath	138	Pawara Suman Rajaram	163	Sonawane Shubhangini Dnyaneshwar
114.	Patil Sujita Dilip	139	Pawara Sunita Ramesh	164	Sutar Neelima Kantilal
115.	Patil Sukanya Traymbak	140	Pawara Vandana Tukaram	165	Thakare Ashwini Vitthal
116.	Patil Suvarna Bapu	141	Pawara Vinitabai Versing	166	Thakare Shital Sunil
117.	Patil Swati Sambhaji	142	Rajput Archana Shivnath	167	Thehari Vaishali Subhash
118.	Patil Vaishali Balu	143	Rajput Bhatabai Kewalsing	168	Thorat Rajnandini Prakash
119.	Pawar Savita Bapurao	144	Rajput Dipali Ranjeet	169	Thorat Sangeeta Ravaji
120.	Pawar Swati Prakashsing	145	Rajput Jayshri Yuvrajsing	170	Thorat Sushma Madhukar
121.	Pawara Anita Nevajya	146	Rajput Roshni Bhagvansing	171	Ubale Shital Baban
122.	Pawara Anita Versing	147	Rao Kavita Prakash	172	Valvi Mayavati Bharatsing
123.	Pawara Bharati Nana	148	Rathod Jyoti Kailas	173	Wagh Bhairavi Manohar
124.	Pawara Laxmi Chatarsing	149	Rathod Vandana Govinda	174	Wagh Dipali Sunil
125.	Pawara Mangita Shantilal	150	Ravi Swati Gopichand	175	Wagh Kavita Subhash
126.	Pawara Moni Khumansing	151	Saindane Shivani Sanjay	176	Wagh Madhuri Shivaji
127.	Pawara Pemabai Murlidhar	152	Savale Madhuri Dnyaneshwar	177	Wagh Nikita Subhash
128.	Pawara Pramila Ramesh	153	Savale Madhuri Santosh	Total Students	177
129.	Pawara Pramila Sumarya	154	Sawale Priyanka Bhaidas		
130.	Pawara Ranjana Bilasha	155	Sharma Priyanka Rajkumar		
131.	Pawara Rayka Dhelaga	156	Shelatri Harshada Brijjalal		
132.	Pawara Reeta Hirmal	157	Shirsath Nitakshi Suresh		
133.	Pawara Roshani Darasing	158	Shirsath Swati Ravindra		

  
Dr. Gajanan P. Patil  
**Co-ordinator**  
IQAC  
Smt. H. R. Patel Arts Mahila  
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Dr. S.P. Patil  
**PRINCIPAL**  
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NAAC Reaccredited "A" GRADE (CGPA 3.02),  
KBCNMU Academic Grading: "A" Grade

Website-www.hrpamcollege.org E-Mail :-hrpmahila302@gmail.com

**President**  
Hon. Amrishbhai Patel

**Ph.No. Off 255302 (02563), Resi 259821**

**Principal**  
Dr.S.P.Patil

## Environment Studies (F.Y.B.A)

### List of Student year 2016-17

S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT
1.	Arati Sanjay Borase	37	Gayakwad Komal Raju	73	Mali Puja Kailas
2.	Bagul Divya Nimba	38	Gosavi Shubhangi Ravindra	74	Mali Rajshri Ramesh
3.	Bagul Shubhangi Kishor	39	Gujar Puja Ravindra	75	Mali Roshani Yuvraj
4.	Bagul Shubhangi Sahebrao	40	Gujar Trupti Pravin	76.	Mali Rupali Babulal
5.	Banjara Jayshree Sahebrao	41	Hendre Ajanda Suklal	77.	Mali Sapna Bapu
6.	Banjara Laxmi Baliram	42	Jadhav Bhagyashree Sudhakar	78.	Mali Sharada Sunil
7.	Banjara Nayana Kaniram	43	Jadhav Jostna Pravinsing	79.	Mali Shraddha Bhanudas
8.	Bari Monika Dnyaneshwar	44	Jadhav Punam Sanjay	80.	Mali Sujata Sudam
9.	Beldar Kalyani Bhatu	45	Jadhav Vandana Shivaji	81.	Mali Sunita Aananda
10.	Bhadane Ashwini Sunil	46	Jagdeo Kiran Santosh	82.	Mali Swati Kailas
11.	Bhavsar Puja Laxmikant	47	Jain Bhumika Sunil	83.	Mali Vaishnavi Adhikar
12.	Bhavsar Shweta Manoj	48	Jamadar Dipali Raghunathsing	84.	Marathe Harshada Kailas
13.	Bhil Rajashri Rajendra	49	Khedkar Jaywanta Dinesh	85.	Marathe Gayatri Kailas
14.	Bhil Sunita Kailas	50	Khonde Himani Ravindra	86.	Marathe Mayuri andurang
15.	Bhoi Sonali Bhagwan	51	Koli Chitra Nana	87.	Metkar Manisha Rajendra
16.	Borase Yogita Suresh	52	Koli Kavita Ramesh	88.	More Bharati Mohan
17.	Borse Yogita Madhukar	53	Koli Maheshwari Bhaskar	89.	More Madhuri Dilip
18.	Chaudhari Aarti Chandrakant	54	Koli Nitalbai Rajendra	90.	More Nilisha Bharat
19.	Chaudhari Bhagyashree ajendra	55	Koli Puja Jaysing	91.	More Pratibha Bapu
20.	Chaudhari Bharti Sanjay	56	Koli Punam Shaligram	92.	More Savita Prakash
21.	Chaudhari Hemlata Gajendra	57	Koli Sarika Bapu	93.	Pakale Savita Samadhan
22.	Chaudhari Kavita Badrinath	58	Kulkarni Jayashri Anil	94.	Patel Tejswini Dilip
23.	Chaudhari Kavita Rajendra	59	Kumbhar Savita Dilip	95.	Pathare Punam Sudhir
24.	Chaudhari Kirti Hiranman	60	Kumbhar Surekha Subhash	96.	Patil Alka Hilal
25.	Chaudhari Minakshi Kailas	61	Kuwar Aashwini Sanjay	97.	Patil Anita Sahebrao
26.	Chaudhari Nikita Bhikan	62	Kuwar Rekha Rajendra	98.	Patil Ashwini Sanjay
27.	Chaudhari Priyanka Bhimraj	63	Lohar Jayshri Santosh	99.	Patil Bhagyashri Ratilal
28.	Chaudhari Puja Shyam	64	Mahajan Puja Suresh	100.	Patil Bharati Kailas
29.	Chaudhari Varsha Ashok	65	Mali Aarati Pravin	101.	Patil Dakshata Ekanath
30.	Deore Anita Pralhad	66	Mali Archana Bharat	102.	Patil Dipali Rajendra
31.	Deore Mamta Ramkrushna	67	Mali Kalpana Santosh	103.	Patil Dipali Yogaraj
32.	Deore Mital Pramod	68	Mali Laxmi Kailas	104.	Patil Dipti Suresh
33.	Dhangar Jyoti Dilip	69	Mali Manisha Aananda	105.	Patil Jagruti Vishwas
34.	Dhivare Dipali Jagdish	70	Mali Manisha Jagannath	106.	Patil Jyotsna Adhikar
35.	Dhole Priyanka Nana	71	Mali Nalini Vyankat	107.	Patil Komal Rajendra
36.	Gawali Nisha Laxman	72	Mali Priyanka Bhikan	108.	Patil Lina Sanjay



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**Principal**  
**Dr.S.P.Patil**

109.	Patil Namrata Vitthal	134	Pawara Chetna Dilip	159	Rathod Savita Ganesh
110.	Patil Nikita Lotan	135	Pawara Dipali Chaitram	160	Salunkhe Sadhana Barikrao
111.	Patil Nisha Kailas	136	Pawara Durga Retam	161	Saupure Kirti Ashok
112.	Patil Pallavi Ravasaheb	137	Pawara Jyoti Baban	162	Savale Kavita Onkar
113.	Patil Prathibha Bhaskar	138	Pawara Kapilabai Karmsing	163	Savant Jagruti Shivaji
114.	Patil Priyanka Vijay	139	Pawara Kavita Bashiram	164	Sharma Sarika Rajkumar
115.	Patil Shalini Sunil	140	Pawara Lekhavanti Ismal	165	Shete Dipali Sham
116.	Patil Shital Kishor	141	Pawara Mamata Dilip	166	Shete Gayatri Ravindra
117.	Patil Shital Rajendra	142	Pawara Mamata Shivaji	167	Shimpi Ravina Pandurang
118.	Patil Shital Rajendra	143	Pawara Mamta Juma	168	Shirsath Mamta Amrut
119.	Patil Vaishalee Ramchandra	144	Pawara Nita Bhimsing	169	Shirsath Priyanka Dilip
120.	Patil Vaishali Ishwar	145	Pawara Pramila Chamarya	170	Shirsath Sulochana Vitthal
121.	Patil Vaishnavi Pramod	146	Pawara Priyanka Harsing	171	Shirsath Yogeshwari Shrawan
122.	Patil Yashoni Santosh	147	Pawara Rayni Aathya	172	Sonar Nisha Subhash
123.	Patil Yogini Bhagwan	148	Pawara Shila Dilip	173	Sonawane Kavita Ramchandra
124.	Patil Yogita Ramkrushna	149	Pawara Sunita Raysing	174	Sonawane Rupali Prakash
125.	Pawar Lalita Baliram	150	Pawara Ujwala Thansing	175	Suryawanshi Geetanjali Madhukar
126.	Pawar Sapna Bhika	151	Pawara Vandana Vikram	176	Thakur Dipali Nemichand
127.	Pawar Shital Prakash	152	Rajput Dipalee Ravindra	177	Valvi Priyanka Manga
128.	Pawar Shubhangi Lotan	153	Rajput Jyotika Pravin	178	Vanjari Jaya Ranjit
129.	Pawara Amisha Kashiram	154	Rajput Nikita Ambalal	179	Vasave Jyoti Ramesh
130.	Pawara Anita Jagan	155	Rajput Pallavi Rajendra	180	Wadile Dipali Dilip
131.	Pawara Anita Sitaram	156	Rajput Shraddha Ranjitsing	181	Yeshi Punam Madhavrao
132.	Pawara Ashwini Himmat	157	Rajput Tejal Jagdishsing	182	Rathod Savita Ganesh
133.	Pawara Babita Suklal	158	Pawara Chetna Dilip	183	Salunkhe Sadhana arikrao

  
Dr. Gajanan P. Patil  
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NMU Academic Grade "A" Grade

Hon. Amrishbhai Patel  
**President**  
Dr. Sharda J.Shitole  
**Principal**

**Environment Studies (F.Y.B.A)**  
**List of Student year 2017-18**


S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT
1.	Ahire Bhagyashri Ravindra	37	Ishi Babita Duryodhan	73	Nikam Sandhya Ravindra
2.	Ahire Gitanjali Suresh	38	Ishi Kirti Pralhad	74	Nikumbhe Jagruti Subhashrao
3.	Ahire Kajal Santosh	39	Ishi Pragatibai Raju	75	Padvi Aarti Madan
4.	Ahire Shital Devidas	40	Jadhav Divyani Mahendrasing	76.	Padvi Sapana Gulabsing
5.	Baisane Pratibha Shaligram	41	Jadhav Neha Sanjay	77.	Paradhi Sapana Vijay
6.	Barela Rangita Kashinath	42	Jadhav Ravina Prakash	78.	Patil Anita Dnyaneshwar
7.	Barela Sharmila Sakharam	43	Jadhav Vishakha Bhupendrasing	79.	Patil Ashwini Sayaji
8.	Bari Bhagavati Ravindra	44	Jain Toral Sunil	80.	Patil Bhatibai Goturam
9.	Bari Pratiksha Narayan	45	Karankal Anjali Rohidas	81.	Patil Bhawana Shivaji
10.	Bari Sharda Ravindra	46	Karlekar Puja Sanjiv	82.	Patil Deepmala Shantaram
11.	Baviskar Sonal Arjun	47	Khedkar Bharti Vana	83.	Patil Dipali Vedu
12.	Bawa Kavita Bharat	48	Koli Bhagabai Santosh	84.	Patil Dipika Suresh
13.	Bawa Sangita Shantaram	49	Koli Neha Eknath	85.	Patil Jayshree Abhiman
14.	Bhargav Mamata Punamchand	50	Koli Pooja Sanjay	86.	Patil Jayshree Baludas
15.	Bhoi Bharati Bansilal	51	Koli Poonam Suresh	87.	Patil Jayshree Sudhakar
16.	Bhoi Jyoti Prakash	52	Koli Rupali Magan	88.	Patil Jyotsna Rajendra
17.	Borse Chetana Sanjay	53	Koli Shital Satilal	89.	Patil Kajal Bhausahab
18.	Borse Deepali Ramesh	54	Koli Sonali Santosh	90.	Patil Khushbu Subhash
19.	Borse Namrata Abhiman	55	Koli Vandana Suresh	91.	Patil Madhuri Ravindra
20.	Borse Ujjwala Sanjay	56	Kumbhar Puja Sanjay	92.	Patil Pranjali Pandharinath
21.	Chaudhari Ashwini Subhash	57	Kumbhar Savita Ashok	93.	Patil Punam Yuvraj
22.	Chaudhari Jotsnabai Ramdas	58	Mahajan Bhagyashri Ashok	94.	Patil Rekha Gulabrao
23.	Chaudhari Kunali Sudhakar	59	Mali Anjana Ashok	95.	Patil Rhuchita Shekhar
24.	Chaudhari Maya Sanjay	60	Mali Divya Sanjay	96.	Patil Roshani Gokul
25.	Chaudhari Nikita Khandu	61	Mali Kalyani Mohan	97.	Patil Sadhana Sambhaji
26.	Chaudhary Vaishali Ashok	62	Mali Kavita Bhaidas	98.	Patil Shital Ravindra
27.	Chavan Diksha Rajendra	63	Mali Renuka Bhika	99.	Patil Suvarna Gokul
28.	Chavan Pratibha Anil	64	Mali Shalini Anandrao	100.	Patil Swati Gajanan
29.	Deore Reena Subhash	65	Mali Shital Prakash	101.	Patil Varsha Adhikar
30.	Deshmukh Bhavika Daryavasing	66	Marathe Gauri Vinod	102.	Patil Varsha Bhalerao
31.	Dhole Nikita Sanjay	67	Marathe Mohini Ganesh	103.	Patil Varsha Chhotu
32.	Gavane Dhunitaben Tukaram	68	Marathe Mohini Soma	104.	Pawar Ashvini Suresh
33.	Ghisali Swati Sanjay	69	Marathe Trupti Pandurang	105.	Pawar Ashwini Dhanraj
34.	Girase Kavita Hareshwar	70	Metkar Chetana Rajendra	106.	Pawar Kayadu Ishwar
35.	Gujar Vaishali Damu	71	Mistri Madhuri Ramkrushna	107.	Pawar Netal Rohidas
36.	Gurav Jayashri Dnyaneshwar	72	Nagarale Radhika Nemichand	108.	Pawara Mangal Rajaram




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Dr. Sharda J.Shitole  
**Principal**

109.	Pawara Ravita Kuvarsing	134	Rathod Shital Jalam	159	Ubale Pragati Rajendra
110.	Pawara Babita Shivaji	135	Saindane Mangala Vijay	160	Valvi Sunita Rama
111.	Pawara Bharati Fulsing	136	Saindane Priyanka Jitendra	161	Vasave Aasha Khaalya
112.	Pawara Chandrakala Hirmal	137	Salunkhe Mamta Barikrao	162	Vasave Jayshri Ugranya
113.	Pawara Jandibai Narsing	138	Shelar Ashwini Bhikan	163	Wadile Renuka Pravin
114.	Pawara Karina Vikram	139	Shelatri Ankita Brijalal	164	Wagh Arti Tukaram
115.	Pawara Ku Hasina Bhavsing	140	Shinde Sunita Subhash	165	Wagh Puja Vijay
116.	Pawara Mangala Saymal	141	Shirsath Ashwini Ravindra	166	Teli Shabnam Hajikadar
117.	Pawara Manisha Jamadar	142	Shirsath Harshada Ramdas		
118.	Pawara Priyanka Rajaram	143	Shirsath Sapana Dinesh		
119.	Pawara Rashila Dashrath	144	Shirsath Sarala Gorakh		
120.	Pawara Ravita Gyansing	145	Shirsath Yogita Subhash		
121.	Pawara Rekha Tersing	146	Sisode Punam Ashok		
122.	Pawara Ringa Jaysing	147	Sonar Vaishali Sanjay		
123.	Pawara Sanjana Hirmal	148	Sonawane Divya Walmik		
124.	Pawara Savita Kolsing	149	Sonawane Nisha Subhash		
125.	Pawara Saya Mangilal	150	Sonawane Nitisha Popatrao		
126.	Pawara Shintibai Jagdish	151	Sonawane Rupali Ashok		
127.	Pawara Sonali Bhurmali	152	Sonawane Sangita Dilip		
128.	Pawara Soni Surapal	153	Sonawane Shubhangi Rajendra		
129.	Pawara Surekha Santosh	154	Surve Dipika Chapu		
130.	Pawara Vandana Gabbersing	155	Suryawanshi Arati Premchand		
131.	Pawara Vimal Tersing	156	Thakur Jagruti Hemant		
132.	Rajput Ashwini Pratap	157	Thehari Manisha Subhash		
133.	Rajput Swati Rajesing	158	Toksha Pratiksha Santosh		

  
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**Environment Studies (F.Y.B.A)**  
**List of Student year 2018-19**


S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT
1.	Ahire Pranali Shantilal	37	Gopal Bhagyashri Nana	73	Mali Gayatri Uttam
2.	Ahire Priyanka Ravindra	38	Gujar Mayuri Bapu	74	Mali Jayashri Mohan
3.	Badagujar Kavita Eshvar	39	Gurav Gitanjali Sanjay	75	Mali Kalyani Vyankatrao
4.	Badgujar Monika Nimba	40	Ishi Ashwini Bapu	76.	Mali Madhuri Kishor
5.	Banjara Urmila Kishor	41	Ishi Ashwini Raju	77.	Mali Roshani Sunil
6.	Barela Bharati Sadashiv	42	Jadhav Jayashri Ganesh	78.	Mali Rupali Nawal
7.	Bari Pooja Gopichand	43	Jadhav Sapana Shivaji	79.	Mali Sapana Ravindra
8.	Baviskar Namrata Eknath	44	Jadhav Seema Bhagawan	80.	More Punam Bharat
9.	Bhamare Roshani Vilas	45	Javheri Payal Sunil	81.	More Rinku Sanjay
10.	Bhandari Madhuri Vasant	46	Kalal Jyoti Bhaskar	82.	Nagarale Mohini Tulshidas
11.	Bhil Pooja Mohan	47	Karanke Sanjela Pandurang	83.	Nagarale Shital Gangeshwar
12.	Bhil Pramila Gopal	48	Khairnar Savita Dattatray	84.	Naik Sunita Yogendra
13.	Bhil Sunita Baliram	49	Kokani Vandana Prakash	85.	Nikumbh Gayatri Ravindra
14.	Bhoi Namrata Aadhar	50	Koli Aarati Dipak	86.	Paradhi Kalyani Bapu
15.	Borase Swati Gokul	51	Koli Ashvini Bhila	87.	Paradhi Nisha Bapu
16.	Chaudhari Gayatri Santosh	52	Koli Ashwini Bharat	88.	Paradhi Sapna Yuvraj
17.	Chaudhari Rohini Ashok	53	Koli Ashwini Nana	89.	Pardhi Bhagyashri Shivdas
18.	Chavan Ashvini Dhondu	54	Koli Bhagyashri Rohidas	90.	Patil Ashwini Santosh
19.	Chavan Gayatri Dipak	55	Koli Chanchal Hiranman	91.	Patil Dipali Sahebrao
20.	Chavan Priyanka Pradip	56	Koli Dipali Laxaman	92.	Patil Dipali Subhash
21.	Dhangar Bharti Pralhad	57	Koli Hemlata Hiralal	93.	Patil Disha Kishor
22.	Dhangar Gayatri Sunil	58	Koli Jyoti Laxman	94.	Patil Gayatri Dasharath
23.	Dhivare Jayshree Bhiva	59	Koli Priyanka Nandalal	95.	Patil Gayatri Sanjay
24.	Dhole Puja Mahendra	60	Koli Ravisha Popat	96.	Patil Harshada Chunilal
25.	Dorik Bhagavati Aadhar	61	Koli Renuka Purushottam	97.	Patil Jyoti Gokul
26.	Dorik Sangita Tukaram	62	Koli Rupali Ravindra	98.	Patil Kajal Sudam
27.	Dorik Sarala Bhatu	63	Koli Shubhangi Lotan	99.	Patil Kamini Ravindra
28.	Dorik Yogita Zumbarlal	64	Koli Suvarna Pandit	100.	Patil Kavita Gokul
29.	Gaikwad Priyanka Kiran	65	Koli Swati Yuvraj	101.	Patil Kavita Ratilal
30.	Gavali Pallavi Dilip	66	Kulkarni Kalyani Sunil	102.	Patil Mansi Suresh
31.	Gawali Dipali Deva	67	Mahajan Nisha Ramu	103.	Patil Mayuri Mansaram
32.	Girase Ashwini Devising	68	Mahajan Punam Prakash	104.	Patil Mayuri Nandlal
33.	Girase Dhanshri Vijaysing	69	Mahajan Roshani Shaligram	105.	Patil Neha Bapu
34.	Girase Janhavi Ravindra	70	Mahajan Suvarna Yadneshwar	106.	Patil Neha Rajendra
35.	Girase Nikita Rajesing	71	Malche Kajal Baraku	107.	Patil Nitabai Nandu
36.	Girase Vaishnavi Narendra	72	Mali Ankita Nanabhau	108.	Patil Pratibha Dattu




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**Principal**

109.	Patil Priti Rajendra	134	Pawara Priyanka Gundy	159	Sonar Ritu Bhatu
110.	Patil Priyanka Dnyaneshwar	135	Pawara Puja Radya	160	Sonawane Neha Ratilal
111.	Patil Punam Daga	136	Pawara Ramka Sakaram	161	Sonawane Pramila Ashok
112.	Patil Rajkanya Ravindra	137	Pawara Rangita Gangaram	162	Sonawane Shradha Santosh
113.	Patil Ravina Yuvaraj	138	Pawara Rasana Takalya	163	Tadvi Mamta Homa
114.	Patil Rina Gopal	139	Pawara Rina Sarapilal	164	Thorat Shalubai Milind
115.	Patil Roshani Narayan	140	Pawara Sarika Shivram	165	Tirmal Sapana Subhash
116.	Patil Rupali Narayan	141	Pawara Sarita Gyansing	166	Valvi Nirmala Bhika
117.	Patil Shubhangi Praful	142	Pawara Shaila Narya	167	Valvi Varsha Damnya
118.	Patil Sonali Pradip	143	Pawara Sushila Gulabsing	168	Varude Sushama Nitin
119.	Pawar Dhanshri Arjun	144	Pawara Vaishali Reba	169	Wadile Nalini Sudhakar
120.	Pawar Divya Narayan	145	Pawara Vanibai Suresh	170	Wadile Rupali Yuvaraj
121.	Pawar Gayatri Dnyaneshwar	146	Pawara Varsha Revalsing	171	Wagh Priyanka Manohar
122.	Pawar Mohini Rajendra	147	Rajput Archana Premsing	172	Wani Mohini Madhukar
123.	Pawar Sapana Gokul	148	Rajput Ashvini Gotusing	173	Wani Rajnandini Kailas
124.	Pawara Sarubai Kashiram	149	Rajput Renuka Gajendra	174	Yevale Mohini Gopal
125.	Pawara Anita Gildar	150	Saindane Bhagyashree Pundalik		
126.	Pawara Babita Chhagan	151	Saini Rinkukumari Shivkumar		
127.	Pawara Bindubai Aappa	152	Saner Kalyani Jagdish		
128.	Pawara Kavita Prakash	153	Sattesa Kiran Ravindra		
129.	Pawara Laxmi Ravalya	154	Savale Priyanka Mangalu		
130.	Pawara Manisha Chandrasing	155	Shimpi Gayatri Bhanudas		
131.	Pawara Manisha Dattu	156	Shimpi Yogita Mahendra		
132.	Pawara Nilam Bharatsing	157	Shirsath Rajnandani Ramesh		
133.	Pawara Parubai Suresh	158	Shirsath Urmila Rajesh		

  
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Dr. Sharda J.Shitole  
**Principal**

**Environment Studies (F.Y.B.A)**  
**List of Student year 2019-20**


S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT	S.N.	NAME OF STUDENT
1.	Aadhve Gunjan Sunil	37	Koli Gayatri Sanjay	73	Patil Poonam Kailash
2.	Ahire Priyanka Shantilal	38	Koli Chhaya Yuvraj	74	Patil Rohini Chunilal
3.	Ahire Punam Nana	39	Koli Gayatri Nitin	75	Patil Sarala Lotan
4.	Ahire Sapana Nana	40	Koli Jayshri Mahesh	76.	Patil Sonali Ishwar
5.	Alkari Varsha Gokul	41	Koli Kalyani Dilip	77.	Patil Tejaswini Kailas
6.	Baisane Bhavana Kishor	42	Koli Namrata Gokul	78.	Patil Varsha Vasant
7.	Banjara Jagruti Hiralal	43	Koli Priyanka Sahebrao	79.	Patil Vidya Sambhaji
8.	Banjara Kavita Prakash	44	Koli Ratnabai Kailash	80.	Pawar Dipika Sanjay
9.	Bendwal Aachal Rajesh	45	Koli Sarla Madhukar	81.	Pawar Komal Jibhau
10.	Bhamare Karishma Rajendra	46	Koli Shital Dnyaneshwar	82.	Pawar Madhuri Aananda
11.	Bhil Malu Sanjay	47	Koli Shubhangi Ramchandra	83.	Pawar Sapna Arun
12.	Bhil Reena Aaba	48	Koli Ujjwala Ganesh	84.	Pawara Aanisha Pratap
13.	Bhil Vaishali Piran	49	Koli Vaishali Ramesh	85.	Pawara Arti Vinod
14.	Bhosale Sneha Kanhaiyalal	50	Koli Vijaya Suresh	86.	Pawara Bharati Dilip
15.	Birhade Meghana Suresh	51	Kumbhar Jayshri Deelip	87.	Pawara Kalpana Kalusing
16.	Borse Dipali Sanjay	52	Kumbhar Kiran Vasudeo	88.	Pawara Kavita Dilip
17.	Charan Prerna Nagraj	53	Lohar Shital Dilip	89.	Pawara Kavita Karchand
18.	Chaudhari Rohini Sanjay	54	Mali Jyoti Bharat	90.	Pawara Lalita Munna
19.	Chavan Arati Dhanraj	55	Malkhede Madhuri Suresh	91.	Pawara Manisha Chima
20.	Dahake Bhagyashree Anil	56	Marathe Lalita Jagdish	92.	Pawara Mirakha Motiram
21.	Deshmukh Jyotsna Daryavarsing	57	More Arati Yuwaraj	93.	Pawara Monika Sajan
22.	Dhangar Alka Sanjay	58	More Neha Dnyaneshwar	94.	Pawara Nirmala Mula
23.	Dhangar Dipali Subhash	59	More Ruchita Bharat	95.	Pawara Nisha Bawajya
24.	Gayakwad Puja Chhotu	60	Nikumbh Reena Sahebrao	96.	Pawara Padmavati Sutarya
25.	Girase Harshada Rajesing	61	Padavi Sharmila Shantaram	97.	Pawara Pooja Shamrao
26.	Gopal Manisha Ramesh	62	Pardhi Nisha Rajendra	98.	Pawara Priya Rakesh
27.	Hivale Sakshi Rahul	63	Patil Aakanksha Sanjay	99.	Pawara Priyanka Jawansing
28.	Ishi Gitanjali Duryodhan	64	Patil Aarati Sunil	100.	Pawara Reshma Chima
29.	Ishi Shubhangini Bapu	65	Patil Ashvini Ravindra	101.	Pawara Roshni Govinda
30.	Jadhav Bhagyashri Dnyaneshwar	66	Patil Devyani Bhatu	102.	Pawara Sapana Ganesh
31.	Jadhav Priyanka Shivaji	67	Patil Divya Dnyaneshwar	103.	Pawara Seema Rakesh
32.	Jagdeo Jagruti Dilip	68	Patil Geetanjali Vishvanath	104.	Pawara Sharada Devsing
33.	Jagdeo Rushali Santosh	69	Patil Kajal Nandu	105.	Pawara Sonali Rajendra
34.	Jaware Dipa Dilip	70	Patil Komal Nandu	106.	Pawara Sunanda Surpal
35.	Kapadnis Urmila Madhukar	71	Patil Krishna Satilal	107.	Pawara Surekha Kantilal
36.	Khairnar Kavita Dattatray	72	Patil Madhuri Santosh	108.	Pawara Surka Tersing




Shirpur Education Society's  
**H.R.Patel Arts Mahila College, Shirpur**  
**NAAC Re-Accredited "A" Grade**  
**NMU Academic Grade "A" Grade**

Hon. Amrishbhai Patel  
**President**  
Dr. Sharda J.Shitole  
**Principal**

109.	Pawara Tarisha Aamashya
110.	Pawara Vandana Suresh
111.	Pawara Varsha Mansar
112.	Pawra Manisha Sitaram
113.	Rajput Deepika Pralhadsing
114.	Rathod Sejal Rajesh
115.	Saindane Mansi Sanjay
116.	Saindane Sudarshana Jitendra
117.	Salunkhe Ashwini Lotan
118.	Salunkhe Vaishali Sunil
119.	Saner Jayashri Vasant
120.	Sapkale Rohini Sudam
121.	Savale Prerana Mahendra
122.	Shimpi Shraddha Ajay
123.	Shinde Yogita Anil
124.	Shirsath Namrata Dilip
125.	Shirsath Rani Amrut
126.	Shirsath Ravina Dinesh
127.	Shirsath Roshani Gokul
128.	Sonawane Komal Dnyaneshwar
129.	Sonawane Punam Namdev
130.	Valvi Kavita Bhika
131.	Valvi Nikita Karansing
132.	Wagh Rinku Shantilal
133.	Wani Priyanka Shyam

  
Dr. Gajanan P. Patil  
**Co-ordinator**  
IQAC  
Smt. H. R. Patel Art's Mahila  
College, Shirpur

  
Dr. Sharda Shitole  
**PRINCIPAL**  
The Shirpur Education Society's  
Smt. H. R. Patel Arts Mahila  
College, Shirpur, Dist. Dhule 425 405



Shirpur Education Society's  
**H.R.Patel Arts Mahila College, Shirpur**  
NAAC Re-Accredited "A" Grade (Upto March 2020)  
NMU Academic Grade "A" Grade (2018-19)

Hon. Amrishbhai Patel  
President  
Dr. Sharda J. Shitole  
Principal

**List of SYBA & TYBA Geography Students (2019-20)**

Sl.No.	Name of the Student	Sl.No.	Name of the Student
1	Girase Nikita Rajesing	1	Bhargav Mamata Punmachand
2	Sonawane Neha Ratilal	2	Sonawane Nitisha Popatrao
3	Dhangar Bharti Pralhad	3	Patil Jayshree Abhiman
4	Yevale Mohini Gopal	4	Pawara Ravita Gyansing
5	Pawara Sarubai Kashiram	5	Pawara Babita Shivaji
6	Patil Mayuri Mansaram	6	Ubale Pragati Rajendra
7	Bhoi Namrata Adhar	7	Mali Renuka Bhika
8	Pawara Parubai Suresh	8	Girase kavita Harshwar
9	Pawara Puja Radya	9	Baviskar Sonal Arjun
10	Pawara Ramaka Sakharam	10	Valvi Sunita Rama
11	Gopal Bhagyahri Nana	11	Ishi Babita Duryodhan
12	Gaykwad Priyanka Kiran	12	Pawara Priyanka Rajaram
13	Koli Chanchal Hiranman	13	Patil Bhavana Shivaji
14	Koli Jyoti Laxman	14	Pawar Janadibai Narsing
15	Wadile Rupali yuvraj	15	Vasave Aasha Khalya
16	Shirsath Urmila Rajesh	16	Chaudhari Nikita Khandu
17	Bhil Pramila Gopal	17	Patil Anita Danyaneshwar
18	Sonawane Pramila Ashok	18	Pawara Rekha Tersing
19	Kalal Jyoti Bhaskar		
20	Patil Harshada Chunilala		



*Shitole*  
Dr. Sharda Shitole

**Principal**  
Shirpur Education Society's  
Smt. H.R. Patel Arts Mahila College  
Shirpur, Dist. Dhule 425 405

Near B.S.N.L. Telephone Exchange, Shirpur Dist. Dhule (MH) 425405 02563-255302,  
www.hrpmcollege.org, Email : [hrpmahila302@gmail.com](mailto:hrpmahila302@gmail.com)

UGC CORE MODULE SYLLABUS FOR ENVIRONMENTAL  
STUDIES FOR UNDER GRADUATE COURSES  
OF ALL BRANCHES OF HIGHER EDUCATION

**Unit 1 : The Multidisciplinary nature of environmental studies**

Definition, scope and importance (2 lectures)

Need for public awareness.

**Unit 2 : Natural Resources :**

**Renewable and non - renewable resources :**

Natural resources and associated problems.

- a) Forest resources : Use and over-exploitation deforestation, case studies.  
Timber extraction, mining, dams and their effects on forests and tribal people
- b) Water resources : Use and over - utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
- c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
- d) Food resources : world food problems - changes caused by Agriculture and overgrazing, effects of modern agriculture fertilizer - pesticide problems, water logging, salinity, case studies.
- e) Energy resources : growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.
- f) Land resources : Land as a resource, land degradation, man induced landslides soil erosion and desertification.  
Role of an individual in conservation of natural resources.  
equitable use of resources for sustainable lifestyles.

**(8 Lectures)**

**Unit 3 : Ecosystems**

Concept of an ecosystem.

Structure and Function of an ecosystem.

Producers, consumers and decomposers

Energy flow in the ecosystem.

Ecological succession.

Food chains, food webs and ecological pyramids.

Introduction, types, characteristic features, structure and function of the following ecosystem :-

- a. Forest ecosystem
  - b. Grassland ecosystem
  - c. Desert ecosystem
  - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
- (6 Lectures)**

#### **Unit 4 : Biodiversity and its conservation**

Introduction - Definition : genetic, species and ecosystem diversity.

Biogeographical classification of India

Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values

Biodiversity at global, national and local levels,

India as a mega - diversity nation.

Hot - spots of biodiversity.

Threats to biodiversity : habitat loss, poaching of wildlife, man - wild life conflicts.

Endangered and endemic species of India

Conservation of biodiversity : In - situ and Ex - situ conservation of biodiversity.

**(8 Lectures)**

#### **Unit 5 : Environment Pollution**

Definition

causes, effects and control measures of

- a. Air pollution
- b. Water pollution
- c. soil pollution
- e. Noise pollution
- f. Thermal pollution
- g. Nuclear pollution

Solid waste Management : Causes, effects and control measures of urban and industrial wastes.

Role of an individual in prevention of pollution

Pollution case studies.

Diaster management : floods, earthquake, volcano and landslides.

**(8 Lectures)**

## **Unit 6 : Social Issues and the Environment**

From Unsustainable to Sustainable development

Urban problems related to energy

Water conservation, rain water harvesting, watershed management

Resettlement and rehabilitation of people; its problems and concerns  
case studies.

Environmental ethics : Issues and possible solution.

Climate change, global warming, acid rain, ozone layer depletion,  
nuclear accidents and holocaust. Case studies.

Wasteland reclamation.

Consumerism and waste products.

Environment Protection Act.

Air (Prevention and control of Pollution ) Act.

Water (Prevention and control of Pollutants Act)

Wildlife Protection Act.

Forest Conservation Act.

Issues involved in enforcement of environmental legislation.

Public awareness.

**(6 Lectures)**

## **Unit 7 : Human Population and the Environment**

Population growth, variation among nations.

Population explosion - Family Welfare Programme.

Environment and human health.

Human Rights.

Value Education.

HIV AIDS.

Women and Child Welfare.

Role of Information Technology in environment and human health.

Case studies.

**(6 Lectures)**

## **Unit 8 : Field Work (Practical)**

☞ Visit to a local area to document environmental assets - river / forest /  
grassland / hill / mountain

☞ Visit to a local polluted site - Urban / Rural / Industrial / Agricultural

☞ Study of common plants, insects, birds

☞ Study of simple ecosystems - pond, river, hill slopes, etc.

(Field work Equal to 5 lecture hours)

## REFERENCES

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  2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd. Ahmedabad - 380 013, India, Email:mapin@icenet.net (R)
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  17. Sharma B. K. 2001 Environmental Chemistry. Goel Publ. House, Meerut.
  18. Survey of the Environmental, The Hindu (M)
  19. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB)
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  21. Trivedi R. k. and P. K. Goel, Introduction to air pollution, Techno - Science Publications (TB)
  22. Wagner K. D. 1998 Environment Management. W. B. Saunders Co. Philadelphia., USA 499p
- (M) Magazine  
(R) Reference  
(TB) Textbook



S.B.B. & S.H.D. Commerce and S.M.A. Science College Shirpur (herein after referred to as SPDMCS) under North Maharashtra University Jalgaon.

The objective of this MoU is to express the willingness of both organizations to engage in an effort to promote and facilitate the active participation of SPDMC in exchange of staff, faculty, students for various academic, curricular, extracurricular and co-curricular activities of Smt. H. R. Patel Arts Mahila College Shirpur.

**This MoU witness as follows:**

**The scope of the MoU, the roles and responsibilities of the parties of the MoU are given below:**

Both Institutes agree to develop the following collaborative activities in the academic areas of mutual interest, on a basis of equality and reciprocity.

The two institutions shall seek to promote:

**Faculty/Scientist/Staff/ Students Exchanges**

1. The exchange of faculty to the mutual benefit of both institutions,
2. Collaboration in teaching, research and development, and consultancy studies in the field of mutual interest,
3. The exchange of academic materials and publications,
4. Conducting lectures,
5. Undertaking joint research,
6. Attachment of staff for purposes of curriculum development and review, attendance of courses, upgrading of teaching and research skills,
7. Participating in seminars, symposiums, and other types of academic discussions,
8. Co-supervising post-graduate students,
9. Conducting study tours and joint consultancy work.
10. Exchange students will be selected by mutual agreement between the home institution and the host institution.
11. An exchange student will continue to be treated as full-time student at his/her home institution.
12. The two institutions agree to enter into a student exchange agreement, commencing in the academic year 2019-20
13. The participating students will register at the host institution for the full academic year or for a minimum of one academic term.

5/2/19

- 14. Each institution may send up to 100 students per academic year to participate in the exchange.
- 15. It is expected that in any given year there will be an equal number of students exchanged from each institution.
- 16. The candidates will be students who are completing an undergraduate program or post graduate at their respective institutions.
- 17. The candidates will be selected by their respective institutions to participate in the exchange.

**Terms and Conditions**

Both the institutes will provide human resource support, infrastructural support, library and other physical resources related support required for various activities under MoU. This MoU may be amended by a written agreement signed by the representatives of both organizations.

**Duration of MoU**

This MoU shall be operational upon signing and will have an initial duration of **Oneyear**. All activities conducted before this date within the vision of the joint collaboration will be deemed to fall under this MoU.

**Extension of Agreement**

The MoU may be extended provided the organizations agree upon, and can provide the necessary resources.

**Coordinators**

Both institute designate person who will have responsibility for coordination and implementation of this MoU.

**Signed in Duplicate**

This MoU is executed in duplicate with each copy being an official version and having equal legal validity. By signing below, the institute acting by their duly authorized officer have caused this memorandum of understanding to be executed, effective as of the day and years above written.

**Signatures:**

Signed to, and on behalf of  
*Shitole*

The Manager (Academic Support)  
Dept. of Post Graduate Studies  
College, Dhule, Dist. Dhule 428 405

Name: - *Dr. Shitole Sharda Jayantao*

Date : 1<sup>st</sup> Jun 2019

*6/7/19*  
Signed for and on behalf of  
Principal  
S.P.A. Arts, S.B.A. & S.M.A.  
College & S.M.A. Science College  
Dhule, Dist. Dhule 428 405

Name: - \_\_\_\_\_



**Kavayitri Bahinabai Chaudhari North Maharashtra  
University, Jalgaon**



**Choice Based Credit System (CBCS)**

**Syllabus for T.Y.B. A. (Geography)**

**(Under the Faculty of Science and Technology)**

**(Since 2020-2021)**

## General Structure of T.Y.B.A Syllabus(C.B.C.S)

Semester and credit Points	Courses				
<b>V- Total Credits (28)</b>	<b>MIL 3 (03) DSC 1E (03) DSC 2E (03) DSC 3E (03)</b>	<b>Ability Enhancement Course (English communication) (02)</b>	<b>SEC 3 (02)</b>	<b>DSE 3A (03) DSE 4A (03)</b>	<b>GE1A (03) GE 2A (03)</b>

Semester and credit Points	Courses				
<b>VI- Total Credits (28)</b>	<b>MIL 4 (03) DSC 1F (03) DSC 2F (03) DSC 3F (03)</b>	<b>Ability Enhancement Course (English communication) (02)</b>	<b>SEC 4 (02)</b>	<b>DSE 3B (03) DSE 4B (03)</b>	<b>GE 1 B (03) GE 2B (03)</b>

- AEC - English Communication ही अनिवार्य अभ्यासपत्रिका आहे. तृतीय वर्षास प्रवेशित प्रत्येक विद्यार्थ्याने ही अभ्यासपत्रिका अभ्यासणे अनिवार्य आहे.
- MIL ही अनिवार्य अभ्यासपत्रिका आहे. तृतीय वर्षास प्रवेशित प्रत्येक विद्यार्थ्याने मराठी, हिंदी, संस्कृत, पाली, अर्धमागधी, उर्दू यांपैकी महाविद्यालयात शिकवल्या जाणाऱ्या कोणत्याही एका भाषा विषयाच्या MIL मधील अभ्यासपत्रिकेची निवड करणे अनिवार्य आहे.
- SEC मध्ये महाविद्यालयात उपलब्ध असलेल्या कोणत्याही विषयाच्या कौशल्याधारित अभ्यासपत्रिकांची निवड करणे अनिवार्य आहे.
- GE मध्ये महाविद्यालयात विशेष स्तरावर उपलब्ध कोणत्याही दोन विषयांच्या प्रत्येकी एक अशा एकूण दोन आंतरविद्याशाखीय अभ्यासपत्रिकांची निवडणे अनिवार्य आहे.

## Details of CBCS Structure for T.Y.B.A Geography ( With Effect from June 2020)

Subject Code	Semester	Title of Subject	CBCS Structure Code	Credit Point	Total Clock Hours
Gg.351 (G-3)	V	Environmental Geography	DSC 1E	03	45
Gg . 361 (G-3)	VI	Population Geography	DSC 1F	03	45
Gg. 352 (S-3)	V	Economic Geography	DSE 3A	03	45
Gg. 362 (S-3)	VI	Political Geography	DSE 3B	03	45
Gg. 353 (S-4)	V	Practical in Human Geography and Geo-statistics	DSE 4A	03	90
Gg. 363 (S-4)	VI	Practical in Physical Geography	DSE 4B	03	90
Gg. 354 ( SEC of Geography)	V	Field Technique and Introduction to Project Report	SEC 3	02	30
Gg. 364 ( SEC of Geography)	VI	Geographical Information System	SEC 4	02	30
Gg. 355 ( GE of Geography)	V	Disaster Risk Reduction	GE 1A	03	45
Gg.365 ( GE of Geography)	VI	Sustainability And Development	GE 1B	03	45

Weightages of Marks	
University Assessment	60
College Assessment	40
<b>Total Marks</b>	<b>100</b>

# T.Y.B.A. GEOGRAPHY

## Equivalence Courses for T. Y. B. A. Geography

<b>Old Syllabus &amp; Courses (With effect from June - 2018)</b>	<b>New Syllabus CBCS Pattern (With effect from June 2020)</b>
<b>SEM. V - G - 3 - Agricultural Geography</b> <b>SEM. VI - G - 3 Industrial Geography</b>	<b>SEM. V - (DSC 1E) Gg. 351 - Environmental Geography</b>
OR	
<b>SEM. V - G - 3 - Population Geography</b> <b>SEM. VI - G- 3 - Political Geography</b>	<b>SEM. VI - (DSC 1F) Gg. 361 - Population Geography</b>
<b>SEM. V - S - 3 - Environmental Geography</b> <b>SEM. VI - S- 3 - Remote Sensing &amp; GIS</b>	<b>SEM. V - (DSE 3A) Gg. 352 - Economic Geography</b>
OR	
<b>SEM. V - S - 3 - Geographical Thoughts</b> <b>SEM. VI - S- 3 - Geography of Resources</b>	<b>SEM. VI - (DSE 3B) Gg. 362 - Political Geography</b>
<b>SEM. V - S 4 - Practical Geography - Weather Maps , Weather Instruments and Elements of Map Reading</b>	<b>SEM. V - (DSE 4A) Gg. 353 - Practical in Human Geography and Geo-Statistics</b>
<b>SEM. VI - S 4 - Practical Geography - Geo- Statistical Methods</b>	<b>SEM. VI - (DSE 4B) Gg. 363 - Practical in Physical Geography</b>
----	<b>SEM. V - (SEC 3) Gg. 354 - Field Techniques and Introduction to Project Report</b>
	<b>SEM. VI - (SEC 4) Gg. 364 - Geographical Information System</b>
	<b>SEM. V - (GE 1A) Gg. 355 - Disaster Risk Reduction</b>
	<b>SEM. - VI (GE 1B) Gg. 365 - Sustainability and Development</b>

**Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon**  
**New Syllabus (CBCS Pattern) W.E.F June 2020**

**TYBA Sem.: VI**

**Gg. 363 (DSE 4B) Practical in Physical Geography**  
**(Work load - 06 Periods Per Week Per Batch of 12 Students)**

**Total Marks: 60**

**Credit Points: 03**

**Total Clock Hours: 90**

**Objectives:**

1. To introduce the students with SOI toposheets and to acquire the knowledge of toposheet Reading / interpretation.
2. To acquaint the students with IMD weather maps and to gain the knowledge of weather map reading/ interpretation.

Sr. No.	Unit	Sub Unit	Clock Hours
1	Elements of Topographical Map Reading	1.1 Arrangement of Toposheet On Map of India i) Indexing of Topographical Map 1.2 Marginal Information and Grid References i) Marginal information ii) Grid reference: Four and six figure . 1.3 Conventional Signs and Symbols on Indian Topographical Map	25
2	Interpretation of SOI Toposheets and Drawing of profiles	2.1 Relief Features By Contours a) Conical Hill      b) Plateau      c) Ridge d) Gorge              e) U Shaped Valley f) V Shaped Valley g) Waterfall Slopes : Concave and Convex Slopes , Gentle and Steep Slopes, Terraced Slope. 2.2 Map Interpretation: Interpretation of Topographical Maps (Minimum any two of the following ). i) Mountainous/Hilly Region ii) Plateau Region iii) Plain Region 2.3 Profiles:- Drawing of Longitudinal Profile, Cross Profile.	30
3	Interpretation of I.M.D Weather Maps	3.1 Introduction to I.M.D. Weather map 3.2 Signs and Symbols Used in the I. M. D. Weather Map. 3.3 Isobaric Patterns:	25

		i) Cyclone ii) Anti-Cyclone iii) Trough of low pressure iv) Wedge/Ridge v) Col vi) Secondary depression 3.4 Study and Interpretation of Weather Maps of Following Seasons (Minimum any two of the following). i) The Monsoon Season ii) The Winter Season iii) The Summer Season	
4	Study Tour/Village Survey	Preparation of Green Audit Report of Your College or Any Place/Tour Report/ Village Survey and Preparation of Journal	10

**Note :** The educational tour / Village Survey /visit to any place should be conducted and organized by the direction of Maharashtra Govt. rules and regulations and prior permission of college authority.

<b>Weightages of Marks</b>	
<b>Units</b>	<b>Marks</b>
1	15
2	10
3	15
4	10
Journal and Viva Voce	10
<b>University Assessment</b>	<b>60</b>
<b>College Assessment</b>	<b>40</b>

### References:

- 1 Singh. R. L. and Singh R.P.B. (1972): Elements of Practical Geography; Kalyani Publication.
- 2 Khan, MD.Z.A. (1998): Text Book of Practical Geography: Concept Publishing Company.
- 3 Monkhouse F.J. and Wilkinson. H.R. (1971): Maps and Diagrams B.I. publications private limited, New Delhi.
- 4 Ahmed, I. (1994): Practical Geography, Jawahar Publishers and Distributors, New Delhi.
- 5 Sarkar, A. (1997): Practical Geography: A systematic approach, Orient Longman Ltd, Hyderabad.
- 6 Singh, Gopal, (1998): Map Work and Practical Geography.

**Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon**  
**New Syllabus (CBCS Pattern) W.E.F June 2020**

**TYBA Sem.: VI**

**Gg. 364 (SEC 4) Geographical Information System.**

**Total Marks: 60**

**Credit Points: 02**

**Total Clock Hours: 30**

**Objectives:-**

- To introduce the fundamentals and components of Geographic Information System
- To provide details of spatial data structures and input, management and output processes.
- To aware about the application of GIS in various fields.

Unit	Topic	Sub-topics	Clock Hours
1	Introduction to GIS	1.3 Introduction 1.4 Definition 1.5 History of GIS 1.6 Components of GIS <ul style="list-style-type: none"> <li>• Hardware</li> <li>• Software</li> <li>• Modules</li> <li>• Data – Raster &amp; Vector</li> <li>• Users - People</li> </ul> 1.7 GIS operations <ul style="list-style-type: none"> <li>• Spatial data input</li> <li>• Attribute data management</li> <li>• Data display</li> <li>• Data exploration</li> <li>• Data analysis</li> <li>• GIS modelling</li> </ul>	06
2	GIS Data Structures	2.1 Geospatial Data Types <ul style="list-style-type: none"> <li>• Spatial Data</li> <li>• Non-Spatial Data</li> </ul> 2.2 Raster Data Structure <ul style="list-style-type: none"> <li>• Cells, Pixels, Grid</li> <li>• Cell size, spatial resolution</li> <li>• Bands</li> <li>• Single and multiband structures (BSQ, BIL, BIP)</li> </ul> 2.3 Vector Data Structure <ul style="list-style-type: none"> <li>• Point entities</li> <li>• Line entities</li> </ul>	08

		<ul style="list-style-type: none"> <li>• Area entities</li> </ul> 2.4 Sources of Raster & Vector data 2.5 Choice between Raster & Vector	
3	GIS Data Analysis	3.1 GIS Data Inputs <ul style="list-style-type: none"> <li>• Keyboard Entry</li> <li>• Manual Digitising</li> <li>• Scanning &amp; Automatic Digitising</li> <li>• GPS Data Inputs</li> </ul> 3.2 Geo-Referencing 3.3 Editing 3.4 Output and Query 3.5 Overlays	08
4	Application of GIS	4.1 Land Use / Land Cover Mapping 4.2 Urban Sprawl 4.3 Forest Monitoring 4.4 Disaster Management 4.5 Defence 4.6 Natural Resource Management	08

Units	Marks
1	14
2	16
3	14
4	16
University Assessment	60
College Assessment	40

**References:**

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1. Michael N. Demers (2009) :Fundamentals of Geographical Information System, John Wiley & Sons, Inc.
2. Kang-tsung Chang (2008) : Introduction to Geographical Information Systems, McGraw Hill Education (India) Private Limited, Chennai
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4. Joseph George (2003) :Fundamentals of remote sensing. Universities Press
5. Lillesand, T.M. and Kieffer, R.M. (1987) :Remote Sensing and Image Interpretation, John Wiley.
6. Sabbins, F.F. (1985) :Remote sensing Principles and interpretation. W. H. Freeman & company.

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1. Dr. ShrikantKarlekar (2007):BhougolicMahitiPranali, Diamond Publication, Pune.
2. Dr. ShrikantKarlekar (2007):Dursavedan, Diamond Publication Pune.
3. Dr. D. S. Suryawanshi (2018):Geo-informatics, Prashant Publications, Jalgaon.