
50
द्वारिका प्रसाद 'विप्र' महाविद्यालय बिलासपुर (छ.ग.)
स्थापित १९६९
श्रद्धावान लभते ज्ञानम्
स्वर्ण जयंती वर्ष

D.P. VIPRA COLLEGE
BILASPUR
ACCREDITED "A" GRADE BY NAAC

1.2.1

Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

D.P. Vipra College

Old High Court Road, Bilaspur

Chhattisgarh, India 495001

OFFICE OF THE PRINCIPAL
D. P. VIPRA COLLEGE, BILASPUR (C.G.)
Accredited "A" by NAAC, ISO-9001:2015 Certified
Phone No.- 07752-424497, Web. – www.dpvipracollege.in, Email- dpvipracollege@gmail.com

Summary-Sheet

Criteria	1.Curricular Aspects
Key Indicator	1.2: Academic Flexibility
Metric	1.2.1: Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented
DVV Clarifications	"Please provide 1. List of programs in which CBCS/Elective course system implemented in the last completed academic year certified by the Registrar of the affiliating university. attested by Principal. 2. tabulated list of programs in which CBCS/Elective course system implemented in the last academic year showing sl. no., list of programs with CBCS/elective course, program code, course code, course name, year in which implemented in excel sheet. 3. Minutes of relevant Academic Council/BOS meetings highlighting the relevant documents to this metric of the affiliating university. 4. Affiliating University letter stating implementation of CBCS.5. Structure of the program clearly indicating courses, credits/electives as approved by the competent board list of programs in which Choice Based Credit System (CBCS)/ elective course system has been implemented as HEI input in the College website with link provided in the DVV Portal, so as to land on the relevant page on selection of the link and not on any other drives like Google Drive. "
Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented	**06**

Note:
Since all supporting documents for this metric exceeds the upload limit of 5Mb, hence we have hosted the scanned documents as per SOP on institutional website on the following links,

Description	Relevant link
1) Tabulated list of programs in which CBCS/Elective course system implemented in the last academic year showing sl. no., list of programs with CBCS/elective course, program code, course code, course name, year wise is attached. (**Appendix-I)**	https://dpvipracollege.in/wp-content/uploads/2022/06/dvv_1.2.1.pdf
2) Letter from the principal declaring CBCS/ECS implementation is attached. **(Appendix-II)**	
3) Structure of the program clearly indicating courses, Syllabus Scheme/ Course Structure for all programs along where Elective Course System (ECS) implemented are attached. **(Appendix-III)**	

IQAC Co-ordinator
D.P. Vipra College
BILASPUR (C.G.)
IQAC Coordinator

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)
Principal

D.P. VIPRA COLLEGE
BILASPUR
ACCREDITED "A" GRADE BY NAAC

Appendix I

D.P. Vipra College

Old High Court Road, Bilaspur

Chhattisgarh, India 495001

OFFICE OF THE PRINCIPAL

D. P. VIPRA COLLEGE, BILASPUR (C.G.)

NAAC ACCREDITED "A" GRADE

PHONE : 07752-424497, E-mail - dpvipracollege@gmail.com

1.2.1 Percentage of programs in which Choice Based Credit System (CBCS) elective course system has been implemented (10)

YEAR -2020-21

S.No.	Programme Code	Programme Name	Status of implementation of CBCS/ elective course system (Yes/No)	Year of implemetation of CBCS/ elective course system	Link to the relevant document
1	NA	M.COM	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/MCOM.pdf
2	NA	M.A.	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.ECONOMICS.pdf
3	NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.%20HISTORY001.pdf
4	NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.%20ENGLISH001.pdf
5	NA	M.SC	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20ZOOLOGY001.pdf
6	NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20MATHS001.pdf
7	NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20CHEMISTRY001.pdf
8	NA	B.COM	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/Syllabus202122/BCOMPart3.pdf
9	NA	B.A.	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/2019/BA-Part-3-2021-22.pdf
10	NA	B.SC.	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/Syllabus202122/BSc-Part-3.pdf

PRINCIPAL
D. P. VIPRA COLLEGE
BILASPUR (C.G.)

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

OFFICE OF THE PRINCIPAL

D. P. VIPRA COLLEGE, BILASPUR (C.G.)

NAAC ACCREDITED "A" GRADE

PHONE : 07752-424497, E-mail - dpvipracollege@gmail.com

1.2.1 Percentage of programs in which Choice Based Credit System (CBCS) elective course system has been implemented (10)

Programme Code	Programme Name	Status of implementation of CBCS/ elective course system (Yes/No)	Year of implemetation of CBCS/ elective course system	Link to the relevant document
NA	M.COM	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/MCOM.pdf
NA	M.A.	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.ECONOMICS.pdf
NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.%20HISTORY001.pdf
NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.A.%20ENGLISH001.pdf
NA	M.SC	Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20ZOOLOGY001.pdf
NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20MATHS001.pdf
NA		Yes	2016-17	https://www.bilaspuruniversity.ac.in/PDF/Syllabus/2020NewCoursePGSem/M.SC.%20CHEMISTRY001.pdf
NA	B.COM	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/Syllabus202122/BCOMPart3.pdf
NA	B.A.	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/2019/BA-Part-3-2021-22.pdf
NA	B.SC.	Yes	2012-13	https://www.bilaspuruniversity.ac.in/PDF/Syllabus202122/BSc-Part-3.pdf

PRINCIPAL
D. P. VIPRA COLLEGE
BILASPUR (C.G.)

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

D.P. VIPRA COLLEGE
BILASPUR
ACCREDITED "A" GRADE BY NAAC

Appendix II

D.P. Vipra College

Old High Court Road, Bilaspur

Chhattisgarh, India 495001

OFFICE OF THE PRINCIPAL

D.P. VIPRA COLLEGE, BILASPUR (C.G.)

Accredited "A" by NAAC, ISO-9001:2015 Certified

Phone No.- 07752-424497, Web. – *www.dpvipracollege.in*, Email- *dpvipracollege@gmail.com*

Date: 26.06.2022

Declaration

We have no CBCS implementation. Elective Course system implemented to all the courses and programs offered in the institution. We have attached the syllabus copy of the elective courses in Appendix-III.

Principal
D.P. Vipra College
Bilaspur (C.G.)

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

D.P. VIPRA COLLEGE
BILASPUR
ACCREDITED "A" GRADE BY NAAC

Appendix III

D.P. Vipra College

Old High Court Road, Bilaspur

Chhattisgarh, India 495001

अटल बिहारी वाजपेयी विश्वविद्यालय, बिलासपुर(छत्तीसगढ़)

सेमेस्टर पाठ्यक्रम

M.Com.

M.Com. - Semester IV

Special attention to the students. Students are required to select **'any one'** Specialization out of Three suggested below.

Choice Based – Specialization

(A) Marketing
(B) Management
(C) Banking and Insurance

Optional Group- (A) Marketing

Paper No.	प्रश्न पत्र का नाम	Internal Assessment	Term End Exam	Total Marks
1.	विपणन के सिद्धांत Principal of Marketing	20	80	100
2.	विज्ञापन एवं विक्रय Advertising & Sales Management	20	80	100
3.	विपणन अनुसंधान Marketing Research	20	80	100
4.	अन्तर्राष्ट्रीय विपणन International Marketing	20	80	100

Optional Group- (B) Management

Paper No.	प्रश्न-पत्र का नाम	Internal Assessment	Term End Exam	Total Marks
1.	वित्तीय प्रबंध Financial Management	20	80	100
2.	कार्मिकप्रबंध Personal Management	20	80	100
3.	उत्पादनप्रबंध Production Management	20	80	100
4.	व्यूहरचना प्रबंध Strategic Management	20	80	100

Optional Group- (C) Banking and Insurance

Paper No.	प्रश्न पत्र कानाम	Internal Assessment	Term End Exam	Total Marks
1.	बैंकिंग व्यवहार Banking Practices	20	80	100
2.	भारत के बैंकिंग संस्थाए Banking Institution in India	20	80	100
3.	जीवन बीमा Life Insurance	20	80	100
4.	सामान्य बीमा	20	80	100

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

बिलासपुर विश्वविद्यालय, बिलासपुर (छत्तीसगढ़)

SEMESTER SYLLABUS

M.A. ECONOMICS

SCHEME OF EXAMINATION AND DISTRIBUTION OF MARKS

At post graduate level candidate required to study 16 compulsory papers and 4 optional papers during 4 Semesters. There shall be 04 compulsory papers and 01 optional paper in I, II, III & IV semester.

Note: It is compulsory for the candidate to qualify first question paper of any one group of the optional paper in semester-I. Similarly one has to qualify the second question paper of the same group in semester-II. In the same way in semester-III & IV it is compulsory for the candidate to qualify both the question paper of any other group.

SEMESTER-I

Paper No.	Title of the Paper	Internal Assessment	Term End Exam	Total Marks
1.	Micro Economic Analysis	20	80	100
2.	Quantitative Methods	20	80	100
3.	Indian Economic Policy	20	80	100
4.	International Trade & Finance	20	80	100
OPTIONAL (Choose Any one Group)				
5.	Group A 1. Industrial Economics	20	80	100
5.	Group B 1. Labour Economics	20	80	100
5.	Group C 1. Demography	20	80	100
5.	Group D 1. Agriculture Economics	20	80	100
5.	Group E 1. Computer Application in Economic analysis	20	80	100
			TOTAL	**500**

SEMESTER-II

Paper No.	Title of the Paper	Internal Assessment	Term End Exam	Total Marks
1.	Micro Economic Analysis	20	80	100
2.	Research Methodology and Computer Application	20	80	100
3.	Indian Economic Policy	20	80	100
4.	International Trade & Finance	20	80	100
OPTIONAL (Choose Any one Group)				
5.	Group A 2. Industrial Economics	20	80	100
5.	Group B 2. Labour Economics	20	80	100
5.	Group C 2. Demography	20	80	100
5.	Group D 2. Agriculture Economics	20	80	100
5.	Group E 2. Computer Application in Economic analysis	20	80	100
			TOTAL	**500**

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

बिलासपुर विश्वविद्यालय, बिलासपुर (छत्तीसगढ़)

SEMESTER SYLLABUS

M.A. ECONOMICS

SEMESTER-III

Paper No.	Title of the Paper	Internal Assessment	Term End Exam	Total Marks
1.	Macro Economic Analysis	20	80	100
2.	Public Economics	20	80	100
3.	Economics of Growth	20	80	100
4.	Environmental and Welfare Economics	20	80	100
OPTIONAL (Choose Any one Group)				
5.	Group A 1. Industrial Economics	20	80	100
5.	Group B 1. Labour Economics	20	80	100
5.	Group C 1. Demography	20	80	100
5.	Group D 1. Agriculture Economics	20	80	100
5.	Group E 1. Computer Application in Economic analysis	20	80	100
			TOTAL	**500**

SEMESTER-IV

Paper No.	Title of the Paper	Internal Assessment	Term End Exam	Total Marks
1.	Macro Economic Analysis	20	80	100
2.	Public Economics	20	80	100
3.	Economic Development and Planning	20	80	100
4.	Economics of Social Sector	20	80	100
OPTIONAL (Choose Any one Group)				
5.	Group A 2. Industrial Economics	20	80	100
5.	Group B 2. Labour Economics	20	80	100
5.	Group C 2. Demography	20	80	100
5.	Group D 2. Agriculture Economics	20	80	100
5.	Group E 2. Computer Application in Economic analysis	20	80	100
			TOTAL	**500**
			Grand Total	**2000**

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

अटल बिहारी वाजपेयी विश्वविद्यालय, बिलासपुर(छत्तीसगढ़)

सेमेस्टर पाठ्यक्रम

एम.ए. इतिहास

टीप :– एम.ए. इतिहास सेमेस्टर पद्धति में सेमेस्टर । एवं ।। में तीन अनिवार्य प्रश्न पत्रों के अतिरिक्त परीक्षार्थियों को कोई एक वैकल्पिक प्रश्न पत्र का चयन करना होगा। प्रत्येक प्रश्न पत्र 100–100 अंकों का होगा। 100 अंकों में 80 अंक सैद्धांतिक एवं 20 अंक आंतरिक मूल्यांकन के होंगे।

प्रथम सेमेस्टर SEMESTER I

प्रश्न पत्र	प्रश्न पत्र का नाम	पूर्णांक	सैद्धांतिक	आंतरिक मूल्यांकन
I	इतिहास पद्धतियां (अनिवार्य) Historical Mathods (Compulsory)	100	80	20
II	आधुनिक विश्व (अनिवार्य) Modern world (Compulsory)	100	80	20
III	प्राचीन एवं मध्यकालीन छत्तीसगढ़ (अनिवार्य) Ancient and Medieval Chhattisgarh (Compulsory)	100	80	20
OPTIONAL IV (A)	ग्रेट ब्रिटेन का इतिहास 1815–1885 History of Great Britain 1815-1885	100	80	20
OPTIONAL IV (B)	चीन और जापान का इतिहास1800–1911 History of China & Japan 1800-1911	100	80	20
OPTIONAL IV (C)	भारतीय इतिहास में नारी–प्राचीन एवं मध्यकालीन Women in Indian History in Ancient Medieval Period	100	80	20
			TOTAL	400

द्वितीय सेमेस्टर SEMESTER II

प्रश्न पत्र	प्रश्न पत्र का नाम	पूर्णांक	सैद्धांतिक	आंतरिक मूल्यांकन
I	इतिहास लेखन (अनिवार्य) Historigraphy (Compulsory)	100	80	20
II	समकालीन विश्व (अनिवार्य) Contemporary world (Compulsory)	100	80	20
III	आधुनिक छत्तीसगढ़ (अनिवार्य) Modern Chhattisgarh (Compulsory)	100	80	20
OPTIONAL IV (A)	आधुनिक इंग्लैण्ड 1885–1956 Modern England 1885-1956	100	80	20
OPTIONAL IV (B)	चीन और जापान का इतिहास 1911–1950 History of China & Japan 1911-1950	100	80	20
OPTIONAL IV (C)	आधुनिक भारत में नारी Women in Modern India	100	80	20
			TOTAL	400

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

अटल बिहारी वाजपेयी विश्वविद्यालय, बिलासपुर(छत्तीसगढ़)

सेमेस्टर पाठ्यक्रम

एम.ए. इतिहास

टीप :– एम.ए. इतिहास सेमेस्टर पद्धति में सेमेस्टर III एवं IV में परीक्षार्थियों को निम्नलिखित खण्ड–अ एवं खण्ड–ब में से किसी एक खण्ड का चयन कर उसके दोनों प्रश्न पत्रों को हल करना होगा। उपरोक्त 4 वैकल्पिक प्रश्न पत्रों में से परीक्षार्थियों को सरल क्रमांक 1, 3 में से कोई एक एवं 2, 4 में से कोई एक वैकल्पिक प्रश्न पत्रों का चयन करना होगा। सभी प्रश्न पत्रों में 100–100 अंक होंगे। 100 अंकों में 80 अंक सैद्धांतिक एवं 20 अंक आंतरिक मूल्यांकन के होंगे।

तृतीय सेमेस्टर SEMESTER III

प्रश्न पत्र	प्रश्न पत्र का नाम	पूर्णांक	सैद्धांतिक	आंतरिक मूल्यांकन
खण्ड अ : मध्यकालीन भारत **SECTION A : MEDIEVAL INDIA**				
I	सल्तनतकालीन भारतीय राजनय एवं अर्थव्यवस्था (1200 से 1526 ई. तक) Indian polity and economy in Sultanate period (1200-1526 A.D.)	100	80	20
II	सल्तनत कालीन समाज एवं संस्कृति (1200 से 1526 ई.) Society and culture in Sultanate Period (1200-1526 A.D.)	100	80	20
खण्ड ब : आधुनिक भारत **SECTION B : MODERN INDIA**				
I	आधुनिक भारत 1757 ई. से 1857 ईतक (राजनीतिक, प्रशासनिक) Modern India 1757 A.D. to 1857 A.D. (Political, Administrative)	100	80	20
II	आधुनिक भारत 1757 ई. से 1857 ई. तक (आर्थिक, सामाजिक, सांस्कृतिक) Modern India 1757 A.D. to 1857 A.D. (Economic, Social, Cultural)	100	80	20
वैकल्पिक प्रश्न पत्र **(OPTIONAL PAPER)**				
OPTIONAL I	भारतीय राष्ट्रीय आंदोलन का इतिहास (1857 से 1922 ई. तक) History of National Movement (1857 to 1922 A.D.)	100	80	20
OPTIONAL II	भारत का सांस्कृतिक इतिहास (प्रारंभ से 1526 ई. तक) Cultural History of India (Begining to 1526 A.D.)	100	80	20
OPTIONAL III	भारतीय संविधान और शासन व्यवस्था Indian Constitution and Administrative System	100	80	20
OPTIONAL IV	पर्यटन सिद्धांत Tourism Theory	100	80	20

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

TOTAL	400

टीप :– एम.ए. इतिहास सेमेस्टर पद्धति में सेमेस्टर III एवं IV में परीक्षार्थियों को निम्नलिखित खण्ड–अ एवं खण्ड–ब में से किसी एक खण्ड का चयन कर उसके दोनों प्रश्न पत्रों को हल करना होगा। उपरोक्त 4 वैकल्पिक प्रश्न पत्रों में से परीक्षार्थियों को सरल क्रमांक 1, 3 में से कोई एक एवं 2, 4 में से कोई एक वैकल्पिक प्रश्न पत्रों का चयन करना होगा। सभी प्रश्न पत्रों में 100–100 अंक होंगे। 100 अंकों में 80 अंक सैद्धांतिक एवं 20 अंक आंतरिक मूल्यांकन के होंगे।

चतुर्थ सेमेस्टर SEMESTER IV

प्रश्न पत्र	प्रश्न पत्र का नाम	पूर्णांक	सैद्धांतिक	आंतरिक मूल्यांकन
खण्ड अ : मध्यकालीन भारत **SECTION A : MEDIEVAL INDIA**				
I	मुगलकालीन भारतीय राजनय एवं अर्थव्यवस्था (1526 से 1750 ई. तक) Indian polity and economy in Mughal period (1526-1750 A.D.)	100	80	20
II	मुगलकालीन समाज एवं संस्कृति (1526 से 1750 ई.) Society and culture in Mughal period (1526-1750 A.D.)	100	80	20
खण्ड ब : आधुनिक भारत **SECTION B : MODERN INDIA**				
I	आधुनिक भारत 1858 ई. से 1964 ई.तक . (राजनीतिक, प्रशासनिक) Modern India 1858 A.D. to 1964 A.D. (Political, Administrative)	100	80	20
II	आधुनिक भारत 1858 ई. से 1964 ई. तक (आर्थिक, सामाजिक, सांस्कृतिक) Modern India 1858 A.D. to 1964 A.D. (Economic, Social, Cultural)	100	80	20
वैकल्पिक प्रश्न पत्र **(OPTIONAL PAPER)**				
OPTIONAL I	भारतीय राष्ट्रीय आंदोलन का इतिहास (1922 से 1947 ई. तक) History of National Movement (1922 to 1947 A.D.)	100	80	20
OPTIONAL II	भारत का सांस्कृतिक इतिहास (1526 से 1950 ई.) Cultural History of India (Begining to 1526 AD	100	80	20
OPTIONAL III	भारतीय की केन्द्रीय तथा प्रांतीय शासन व्यवस्था Central and State Administrative System of India	100	80	20
OPTIONAL IV	पर्यटन सिद्धांत एवं व्यवहार–इतिहास के संदर्भ में Tourism Theory and Priniciples In Reference of History	100	80	20
			TOTAL	**400**

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

बिलासपुर विश्वविद्यालय, बिलासपुर (छत्तीसगढ़)
SEMESTER SYLLABUS
M.A. ENGLISH

SCHEME OF EXAMINATION & DISTRIBUTION OF MARKS

SEMESTER - I

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Total Marks
1.	Poetry -I (From Chaucer To Blake)	20	80	100
2.	Drama -I	20	80	100
3.	Prose	20	80	100
4.	Fiction	20	80	100

SEMESTER - II

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Total Marks
1.	Poetry -II	20	80	100
2.	Drama- II	20	80	100
3.	Modern Literature (Poetry and Prose)	20	80	100
4.	Fiction And Short Stories	20	80	100

SEMESTER - III

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Total Marks
1.	Critical Theory	20	80	100
2.	Indian Literature	20	80	100
3.	American Literature	20	80	100
4.	Optional (Any one) 1. History of English Literature 2. Linguistics	20	80	100

SEMESTER - IV

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Total Marks
1.	Literature in Translation	20	80	100
2.	Diaspora and Dalit Literature	20	80	100
3.	World Literature	20	80	100
4.	Optional (Any one) 1. Colonial and Post Colonial Literature 2. Gender Studies	20	80	100

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

III	Fish(Ichthyology) structure and function	80	20
IV	Applied Fisheries	80	20
Optional Group-II			
III	Cell biology	80	20
IV	Cellular organization and molecular organization	80	20
Optional Group-III			
III	Entomology	80	20
IV	Applied Entomology	80	20
Optional Group-IV			
III	Wildlife conservation	80	20
IV	Environment and biodiversity conservation	80	20
	M.Sc. Zoology Lab Course I	100	
	M.Sc. Zoology Lab Course II	100	

Student has choice to opt. For any one group out of four optional groups.(Paper III and IV in semester four)

Each theory paper will have 5 questions of equal marks. First question will be compulsory encompassing all the five units without any internal choice, whereas rest questions will be unit wise with internal choice.

Internal Assessment shall comprise of two parts- Ten marks for test and ten marks for seminar/ assignment /presentation.

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

अटल बिहारी वाजपेयी विश्वविद्यालय बिलासपुर

(छत्तीसगढ़)

सेमेस्टर पाठ्यक्रम

M.Sc. ZOOLOGY

SCHEME OF EXAMINATION & DISTRIBUTION OF MARKS

SEMESTER - I

Paper No.	Title of the Paper	Marks	
		External	Internal
I	Invertebrate structure and function, Minor Phyla	80	20
II	Animal Behaviour	80	20
III	Quantitative Biology	80	20
IV	Ecology and environmental physiology	80	20
	M.Sc. Zoology Lab Course I	100	
	M.Sc. Zoology Lab Course II	100	

SEMESTER - II

Paper No.	Title of the Paper	Marks	
		External	Internal
I	General & comparative endocrinology of vertebrates	80	20
II	Gamete biology and reproductive physiology in human beings	80	20
III	Molecular cell biology	80	20
IV	Tools and techniques for biology	80	20
	M.Sc. Zoology Lab Course I	100	
	M.Sc. Zoology Lab Course II	100	

SEMESTER - III

Paper No.	Title of the Paper	Marks	
		External	Internal
I	Comparative anatomy of vertebrates	80	20
II	Biosystematics, taxonomy & biodiversity	80	20
III	Immunology and developmental biology	80	20
IV	Population genetics & evolution	80	20
	M.Sc. Zoology Lab Course I	100	
	M.Sc. Zoology Lab Course II	100	

SEMESTER - IV

Paper No	Title of Paper	Marks	
		External	Internal
I	General physiology and neurophysiology *(compulsory)*	80	20
II	Biochemistry and metabolic regulation and cell function *(compulsory)*	80	20
Optional Group-I			

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

Fourth Semester	Paper No	Title of Paper	Marks	
			External	Internal
	I	General physiology and neurophysiology (*compulsory*)	80	20
	II	Biochemistry and metabolic regulation and cell function (*compulsory*)	80	20
Optional Papers (GROUP I)				
	III	Fish(Ichthyology) structure and function	80	20
	IV	Applied Fisheries	80	20
Optional Papers (GROUP 2)				
	III	Cell biology	80	20
	IV	Cellular organization and molecular organization	80	20
Optional Papers (GROUP 3)				
	III	Entomology	80	20
	IV	Applied Entomology	80	20
Optional Papers (GROUP 4)				
	III	Wildlife conservation	80	20
	IV	Environment and biodiversity conservation	80	20
Practical		M.Sc. Zoology Lab Course	200	

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

बिलासपुर विश्वविद्यालय, बिलासपुर (छत्तीसगढ़)

SEMESTER SYLLABUS

M.Sc. CHEMISTRY

SEMESTER - IV

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Practical	Total Marks
COMPULSORY FOR GROUP A, B & C					
1.	Photochemistry & Solid State Chemistry	20	80		100
2.	Bio-Physical & Environmental Chemistry	20	80		100
OPTIONAL GROUP-A INORGANIC					
3.	Bioinorganic Chemistry & Supra-Molecular Chemistry	20	80		100
4.	Analytical Chemistry	20	80		100
LAB-I	Special			200	200
OPTIONAL GROUP- B ORGANIC					
3.	Medicinal Chemistry	20	80		100
4.	Chemistry Of Natural Product	20	80		100
LAB-I	Special			200	200
OPTIONAL GROUP-C PHYSICAL					
3.	Liquid States	20	80		100
4.	Computation Chemistry	20	80		100
LAB-I	Special			200	200
				TOTAL	**600**
				GRAND TOTAL	**2400**

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

बिलासपुर विश्वविद्यालय, बिलासपुर (छत्तीसगढ़)

SEMESTER SYLLABUS

M.Sc. MATHEMATICS

SCHEME OF EXAMINATION & DISTRIBUTION OF MARKS

SEMESTER - I

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Practical	Total Marks
1.	Advanced Abstract Algebra (I)	20	80		100
2.	Real Analysis (I)	20	80		100
3.	Topology (I)	20	80		100
4.	Complex Analysis (I)	20	80		100
5.	Advanced Discrete Mathematics (I)	20	80		100

SEMESTER - II

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Practical	Total Marks
1.	Advanced Abstract Algebra (II)	20	80		100
2.	Real Analysis (II)	20	80		100
3.	Topology (II)	20	80		100
4.	Complex Analysis (II)	20	80		100
5.	Advanced Discrete Mathematics (II)	20	80		100

SEMESTER - III

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Practical	Total Marks
1.	Integration Theory and Functional Analysis -I	20	80		100
2.	Partial Differential Equations Mechanics and Gravitation - I	20	80		100
OPTIONAL PAPER (ANY THREE)					
3.	Program. in C with ANSI Features I	20	50	30	100
4.	Fuzzy Sets and their Applications-I	20	80		100
5.	Operations Research-I	20	80		100
6.	Fluid Mechanics-I	20	80		100
7.	Information Theory-I	20	80		100
8.	Fundamentals of Computer Science –I	20	80		100

SEMESTER - IV

Paper No.	Title of the Paper (s)	Internal Assessment	Term End Exam	Practical	Total Marks
1.	Integration Theory and Functional Analysis -II	20	80		100
2.	Partial Differential Equations Mechanics and Gravitation - II	20	80		100
OPTIONAL PAPER (ANY THREE)					
3.	Programming in C with ANSI Features- II	20	50	30	100
4.	Fuzzy Sets and their Applications-II	20	80		100
5.	Operations Research-II	20	80		100
6.	Fluid Mechanics-II	20	80		100
7.	Information Theory-II	20	80		100
8.	Fundamentals of Computer Science II	20	80		100

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

SYLLABUS
B.COM. PART-III

GROUPING OF SUBJECTS AND SCHEME OF EXAMINATION

Subject		Max.	Min.
Foundation Course			
I. Hindi Language		75	26
II. English Language		75	26
Compulsory Groups			
Group-I			
I. Income Tax	75	150	50
II. Auditing	75		
Group-II			
I. Indirect Taxes	75	150	50
II. Management Accounting	75		
Group-III Optional			
Option Group A (Finance Area)			
I. Financial Management	75	150	50
II. Financial Market Operations	75		
Option Group B (Marketing Area)			
I. Principles of Marketing	75	150	50
II. International Marketing	75		
Option Group C (Commercial Area)			
I. Information Technology and its Applications in Business	75	150	50
II. Essential of e-Commerce	75		
Option Group D (Money Banking & Insurance Area)			
I. Fundamental of Insurance	75	150	50
II. Money & Banking System	75		

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

2020-21

ENGLISH LETERATURE

PAPER -I

INDIAN WRITING IN ENGLISH

M.M.: 75

(Paper Code-0235)

All questions are compulsory.

Note : 1. Uint - I is compulsory. Two passages from each of the units II to V to be set and three to be attempted. (3x5 = 15)

2. Short answer questions from unit VII, seven to be set and five to be attempted. (5x2 = 10)

3. Long-answer questions from unit II to VI. Five questions from each unit with internal choice to be set. (5x10 = 50)

UNIT-I Annotations and short answer questions.

UNIT-II **Poetry -**

Toru Dutt - 'Our Casurina Tree'

Tagore - Songs 1 & 103 from 'Gitanjali'

Sarojini Naidu - 'The Ecstasy', 'The Lotus'

UNIT-III Kamla Das - 'The old playhouse'

Gauri Deshpandey Or ' The female of the species

Jayant Mahapatra - 'Dawn at Puri'

K.N. Daruwala Or 'Death by Burial'

Shiv K. Kumar - 'Indian Women'

UNIT-IV **Prose -**

Nirad C.Choudhary - My Birth Place.

Dr. S. Radhakrishnan - The call of the suffering.

UNIT-V **Drama -**

Girish Karnad - Hayavadana

Or

Tendulkar - Silence ! The Court is in session.

UNIT-VI **Fiction -**

R.K. Narayan - Guide

UNIT-VII 1. Lyric, 2. Subjective poetry, 3. Couplet, 4. Fable, 5. Hymn, 6. Allegory, 7. Autobiography,

BOOK RECOMMENDED :

1. Indian Poetry in English, Ed. Hari Mohan prasad, Sterling Publication.
2. An Introduction to the study of English Literature, B. Prasad.
3. A Glossary of Literary Terms - M.H. Abrams.
4. Prose of To day - M.C. Millan.

PAPER - II

(A) AMERICAN LITERATURE

(Paper Code-0236)

All questions are compulsory.

Note : 1. Uint-I is compulsory. Two passages from each of the units II to V to be set and three to be attempted. (3x5 = 15)

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

2. Short answer questions from unit VII, seven to be set and five to be attempted. (5x2 = 10)

3. Long-answer questions from unit II to VI. (word limit for each answer is 300-400 words) internal choice to be set. (5x10 = 50)

UNIT-I Annotations and short answer question.

UNIT-II **Poetry -**

Wait whitman - O Captain ! My Captain, when the Lilacs Last in the Dooryard Bloomed.

Carl Sandberg - 'Who Am I ?', 'I am the People, The Mob'

UNIT-III Emily Dickinson - 'Hope is the thing with Feather' I Felt a funeral in My Brain'

E.E. Cummings - 'The Cambridge Ladies'
'As Freedom is a Breakfast food'

UNIT-IV **Prose -**

William Faulkner - Nobel Award Acceptence Speech

W. Carlos Williams - In the American Grain

Walt Whitman - Preface to "Leaves of Grass'

UNIT-V **Drama -**

Miller - All My Sons

Or

Eugene O'Neill - The Hairy Ape

UNIT-VI **Fiction -**

E. Hemingway - A Farewell to Arms

Or

W. Faulkner - The Sound and the Fury

UNIT-VII 1. Naturalism, 2. Realism, 3. Art for Art's sake, 4. Poetic-Drama, 5. Symbolism, 6. American Renaissance, 7. Existentialism.

BOOK RECOMMENDED :

1. American Literature, An Anthology, Ed. Fr. Egbert S. Oliver.
2. A Glossary of Literary Terms - M.H. Abrams.

PAPER - II

(B) 20TH CENTURY LITERATURE IN ENGLISH

(Paper Code-0237)

The paper will be taught as an optional paper to Paper-II(A) which is a paper on American Literature. The Principle focus will be to probe the students a general background and cultural history of this period and also to make them aware of the Literary trends of the twentieth century. The Paper will comprise six units and in all six quetions are to be attempted, one from each unit.

UNIT-I The following historical and literary topics will be included in this unit. Students are required to write short notes of not more than three hundred words on any two of the following topics. (10 Marks)

i. The Two world wars.

ii. The Russian Revolution.

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

iii) The Great Depression.
iv) The Vietnam war.
v) Freudian Thought
vi) Existentialism.
vii) Absurdism.
viii) Modernism and Post Modernism.
ix) New Development in fiction and Drama.

UNIT-II Ten objective type questions on the life History and major poetical works of the following poets of the twentieth century will be asked in this unit. (10 Marks)

i) W.B. Yeats (1865-1939)
ii) Siegfried Sasson (1886-1967)
iii) Rupert Brooke (1887-1915)
iv) T.S. Eliot (1888-1965)
v) Wilfred Owen (1893-1918)
vi) W.H. Auden (1907-1937)
vii) Louis Macneice (1907-1963)
viii) Stephen Spender (1909-)
ix) Dylan Thomas (1914-1953)
x) Philip Larkin (1922-1985)

UNIT-III

T.S. Eliot	-	'The Waste Land'	(15 marks)
	Or		
Wilfred Owen	-	'Disabled'	
Siegfried Sassoon	-	'Attack', 'Falling Asleep'	
Rupert Brooke	-	'The Hill'	
W.H. Auden	-	'Miss Gee'	

UNIT-IV

Joseph Conrad	-	'Heart of Darkness'	(15 marks)
	Or		
Chinua Achebe	-	'Things Fall Apart'	

UNIT-V (Non Fictional Prose)

Virginia Woolf	-	'The Death of the Moth'	(10 marks)
Graham Greene	-	'The Lost Childhood'	

UNIT-VI (Drama)

Bernard Shaw	-	'Pygmalion'	(15 marks)
	Or		
Samuel Beckett	-	'Waiting for Godot'	

- - - - - - - -

MATHEMATIS

There shall be three theory papers Two compulsory and one optional Each paper carrying 50 marks is divided into five units and each unit carry equal marks

PAPER - I Paper Code-0898)

ANALYSIS

REAL ANALYSIS

UNIT-I Series of arbitrary terms Convergence, divergence and Oscillation Abel s and Dirichlet s test Multiplication of series Double series
Partial derivation and differentiability of real-valued functions of two variables Schwarz and Young s theorem Implicit function theorem
Fourier series Fourier expansion of piecewise monotonic functions

UNIT-II Riemann integral Intergrability of continuous and monotonic functions The fundamental theorem of integral calculus Mean value theorems of integral calculus
Improper integrals and their convergence, Comparison tests Abel s and Dirichlet s tests Frullani s integral Integral as a function of a parameter Continuity, derivability and integrability of an integral of a function of a parameter

COMPLEX ANALYSIS

UNIT-III Complex numbers as ordered pairs Geometric representation of Complex numbers Stereographic projection
Continuity and differentiability of Complex functions Analytic functions Cauchy-Riemann equations Harmonic functions
Elementary functions Mapping by elementary functions
Mobius transformations Fixedpoints, Cross ratio Inverse points and critical mappings Conformal mappings

METRIC SPACES

UNIT-IV Definition and examples of metric spaces Neighbourhoods, Limit points, Interior points, Open and closed sets, Closure and interior Boundary points, Sub-space of a metric space Cauchy sequences, Completeness, Cantor s intersection theorem Contraction principle, Construction of real numbers as the completion of the incomplete metric space of rationals Real numbers as a complete ordered field

UNIT-V Dense subsets Baire Category theorem Separable, second countable and first countable spaces Continuous functions Extension theorem Uniform continuity, Isometry and homeomorphism Equivalent metrics Compactness, Sequential compactness Totally bounded spaces Finite intersection property Continuous functions and compact sets, Connectedness, Components, Continuous functions and connected sets

REFERENCES

1 T M Apostol, Mathematical Analysis, Narosa Publishing House, New Delhi, 1985
2 R R Goldberg, Real Analysis, Oxford & IBH publishing Co , New Delhi, 1970
3 S Lang, Undergraduate Analysis, Springer-Verlag, New York, 1983
4 D Somasundaram and B Choudhary, A First Coarse in Mathematical Analysis, Narosa Publishing House, New Delhi, 1997
5 Shanti Narayan, A Course of Mathematical Analysis, S Chand & Co New Delhi

6 P K Jain and S K Kaushik, An introduction to Real Analysis, S Chand & Co , New Delhi, 2000
7 R v Churchill & J W Brown, Complex Variables and Applications, 5*' Edition, McGraw-Hill, NewYork, 1990
8 MarkJ Ablowitz & A S Fokas, Complex Variables Introduction and Applications, Cambridge University Press, South Asian Edition, 1998
9 Shanti Narayan, Theory of Functions of a Complex Variable, S Chand & Co , New Delhi
10 E t Copson, Metric Spaces, Cambridge University Press, 1968
11 P K Jain and K Ahmad, Metric Spaces, Narosa Publishing House, New Delhi, 1996
12 G F Simmons, Inroductin to Topology and Modern Analysis, McGraw-Hill, 1963

PART - II Paper Code-0899)

ABSTRACT ALGEBRA

UNIT-I Group-Automorphisms, inner automorphism Automorphism groups and their computations, Conjugacy relation, Normaliser, Counting principle and the class equation of a finite group Center for Group of prime-order, Abelianizing of a group and its universal property Sylow s theorems, Sylow subgroup, Structure theorem for finite Abelian groups

UNIT-II Ring theory-Ring homomorphism Ideals and Quotient Rings Field of Quotients of an Integral Domain, Euclidean Rings, Polynomial Rings, Polynomials over the Rational Field The Eisenstien Criterion, Polynomial Rings over Commutative Rings, Unique factorization domain R unique factorisation domain implies so is R x1, x2 xn) Modules, Submodules, Quotient modules, Homomorphism and Isomorphism theorems

UNIT-III Definition and examples of vector spaces Subspaces Sum and direct sum of subspaces, Linear span Linear dependence, independence and their basic properties Basis Finite dimensional vector spaces Existence theoremfor bases Invariance of the number of elements of a basis set Dimension Existence of complementary subspace of a subspace of a finite dimensional vector space Dimension of sums of subspaces Quotient space and its dimension

UNIT-IV Linear transformations and their representation as matrices The Algebra of linear transformations The rank nullity theorem Change of basis Dual space Bidual space and natural isomorphism Adjoint of a linear transformation Eigenvalues and eigenvectors of a linear transformation Diagonalisation Annihilator of a subspace Bilinear, Quadratic and Hermitian forms

UNIT-V Inner Product Spaces-Cauchy-Schwarz inequality Orthogonal vectors Orthogonal Complements Orthonormal sets and bases Bessel s inequality for finite dimensional spaces Gram-Schmidt Orthogonalization process

REFERENCES

1 I N Herstein, Topics in Algebra, Wiley Eastern Ltd , New Delhi, 1975
2 N Jacobson, Basic Algebra, Vols I & II W H Freeman, 1980 also published by Hindustan Publishing Company)
3 Shanti Narayan, A Text Book of Modern Abstract Algebra, S Chand & Co New Delhi
4 K B Datta, Matrix and Linear Algebra, Prentice Hall of India Pvt Ltd , New Delhi, 2000
5 P B Bhattacharya, S K Jain and S R Nagpal, Basic Abstract Algebra 2'' Edition) Cambridge University Press, Indian Edition, 1997

6 K Hoffman and R Kunze, Linear Algebra, 2'' Editon, Prentice Hall Englewood Cliffs, New Jersey, 1971
7 S K Jain, A Gunawardena & P B Bhattacharya, Basic Linear Algebra with MATLAB Key College Publishing Springer-Verlag, 2001
8 S Kumaresan, Linear Algebra, A Geometric Approach, Prentice-Hall of India, 2000
9 Vivek Sahai and Vikas Bist, Algebra, Norosa Publishing House, 1997
10 I S Luther and I B S Passi, Algebra, Vol I-Groups, Vol II-Rings Narosa Publishing House Vol I-1996, Vol II-1999,
11 D S Malik, J N Mordeson, and M K Sen, Fundamentals of Abstract Algebra, McGraw-Hill International Edition, 1997

PAPER - III - OPTIONAL

I. PRINCIPLES OF COMPUTER SCIENCE Paper Code-0900

UNIT-I **Data Storage** - Storage of bits Main Memory Mass Storage Coding Information of Storage The Binary System Storing integers, storing fractions, communication errors
Data Manipulation - The Central Processing Unit The Stored-Program Concept Programme Execution Other Architectures Arithmetic/Logic Instructions Computer-Peripheral Communication

UNIT-II **Operating System and Networks** - The Evolutionof Operating System Operating System Architecture Coordinating the Machine s Activities Handling Competition Among Process Networks Networks Protocol
Software Engineering - The Software Engineering Discipline The Software Life Cycle Modularity Development Tools and Techniques Documentation Software Ownership and Liability

UNIT-III **Algorithms** - The Concept of an Algorithm, Algorithm Representation Algorithm Discovery Iterative Structures Recursive Structures Efficiency and Correctness Algorithms to be implemented in C++,
Programming Languages - Historical Perspective Traditional Programming Concepts, Program Units Language Implementation Parallel Computing Declarative Computing

UNIT-IV **Data Structures** - Arrays Lists Stacks Queues Trees Customised Data Types Object Oriented Programming
File Structure - Sequential Files Text Files Indexed Files Hashed Files The Role of The Operating System
Database Structure - General Issues The Layered Approach to Database Implementation The Relational Model Object-Oriented Database Maintaining Database Integrity E-R models

UNIT-V **Artifical Intelligence** - Some Philosophical Issues Image Analysis Reasoning, Control System Activities Using Heuristics Artificial Neural Networks Application of Artificial Intelligence
Theory of Computation - Turning Machines Computable functions A Non computable Function Complexity and its Measures Problem Classification

REFERENCES

1 J Glen Brookshear, Computer Science An Overview, Addition -Wesley
2 Stanley B Lippman, Josee Lojoie, C++ Primer 3rd Edition, Addison-Wesley

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

PAPER - III - OPTIONAL)

II) DISCRETE MATHEMATICS Paper Code-0901)

UNIT-I **Sets and Propositions** - Cardinality Mathematical Induction, Principle of Inclusion and exclusion

Computability and Formal Languages - Ordered Sets Languages Phrase Structure Grammars Types of Grammars and Languages Permutations Combinations and Discrete Probability

UNIT-II **Relations and Functions** - Binary Relations, Equivalence Relations and Partitions Partial Order Relations and Lattices Chains and Antichains Pigeon Hole Principle

Graphs and Planar Graphs - Basic Terminology Multigraphs Weighted Graphs Paths and Circuits Shortest Paths Eulerian Paths and Circuits Travelling Salesman Problem Planner Graphs

TREES

UNIT-III **Finite State Machines** - Equivalent Machines Finite State Machines as Language Recognizers Analysis of Algorithms - Time Complexity Complexity of Problems Discrete Numeric Functions and Generating Functions

UNIT-IV1 **Recurrence Relations and Recursive Algorithms** - Linear Recurrence Relations with Constant Coefficients Homogeneous Solutions Particular Solution Total Solution Solution by the Method of Generating Functions Brief review of Groups and Rings

UNIT-V **Boolean Algebras** - Lattices and Algebraic Structures Duality, Distributive and Complemented Lattices Boolean Lattices and Boolean Algebras Boolean Functions and Expressions Prepositional Calculus Design and Implementation of Digital Networks Switching Circuits

REFERENCES

C L Liu, Elements of Discrete Mathematics, Second Edition), McGraw Hill, International Edition, Computer Science Series, 1986

PAPER - III - OPTIONAL)

III) APPLICATION OF MATHEMATICS IN FINANCE AND INSURANCE

Paper Code-0902)

Application of Mathematics in Finance

UNIT-I **Financial Management** - An overview Nature and Scope of Financial Management Goals of Financial Management and main decisions of financial management Difference between risk, speculation and gambling

Time value of Money-Interest rate and discount rate Present value and future valuediscrete case as well as continuous compounding case Annuities and its kinds

UNIT-II Meaning of return Return as Internal Rate of Return IRR) Numerical Methods like Newton RaphsonMethod to calculate IRR Measurement of returns under uncertainty situations Meaning of risk Difference between risk and uncertainty Types of risks Measurement of risk Calculation of security and Portfolio Risk and Return-Markowitz Model Sharpe s Single Index Model Systematic Risk and Unsystematic Risk

UNIT-III Taylor series and Bond Valuation Calculation of Duration and Convexity of bonds Financial Derivaties - Futures Forward Swaps and Options Call and Put Option Call and Put Parity Theorem Pricing of contingent claims through Arbitrage and Arbitrage Theorem

Application of Mathematics in Insurance

UNIT-IV Insurance Fundamentals - Insurance defined Meaning of loss Chances of loss, peril, hazard, and proximate cause in insurance Costs and benefits of insurance to the society and branches of insurance-life insurance and various types of general insurance Insurable loss exposuresfeature of a loss that is ideal for insurance Life Insurance Mathematics - Construction of Mortality Tables Computation of Premium of Life Insurance for a fixed duration and for the whole life

UNIT-V Determination of claims for General Insurance - Using Poisson Distribution and Negative Binomial Distribution-the Polya Case

Determination of the amount of Claims in General Insurance - Compound Aggregate claim model and its properties, and claims of reinsurance Calculation of a compound claim density function F-recursive and approximate formulae for F

REFERENCES

1 Aswath Damodaran, Corporate Finance - Theory and Practice, John Wiley & Sons Inc

2 John C Hull, Options, Futures, and Other Derivatives, Prentice-Hall of Indian Private Limited

3 Sheldon M Ross, An Introduction to Mathematical Finance, Cambridge University Press

4 Mark S Dorfman, Introduction to Risk Management and Insurance, Prentice Hall, Englwood Cliffs, New Jersey

5 C D Daykin, T Pentikainen and M Pesonen, Practical Risk Theoryfor Actuaries, Chapman & Hall

PAPER - III - OPTIONAL)

Theory component will have maximum marks 30
Practical component will have maximum marks 20

IV) PROGRAMMING IN C AND NUMERICAL ANALYSIS Thoury & Practical)

Paper Code-0903)

UNIT-I Programmer s model of a computer Algorithms Flow Charts Data Types Arithmetic and input/output instructions Decisions control structures Decision statements Logical and Conditional operators Loop Case control structures Functions Recursions Preprocessors Arrays Puppetting of strings Structures Pointers File formatting

Numerical Analysis

UNIT-II Solution of Equations Bisection, Secant, Regula Falsi, Newton s Method, Roots of Polynomials Interpolation Lagrange and Hermite Interpolation, Divided Differences, Difference Schemes, Interpolation Formulasusing Differences Numerical Differentiation Numerical Quadrature Newton-Cote s Formulas Gauss Quadrature Formulas, Chebychev s Formulas

UNIT-III Linear Equations Direct Methods for Solving Systems of Linear Equations Guass Elimination, LU Decomposition, Cholesky Decomposition), Iterative Methods Jacobi, GaussSeidel, Relaxation Methods)

The Algebraic Eigenvalue problem Jacobi s Method, Givens Method, Householder s Method, Power Method, QR Method, Lanezos Method

UNIT-IV Ordinary Differential Equations Euler Method, Single-step Methods, Runge-Kutta s Method, Multi-step Methods, Milne-Simpson Method, Methods Based on Numerical

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)

Integration, Methods Based on Numerical Differentiation, Boundary Value Problems, Eigenvalue Problems

Approximation Different Types of Approximation, Least Square Polynomial Approximation, Polynomial Approximation using Orthogonal Polynomials, Approximation with Trigonometric Functions, Exponential Functions, Chebychev Polynomials, Rational Functions

Unit-V Monte Carlo Methods Random number generation, congruential generators, statistical tests of pseudo-random numbers

Random variate generation, inverse tranform method, composition method, acceptancerejection method, generation of exponential, normal variates, binomial and Poisson variates

Monte Carlo integration, hit or miss Monte Carlo integration, Monte Carlo integration for improper integrals, error analysis for Monte Carlo intergration

REFERENCES

1 Henry Mullish& Herbert L Cooper, Spirit of C An Introductionto Modern Programming, Jaico Publishers, Bombay

2 B W Kernighan and D M Ritchie The C Programming Language 2'd Edition, ANSI features', Prentice Hall, 1989

3 Peter A Darnel and Philip E Margolis, C A Software Engineering Approach, Narosa Publishing House, 1993

4 Robert C Hutehisonand Steven B Just, Programming using C Language, McGraw Hill, 1988

5 Les Hancock and Morris Krieger, The C Primer, McGraw Hill, 1988

6 V Rajaraman, Programming in C, Prentice Hall of India, 1994

7 Byron S Gottfried, Theory and Problems of Programming with C, tata McGraw-Hill Publishing Co Ltd , 1998

8 C E Froberg, Introduction to Numerical Analysis, Second Edition', Addison-Wesley, 1979

9 James B Scarborough, Numerical Mathematical Anasysis, Oxford and IBHPublishing Co Pvt Ltd 1966

10 Melvin J Maron, Numerical Analysis A Practical Approach, Macmillan publishing Co , Inc New York, 1982

11 M K Jain, S R K lyengar, R K Jain, Numerical Methods Problems and Solutions, New Age International P' Ltd , 1996

12 M K Jain, S R K lyengar, R K Jain, Numerical Methods for Scientific and Engineering Computation, New Age International P' Ltd , 1999

13 R Y Rubistein, Simulation and the Monte Carlo Methods, John Wiley, 1981

14 D J Yakowitz Computational Probability and Simulation, Addison-Wesley, 1977

PAPER - III - OPTIONAL'

IV' PRACTICAL

PROGRAMMING IN C AND NUMERICAL ANALYSIS

LIST OF PRACTICAL TO BE CONDUCTED

1 Write a program in C to find out the largest number of three integer numbers

2 Write a program in C to accept monthly salary from the user, find and display income tax with the help of following rules

PRINCIPAL
D.P. Vipra College
Bilaspur (C.G.)