चौधरी चरण सिंह विश्वविद्यालय, मेरठ

बी0 ए0
हिन्दी साहित्य पाठ्यक्रम
(वर्ष 2014–15 से प्रभावी)

प्रथम वर्ष

1 प्राचीन एवं मध्यकालीन काव्य
2 हिन्दी नाटक और रंगमंच

द्वितीय वर्ष

1 आधुनिक हिन्दी काव्य
2 हिन्दी कथा साहित्य

तृतीय वर्ष **नोट :– बी0ए0 तृतीय वर्ष का पाठ्यक्रम वर्ष 2013–2014 से प्रभावी होगा।**

1 अद्यतन हिन्दी एवं कौरवी लोक काव्य
2 हिन्दी निबन्ध तथा अन्य गद्य विधाएं

बी0 ए0
प्रयोजनमूलक हिन्दी पाठ्यक्रम
(वर्ष 2014–15 से प्रभावी)

प्रथम वर्ष

1 भारत सरकार की राजभाषा नीति
2 हिन्दी का प्रायोगिक व्याकरण और वार्तालाप
3 प्रायोगिक कार्य

द्वितीय वर्ष

1 हिन्दी में कार्यालयी और वाणिज्यिक पत्राचार
2 टिप्पणी एवं आलेखन
3 प्रायोगिक कार्य

तृतीय वर्ष **नोट :– बी0ए0 तृतीय वर्ष का पाठ्यक्रम वर्ष 2013–2014 से प्रभावी होगा।**

1 अनुवाद, दुभाषिया – प्रविधि, पारिभाषिक शब्दावली
2 संचार माध्यम
3 प्रायोगिक कार्य

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

बी0ए0 (प्रथम वर्ष) हिन्दी साहित्य पाठ्यक्रम
प्रथम प्रश्न पत्र
प्राचीन एवं मध्यकालीन काव्य

50 अंक

निर्धारित कवि– कबीर (30 साखी तथा 05 पद), जायसी (पद्मावत का एक खण्ड), सूरदास (20 पद), तुलसीदास (20 छन्द), बिहारी (30 दोहे), घनानन्द (20 छन्द), भूषण (20 छन्द)।

द्रुत पाठ – सरहपा, अब्दुर्रहमान, चन्दवरदाई, अमीर खुसरो, मीराबाई।

कबीरदास : साखी

गुरूदेव कौ अंग : सतगुरू की महिमा अनंत, गूंगा हूवा बावला, दीपक दीया तेल भरि, जाका गुरू भी अंधाला, नां गुर मिल्या न सिष भया, माया दीपक नर पतंग, सतगुरू हम सूं रीझ कर।

सुमिरण कौ अंग : कबीर कहता जात हूं, भगति भजन हरि नांव है, कबीर सूता क्या करै काहे न देखै जागि।

बिरह कौ अंग : चकवी बिछुटी रैणि की, बहुत दिनन की जोवती, यहु तन जारौं मसि करूं, हंसि हंसि कंत न पाइए, नैनां अंतर आव तूं, कबीर देखत दिन गया, कै बिरहनि कूं मींच दे, कबीर तन मन यौं जल्या, बिरह भुवंगम तन बसै, अषणियाँ झाँई पड़ी, बिरहनि ऊभी पंथ सिरि।

परचा कौ अंग : पारब्रह्म के तेज का, अंतरि कंवल प्रकासिया, पिंजर प्रेम प्रकासिया, पांणी ही तैं हिम भया, जब मैं था तब हरि नहीं, मानसरोवर सुभर जल, कबीर कंवल प्रकासिया।

रस कौ अंग : कबीर हरिरस यौं पिया, राम रसाइण प्रेम रस, कबीर भाठी कलाल की।

पद : संतो भाई आई ज्ञान की आंधी, जतन बिनु मिरगन खेत उजारे, रहना नहीं देश बिराना है, काहे री नलिनी तू कुम्हलानी, दुलहिनि गावहु मंगल चार।

जायसी पद्मावत का मानसरोदक खण्ड (सम्पूर्ण)

सूरदास

विनय : आजु हौं एक एक करि, अविगत गति कछु कहत न आवै, रै मन मूरख जनम गंवायौ, गोविन्द प्रीति सबनि की मानत, जा दिन मन पंछी उडि जैहैं, अपुनपौ आपुन ही बिसरयौ, प्रभु कौ देखौ एक सुभाई।

वात्सल्य : सोभित कर नवनीत लिये, खेलत मै को काको गुसैया, देखो भाई दधिसुत में दधि जात

श्रृंगार : बूझत स्याम कौन तू गोरी, निसिदिन बरसत नैन हमारे, अंखियां हरि दरसन की भूखी, मधुवन तुम कत रहत हरे, निरगुन कौन देस को बासी, ऊधौ अंखियां अति अनुरागी, आयो घोष बड़ो व्यापारी, मोहन मांग्यो अपनो रूप, ऊधौ मोहि ब्रज बिसरत नाही, अति मलीन वृषभान कुमारी, लरिकाई को प्रेम आलि कैसे करके छूटत।

तुलसीदास

विनयपत्रिका : ऐसी मूढता या मन की, ऐसो को उदार जग माही,
केसव कहि न जाइ का कहिये, हे हरि कस न हरहु भ्रम भारी, हरि तुम बहुत अनुग्रह कीन्हों, अब लौं नसानी अब न नसइहौं, माधव मोह–फाँस क्यों टूटै।

कवितावली : अवधेश के द्वारे सकारे गई, बर दंत की पंगति कुंद कली, कीर के कागर ज्यों नृप चीर, रावरे दोष न पायन को, पातभरी सहरी सकल सुत, पुर तें निकसी रघुबीर बधू, सीस जटा उर बाहु विसाल, बालधी बिसाल बिकराल।

दोहावली : एक भरोसो एक बल, जो घन बरसै समय चिर, चढत न चातक चित कबहुं, बध्यों बधित पर्‌यो पुन्य जल, बरसि परुष पाहन पयद्।

बिहारी : मेरी भवबाधा हरौ, नीकी दई अनाकनी, जमकरि मुंह तरहरि, या अनुरागी चित्त की, मोहनि मूरति स्याम की, तजि तीरथ हरि राधिका, चिरजीवौं जोरी जुरै, अजौ तर्‌यौना ही रह्‌यौ, स्वारथ सुकृतु न श्रम वृथा, नर की अरु नल नीर की, बढ़त बढ़त सम्पत्ति सलिल, बसै बुराई जासु तन।
छकि रसाल सौरभ सने, तिय तिरसौंहे मन किये, ज्यों ज्यों बढत विभावरी, जुवति जोन्ह में मिलि, जोग जुगति सिखए सबै, मंगलबिंदु सुरंग मुख, खेलन सिखए अलि भले, रससिंगार मंजनु किये, चमचमात चंचल नयन, अरुन बरन तरुनि चरन, दृग उरझत टूटत कुटुम, पिय के ध्यान गहि गही, कहत सबै बैंदी दिये, मंजुन करि खंजन नयनि, औरे ओप कनीनिकनि, कर मुंदरी की आरसी, मैं मिसहा सोयो समुझि, बतरस लालच लाल की, हेरि हिंडोरे गगन तें।

घनानंद : अति सूधो सनेह को मारग है, भोर तें साँझ लौं कानन ओर, झलकै अति सुंदर आनन गौर, हीन भये जल मीन अधीन, घन आनंद जीवन रूप सुजान, इस बांट परी सुधि रावरे भूलनि, पूरन प्रेम को मंत्र महा पन, पहिले अपनाय सुजान सनेह सों, घनआनंद जीवन मूल सुजान की, आसा–गुन बांधि कै भरोसो सिल धरि छाती, कंत रमै उर अंतर मैं, मरिबो बिसराम गनै वह तो, कारी कूर कोकिला कहाँ को बैर, एरे बीर पौन तेरा सबै ओर गौन, बैरी वियोग की हूकन जारत, पर काजहि देह को धारि फिरौ, एकै आस एकै विसवास प्रान गहे बास, रावरे रूपकी रीति अनूप, चोप चाह चावनि चकोर भयौ चाहत ही।

भूषण :– **शिवा बावनी 25 पद**
साजि चतुरंग बीर रंग में तुरंग चढ़ि, बाने फहराने घहराने घंटा गजन के, बद्दल न होंहिं दल दच्छिन घमंड माहिं, बाजि गजराज सिवराज सैन साजत ही, ऊँचे घोर मंदर के अंदर रहनवारी, उतरि पलँग ते न दियो है धरा पै पग, अंदर ते निकसी न मंदर को देख्यो द्वार, सोंधे को अधार किसमिस जिनको अहार, साहि सिरताज और सिपाहिन में पातसाह, किबले की ठौर बाप बादसाह साहजहाँ, हाथ तसबीह लिए प्राप्त उठै बन्दगी को, कैयक हजार जहाँ गुर्जबरदार ठाढ़े, सबन के ऊपर ही ठाढ़ो रहिबे के जोग, राना भो चमेली और बेला सब राजा भये, कूरम कमलकमधुज है कदम फूल,

देवल गिरावते फिरावते निसान अली, साँच को न मानै देवी देवता न जानै अरु, कुभकन्न असुर औतारी अवरंगजेब, छूटत कमान और तीर गोली बानन के, उतै पातसाह जू के गजन के ठट्ठ छूटे, जीत्यो सिवराज सलहेरि को समर सुनि।

प्रथम प्रश्न– (क) अनिवार्य दस वस्तुनिष्ठ/अतिलघूत्तरी प्रश्न।
(प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से) (10 X 1 = 10)
(ख) अनिवार्य पाँच लघूत्तरी प्रश्न। (प्रश्न पत्र के द्रुत पाठ के पाठ्यक्रम से) (5 X 2 = 10)
इकाई–1. कबीरदास, जायसी, सूरदास, तुलसीदास के निर्धारित काव्यांशों से सम्बन्धित व्याख्या। (2 X 4 = 8)
इकाई–2. बिहारी, भूषण, घनानंद के निर्धारित काव्यांशों से सम्बन्धित व्याख्या। (2 X 4 = 8)
इकाई–3. कबीर, जायसी, सूरदास, तुलसीदास पर आधारित आलोचनात्मक प्रश्न। (7 X 1 = 7)
इकाई–4. बिहारी, भूषण, घनानन्द पर आधारित आलोचनात्मक प्रश्न। (7 X 1 = 7)

सन्दर्भ/सहायक पुस्तकें – प्राचीन एवं मध्यकालीन काव्य

1– कबीर एक अनुशीलन – डॉ0 रामकुमार वर्मा
2– कबीर की विचारधारा – डॉ0 त्रिगुणायत–साहित्य निकेतन कानपुर
3– कबीर व्यक्तित्व एवं कृतित्व – चंद्रमोहन सिंह, ज्ञान लोक इलाहाबाद
4– कबीर साहित्य की परख – आचार्य परशुराम चतुर्वेदी– भारती भण्डार, इलाहाबाद
5– कबीर – हजारी प्रसाद द्विवेदी राजकमल, दिल्ली
6– कबीर – विजयेन्द्र स्नातक– राधा कृष्ण, दिल्ली
7– कबीर की भाषा – माताबदल जायसवाल–विश्वविद्यालय प्रकाशन वाराणसी
8– सूर साहित्य – हजारी प्रसाद द्विवेदी– विश्वविद्यालय प्रकाशन वाराणसी
9– सूरदास और उनका साहित्य – हरबंश लाल शर्मा– भारत प्रकाश मंदिर अलीगढ़
10– सूरदास और उनका काव्य – गोवर्द्धन लाल शुक्ल– ब्रज साहित्य मंडल, मथुरा
11– सूर की काव्य साधना – गोविन्द राम शर्मा– नेशनल पब्लिशिंग हाउस नई दिल्ली
12– सूर की काव्य कला – मनमोहन गौतम– एस चंद एण्ड संस दिल्ली
13– सूर सौरभ – मुंशी राम शर्मा– ग्रन्थम, कानपुर
14– महाकवि सूरदास – जय किशन प्रसाद खण्डेलवाल रवीन्द्र प्रकाशन, आगरा
15– त्रिवेणी – रामचन्द्र शुक्ल– नागरी प्रचारिणी सभा काशी
16– गोस्वामी तुलसीदास – रामचन्द्र शुक्ल– नागरी प्रचारिणी सभा, काशी
17– तुलसी मानस रत्नाकर – भाग्यवती सिंह– सरस्वती पुस्तक सदन माता कटरा आगरा
18– तुलसीदास और उनका काव्य – रामनरेश त्रिपाठी– राजपाल एण्ड संस दिल्ली
19– तुलसी दर्शन – बलदेव प्रसाद मिश्र हिन्दी साहित्य सम्मेलन प्रयाग
20– तुलसी रसायन – भगीरथ मिश्र– साहित्य भवन इलाहाबाद
21– तुलसी – उदयभानु सिंह– राधा कृष्ण प्रकाशन, दिल्ली
22– जायसी का पद्मावत : काव्य तथा दर्शन– गोविन्द त्रिगुणायत, साहित्य निकेतन, कानपुर
23– जायसी के पद्मावत का मूल्यांकन – जगदीश प्रसाद श्रीवास्तव, स्मृति प्रकाशन, इलाहाबाद
24– जायसी का काव्य– सरोजनी पाण्डेय– हिमालय पाकेट बुक्स, दिल्ली
25– हमारे कवि – राजेन्द्र सिंह
26– बिहारी की वाग्विभूति – विश्वनाथ प्रसाद मिश्र
27– बिहारी और उनका साहित्य – हरबंशलाल शर्मा

28– कवित्रयी– (बिहारी, देव, घनानंद) – गिरीश चन्द्र तिवारी पुस्तक प्रचार, दिल्ली
29– बिहारी और घनानंद – परमलाल गुप्त
30– बिहारी का काव्य : आनन्द मंगल –

काव्य शास्त्र–
01– अलंकार पारिजात : नरोत्तम स्वामी– लक्ष्मी नारायण अग्रवाल प्रकाशन आगरा
02– नूतन काव्य प्रकाश– डॉ0 उपेन्द्र त्रिपाठी– साहित्य रत्नालय, कानपुर
03– काव्य कौमुदी– डॉ0 बालकृष्ण गुप्त, साहित्य निकेतन कानपुर
04– अलंकार, रस, छन्द, परिचय– भारत भूषण त्यागी, लायल बुक डिपो, ग्वालियर
05– काव्य लोक गोपीनाथ शर्मा, किताब महल, इलाहाबाद
06– काव्य के रूप– गुलाब राय– आत्माराम एण्ड संस, दिल्ली

बी0ए0 (प्रथम वर्ष) हिन्दी साहित्य पाठ्यक्रम
द्वितीय प्रश्न पत्र
हिन्दी नाटक और रंगमंच

50 अंक

निर्धारित पाठ्यक्रम – (क) नाटक–ध्रुवस्वामिनी–जयशकंर प्रसाद, आधे–अधूरे – मोहन राकेश

(ख) एकांकी – औरंगजेब की आखिरी रात (डॉ0 राम कुमार वर्मा) , स्ट्राइक (भुवनेश्वर) भोर का तारा (जगदीश चन्द्र माथुर), नये मेहमान (उदयशकंर भट्ट), सूखी डाली (उपेन्द्र नाथ 'अश्क')

द्रुत पाठ – (क) भारतेन्दु हरिश्चन्द्र, हरिकृष्ण प्रेमी, लक्ष्मीनारायण मिश्र, धर्मवीर भारती।
(ख) हिन्दी रंगमंच का सामान्य परिचय

प्रथम प्रश्न

(क) अनिवार्य दस वस्तुनिष्ठ/अतिलघूत्तरीय प्रश्न। (प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से)	(10 x 1 = 10)
(ख) अनिवार्य पाँच लघूत्तरीय प्रश्न। (प्रश्न पत्र के द्रुत पाठ के पाठ्यक्रम से)	(5 x 2 = 10)
इकाई–1. नाटकों पर निर्धारित व्याख्याएँ।	(2 x 4 = 8)
इकाई–2. एकांकियों पर निर्धारित व्याख्याएँ।	(2 x 4 = 8)
इकाई–3. ध्रुवस्वामिनी एवं आधे–अधूरे से निर्धारित आलोचनात्मक प्रश्न।	(7 x 1 = 7)
इकाई–4. निर्धारित एकांकियों एवं एकांकीकारों से सम्बन्धित आलोचनात्मक प्रश्न	(7 x 1 = 7)

सन्दर्भ/सहायक पुस्तकें – हिन्दी नाटक और रंगमंच

01– हिन्दी नाटक : इतिहास के सोपान – गोविन्द चातक, तक्षशिला प्रकाशन, नई दिल्ली
02– हिन्दी नाटक : आजकल – जयदेव तनेजा, तक्षशिला प्रकाशन, नई दिल्ली
03– आधुनिक हिन्दी नाटक और रंगमंच – लक्ष्मी नारायण लाल, साहित्य भवन, इलाहाबाद
04– हिन्दी नाटक – बच्चन सिंह, राधाकृष्ण प्रकाशन, दिल्ली
05– आधुनिक हिन्दी नाट्यकारों के सिद्धान्त – निर्मला हेमन्त, राधाकृष्ण प्रकाशन, दिल्ली
06– प्रसाद के नाटक : सृजनात्मक धरातल और भाषिक चेतना – गोविन्द चातक, तक्षशिला प्रकाशन, नई दिल्ली
07– नाटककार जगदीश चंद्र माथुर – गोविन्द चातक, राधा कृष्ण प्रकाशन, दिल्ली
08– हिन्दी एकांकी की शिल्प विधि का विकास – सिद्धनाथ कुमार
09– प्रतिनिधि जयशंकर प्रसाद – (सं0) सत्येन्द्र तनेजा, राधा कृष्ण प्रकाशन, दिल्ली
10– हिन्दी एकांकी का रंगमंचीय अनुशीलन – भुवनेश्वर महतो, अन्नपूर्णा प्रकाशन, कानपुर
11– हिन्दी नाटक : मिथक एवं यथार्थ – रमेश गौतम
12– एकांकी और एकांकीकार – रामचरण महेन्द्र
13– हिन्दी नाटक – दशरथ ओझा
14– ध्रुवस्वामिनी – वस्तु एवं शिल्प – सुरेश नारायण
15– प्रसाद की नाट्यकला – सुजाता विष्ट

बी0 ए0 (द्वितीय वर्ष) हिन्दी साहित्य पाठ्यक्रम
प्रथम प्रश्न पत्र
आधुनिक हिन्दी काव्य

पूर्णांक : 50

निर्धारित कवि – मैथिलीशरण गुप्त– साकेत का अष्ट्म सर्ग
जयशंकर प्रसाद – बीती विभावरी जाग री, 'आँसू' के प्रारम्भिक पाँच छंद, अरूण यह मधुमय देश हमारा, पेशोला की प्रतिध्वनि।
सूर्यकान्त त्रिपाठी निराला – सरोज स्मृति, भिक्षुक।
सुमित्रानन्दन पन्त – नौका विहार, बादल, अल्मोड़े का बसन्त, द्रुत झरो जगत के जीर्ण पत्र, मौन निमंत्रण।
महादेवी वर्मा – मैं नीर भरी दुख की बदली, पंथ रहने दो अपरिचित, विरह का जल–जात जीवन, यह मंदिर का दीप, चिर सजग आँखें उनींदी।
रामधारी सिंह दिनकर – आलोक धन्वा, परम्परा, पाप, राजर्षि अभिनन्दन, विपथगा।

द्रुतपाठ – श्रीधर पाठक, माखनलाल चतुर्वेदी, बालकृष्ण शर्मा 'नवीन', सुभद्रा कुमारी चौहान।

प्रथम प्रश्न –
(क) अनिवार्य दस वस्तुनिष्ठ/अतिलघुत्तरीय प्रश्न। (प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से) (10X1 =10)
(ख) अनिवार्य पांच लघुत्तरीय प्रश्न। (प्रश्न पत्र के द्रुतपाठ के पाठ्यक्रम से) (5X2 =10)
इकाई –1. मैथिलीशरण गुप्त, जयशंकर प्रसाद तथा सूर्यकान्त त्रिपाठी निराला के निर्धारित काव्याशों से व्याख्याएँ। (2X4 =8)
इकाई –2. सुमित्रानन्दन पन्त, महादेवी वर्मा तथा रामधारी सिंह दिनकर के निर्धारित काव्यांशों से व्याख्याएँ। (2X4 =8)
इकाई –3. मैथिलीशरण गुप्त, जयशंकर प्रसाद तथा सूर्यकान्त त्रिपाठी निराला पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)
इकाई –4. सुमित्रानन्दन पन्त, महादेवी वर्मा तथा रामधारी सिंह दिनकर पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)

सन्दर्भ/उपयोगी ग्रन्थ–

01– आधुनिक कवियों की काव्य साधना– राजेन्द्र सिंह और गौड़– श्रीराम मेहरा एण्ड संस, आगरा
02– हिन्दी के आधुनिक प्रतिनिधि कवि – द्वारिका प्रसाद सक्सेना– विनोद पुस्तक मंदिर, आगरा
03– आधुनिक हिन्दी काव्य के नवरत्न– रमेश चन्द्र शर्मा– सरस्वती प्रकाशन, कानपुर
04– छायावादी कवियों की गीत दृष्टि– डॉ0 उपेन्द्र– युगवाणी प्रकाशन, कानपुर
05– प्रसाद का काव्य – प्रेम शंकर
06– प्रसाद की कला – गुलाबराय
07– प्रसाद की कविता – भोलानाथ तिवारी– साहित्य भवन, इलाहाबाद
08– प्रसाद– रामरतन भटनागर
09– प्रसाद– नन्द दुलारे बाजपेयी
10– पंत का काव्य– डॉ0 उपेन्द्र– हिमालय पाकेट बुक्स, दिल्ली
11– पंत जी का नूतन काव्य दर्शन– डॉ0 विश्वम्भर उपाध्याय
12– सुमित्रा नंदन पंत– डॉ0 नगेन्द्र– नेशनल पब्लिशिंग हाउस, दिल्ली
13– पंत का काव्य– प्रेमलता बाफना
14– सुमित्रानन्दन– शची रानी गुर्टू

15– कवियों में सौम्य पंत– बच्चन
16– पंत की काव्य साधना– रमेश चन्द्र शर्मा एवं क0ला0 अवस्थी साहित्य निकेतन, कानपुर
17– युग कवि निराला– राममूर्ति शर्मा, साहित्य निकेतन, कानपुर
18– युग कवि निराला– रजनीकांत लहरी उन्नाव
19– निराला की काव्य साधना– वीणा शर्मा
20– निराला का काव्य– डॉ0 नगेन्द्र
21– निराला का पुनर्मूल्यांकन– धनंजय वर्मा
22– निराला के साहित्यिक संस्कार– शिव कुमार दीक्षित, साहित्य रत्नालय, कानपुर
23– निराला– इन्द्रनाथ मदान
24– मैथिलीशरण गुप्त– आनंद प्रकाश दीक्षित
25– महादेवी : कवि एवं गद्यकार– गौतम
26– महादेवी की काव्य साधना– 'सुमन'
27– महादेवी– इन्द्रनाथ मदान
28– छायावाद और महादेवी– नंद कुमार राय
29– महादेवी की काव्य चेतना– राजेन्द्र मिश्र
30– पंत : कवि और काव्य– शारदालाल– तक्षशिला प्रकाशन, दिल्ली
31– यशोधरा का काव्य संदर्भ– बड़सूवाला, तक्षशिला प्रकाशन, दिल्ली
32– महादेवी का काव्य सौन्दर्य– राजपाल हुकुम चन्द्र
33– अपरा–निराला– भारती भंडार, इलाहाबाद
34– रश्मि लोक–दिनकर–हिन्दी बुक सेंटर, दिल्ली

बी0 ए0 (द्वितीय वर्ष) हिन्दी साहित्य पाठ्यक्रम
द्वितीय प्रश्न पत्र
हिन्दी कथा साहित्य

पूर्णांक : 50

निर्धारित पाठ्यक्रम– (क) उपन्यास– **चित्रलेखा** (**भगवतीचरण वर्मा**), **रागदरबारी** (**श्रीलाल शुक्ल**)

(ख) कहानी– कफन (**प्रेमचन्द**), गुण्डा (**जयशंकर प्रसाद**), यही सच है (**मन्नू भण्डारी**), चीफ की दावत, (**भीष्म साहनी**), मारे गये गुलफाम उर्फ तीसरी कसम (**फणीश्वर नाथ रेणु**), राजा निरवंसिया (**कमलेश्वर**) पिता (**ज्ञानरंजन**) पचीस चौका डेढ़ सौ (**ओमप्रकाश वाल्मीकि**)

द्रुत पाठ– शैलेष मटियानी, अमरकांत, सेवाराम यात्री, मृदुला गर्ग

प्रथम प्रश्न –

(क) अनिवार्य दस वस्तुनिष्ठ/अतिलघूत्तरीय प्रश्न। (प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से) (10X1 =10)

(ख) अनिवार्य पांच लघुत्तरीय प्रश्न। (प्रश्न पत्र के द्रुत पाठ के पाठ्यक्रम से) (5X2 =10)

इकाई –1. उपन्यासों की निर्धारित व्याख्याएँ। (2X4 =8)

इकाई –2. निर्धारित कहानियों से व्याख्याएँ। (2X4 =8)

इकाई –3. उपन्यासों पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)

इकाई –4. कहानियों पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)

सन्दर्भ/सहायक पुस्तकें–

01– हिन्दी उपन्यास की प्रवृत्तियाँ– शशि भूषण सिंहल
02– हिन्दी उपन्यास पहचान एवं परख– इन्द्रनाथ मदान
03– आधुनिक हिन्दी उपन्यास– भीष्म साहनी
04– हिन्दी उपन्यास एवं यथार्थवाद– त्रिभुवन सिंह– हिन्दी प्रचारक पुस्तकालय, वाराणसी
05– उपन्यास कला के तत्व– श्री नारायण अग्निहोत्री– हिमालय पाकेट बुक्स, दिल्ली
06– उपन्यास और लोकजीवन– रेल्फ फॉक्स पीपुल्स पब्लिशिंग हाउस, नई दिल्ली 12
07– उपन्यास : शिल्प और प्रवृत्तियाँ– डॉ0 सुरेश सिन्हा
08– हिन्दी उपन्यास– डॉ0 सुषमा धवन
09– हिन्दी उपन्यास का उद्भव और विकास– डॉ0 प्रताप नारायण टण्डन
10– हिन्दी उपन्यासों में चरित्र चित्रण का विकास– डॉ0 रणवीर राणा
11– कहानी कला : सिद्धान्त और विकास– डॉ0 सुरेश चन्द्र शुक्ल– हिमालय पाकेट बुक्स, दिल्ली
12– आज की हिन्दी कहानी– डॉ0 धनंजय, अभिव्यक्ति प्रकाशन, इलाहाबाद
13– कहानी का रचनाविधान– डॉ0 जगन्नाथ प्रसाद शर्मा– हिन्दी प्रचारक पुस्तकालय,वाराणसी
14– नयी कहानीः परिवेश एवं परिप्रेक्ष्य– डॉ0 रामकली सराफ विश्वविद्यालय प्रकाशन, वाराणसी
15– कुछ हिन्दी कहानियाँ : कुछ विचार– विश्वनाथ त्रिपाठी– राजकमल, नई दिल्ली
16– हिन्दी कहानी : प्रक्रिया और पाठ– सुरेन्द्र चौधरी, राधाकृष्ण, दिल्ली
17– हिन्दी कहानियों की शिल्प विधि का विकास– लक्ष्मीनारायण लाल– साहित्य भवन, इलाहाबाद

बी0 ए0 (तृतीय वर्ष) हिन्दी साहित्य पाठ्यक्रम
प्रथम प्रश्न पत्र
अद्यतन हिन्दी एवं कौरवी लोक काव्य

पूर्णांक : 50

निर्धारित कवि –

सच्चिदानन्द हीरानन्द वात्स्यायन "अज्ञेय"– नदी के द्वीप, दीप अकेला, उधार, साम्राज्ञी का नैवेद्य दान, कलगी बाजरे की।

शमशेर बहादुर सिंह– उषा, लौट आ ओ धार, पीली शाम, अमन का राग, मुक्तिबोध की मृत्यु पर गज़ल।

नागार्जुन– सिंदूर तिलकित भाल, अकाल के बाद, बादल को घिरते देखा।

भवानी प्रसाद मिश्र– गीत बेचता हूँ, सतपुड़ा के जंगल, कमल के फूल।

गजानन माधव मुक्तिबोध– ब्रहम्राक्षस।

चौधरी पृथ्वी सिंह बेधड़क– 'मानवता' भजन सं0 – 01, 10, 53, तथा गीत सं0 – 05।
कृष्ण चन्द्र शर्मा– लोकगीत : 'लोक जीवन के स्वर' के अध्याय 05 से 'राष्ट्रीय आन्दोलन' गीत सं0 – 02 तथा 'शिक्षा का महत्व' गीत सं0 – 04।

द्रुतपाठ – केदारनाथ अग्रवाल, शिवमंगल सिंह 'सुमन', दुष्यन्त कुमार, धर्मवीर भारती, नरेश मेहता।

प्रथम प्रश्न –

(क) अनिवार्य दस वस्तुनिष्ठ/अतिलघुत्तरीय प्रश्न। (प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से) (10X1 =10)
(ख) अनिवार्य पांच लघुत्तरीय प्रश्न। (प्रश्न पत्र के द्रुत पाठ के पाठ्यक्रम से) (5X2 =10)
इकाई –1. अज्ञेय, शमशेर बहादुर सिंह, नागार्जुन के निर्धारित काव्यांशों से व्याख्याएँ। (2X4 =8)
इकाई–2. भवानी प्रसाद मिश्र, मुक्तिबोध, कृष्ण चंद्र शर्मा, पृथ्वी सिंह बेधड़क के निर्धारित काव्यांशों से व्याख्याएँ। (2X4 =8)
इकाई–3. अज्ञेय, शमशेर बहादुर सिंह, नागार्जुन पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)
इकाई–4. भवानी प्रसाद मिश्र, मुक्तिबोध, कृष्ण चंद्र शर्मा, पृथ्वी सिंह बेधड़क पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)

अनुमोदित पुस्तकें – अद्यतन हिन्दी एवं कौरवी लोक काव्य

01– युग चारण दिनकर – सावित्री सिंह, राधा कृष्ण प्रकाशन, नई दिल्ली
02– दिनकर के काव्य में मानवतावादी प्रेम चेतना– मधुबाला, तक्षशिला प्रकाशन, नई दिल्ली
03– लोकप्रिय बच्चन – दीनानाथशरण, साहित्य निकेतन, कानपुर
04– बच्चन का परवर्ती काव्य– श्याम सुन्दर घोष, राजपाल, दिल्ली
05– कवि बच्चन – व्यक्ति एवं दर्शन– के0जी0 कदम, साहित्य भवन, इलाहाबाद
06– बच्चन एक मूल्यांकन– दीनानाथशरण, दरियापुर गोला, बाँकीपुर, पटना
07– अज्ञेय का रचना संसार– रामस्वरूप चतुर्वेदी
08– अज्ञेय और आधुनिक रचना की समस्या– रामस्वरूप चतुर्वेदी, नई दिल्ली
09– भवानी प्रसाद मिश्र की काव्य यात्रा– संतोष कुमार तिवारी
10– कविता यात्रा – रत्नाकर से रघुवीर सहाय– रामस्वरूप चतुर्वेदी, मैकमिलन
11– नया काव्य, नये मूल्य– ललित शुक्ल– मैकमिलन
12– नई कविता और अस्तित्ववाद– रामविलास शर्मा, नेशनल पब्लिशिंग हाउस, नई दिल्ली
13– शमशेर की कविता– नरेन्द्र वशिष्ठ, नई दिल्ली
14– नई कविता – स्वरूप और समस्याएं– जगदीश गुप्त
15– कविता के नये प्रतिमान– नामवर सिंह
16– नागार्जुन की काव्य यात्रा– रतन कुमार पाण्डेय, विश्वविद्यालय प्रकाशन, वाराणसी
17– नागार्जुन का काव्य– चन्द्र हाउस सिंह, राधाकृष्ण प्रकाशन, नई दिल्ली
18– अज्ञेय : विचार एवं कविता– राजेन्द्र मिश्र, तक्षशिला प्रकाशन, दिल्ली
19– आधुनिक हिन्दी कविता में बिम्ब विधान– केदारनाथ सिंह, राधाकृष्ण प्रकाशन, नई दिल्ली
20– समकालीन हिन्दी कविता– विश्वनाथ प्रसाद तिवारी, राधाकृष्ण प्रकाशन, नई दिल्ली
21– समकालीन हिन्दी साहित्यः विविध परिदृश्य–रामस्वरूप चतुर्वेदी, राधाकृष्ण प्रकाशन, नई दिल्ली
22– समकालीन हिन्दी कविता– ए0 अरविन्दाक्षन, राधाकृष्ण प्रकाशन, नई दिल्ली
23– पाश्चात्य साहित्य सिद्धान्त एवं विविधवाद– गायकवाड़, साहित्य रत्नालय, कानपुर
24– काव्य शास्त्र : विविध आयाम– मधुखराटे, विद्या प्रकाशन, कानपुर
25– पाश्चात्य काव्य शास्त्र– भगीरथ मिश्र, विश्वविद्यालय प्रकाशन, वाराणसी
26– सर्जना के क्षण–अज्ञेय– भारतीय साहित्य प्रकाशन, मेरठ
27– नागार्जुन की कविता– अजय तिवारी
28– लोक साहित्य विज्ञान : डॉ0 सत्येन्द्र : राजस्थानी ग्रन्थागार, जोधपुर।
29– लोक जीवन के स्वर : डॉ0 कृष्ण चन्द्र शर्मा – कुरू लोक संस्थान, मेरठ।
30– कौरवी लोक साहित्य : प्रो0 नवीन चन्द्र लोहनी – भावना प्रकाशन, नई दिल्ली

बी0 ए0 (तृतीय वर्ष) हिन्दी साहित्य पाठ्यक्रम
द्वितीय प्रश्न पत्र
हिन्दी निबन्ध तथा अन्य गद्य विधाएं

पूर्णांक : 50

निर्धारित पाठ्यक्रम–

क– निबन्ध– शिवशम्भु के चिट्ठे (**बालमुकुंद गुप्त**), कवियों की उर्मिला विषयक उदासीनता (**आचार्य महावीरप्रसाद द्विवेदी**), लज्जा और ग्लानि (**आचार्य रामचन्द्र शुक्ल**), कुटज (**आचार्य हजारीप्रसाद द्विवेदी**), छायावाद (**नंददुलारे वाजपेयी**), तुम चंदन हम पानी (**विद्यानिवास मिश्र**), सौन्दर्य की उपयोगिता (**रामविलास शर्मा**)।

ख– गद्य विधाएँ– भक्तिन (**महादेवी वर्मा**), सुधियाँ उस चन्दन वन की (**विष्णुकान्त शास्त्री**), अपोलो का रथ (**श्रीकांत वर्मा**), समन्वय और सह अस्तित्व (**विष्णु प्रभाकर**), अपनी–अपनी हैसियत (**हरिशंकर परसाई**)।

द्रुतपाठ – कुबेरनाथ राय, शरद जोशी, विवेकी राय, रघुवीर सहाय ।

प्रथम प्रश्न –

(क) अनिवार्य दस वस्तुनिष्ठ/अतिलघुत्तरीय प्रश्न। (प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम से) (10X1 =10)
(ख) अनिवार्य पांच लघुत्तरीय प्रश्न। (प्रश्न पत्र के द्रुत पाठ के पाठ्यक्रम से) (5X2 =10)
इकाई –1. निर्धारित निबन्धों की व्याख्याएँ। (2X4 =8)
इकाई –2. निर्धारित गद्य विधाओं की व्याख्याएँ। (2X4 =8)
इकाई –3. निर्धारित निबन्धों पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)
इकाई –4. निर्धारित गद्य विधाओं पर आधारित आलोचनात्मक प्रश्न। (7X1 =7)

सहायक पुस्तकें–

01– हिन्दी का गद्य साहित्य– रामचंद्र तिवारी, विश्वविद्यालय प्रकाशन, वाराणसी
02– हिन्दी के प्रतिनिधि निबन्धकार– द्वारिकाप्रसाद सक्सेना
03– हिन्दी निबंधकार– नलिन जयनाथ
04– हिन्दी निबन्ध के आधार स्तम्भ– डॉ0 हरिमोहन, तक्षशिला प्रकाशन, नई दिल्ली
05– प्रतिनिधि हिन्दी निबन्धकार– तक्षशिला प्रकाशन, नई दिल्ली
06– साहित्य में गद्य की नई विधायें– कैलाशचन्द्र भाटिया, तक्षशिला प्रकाशन, नई दिल्ली
07– हिन्दी रेखाचित्र– डॉ0 हरवंशलाल वर्मा, हिन्दी समिति उ0प्र0, लखनऊ
08– स्वातंत्र्योत्तर हिन्दी व्यंग्य निबंध एवं निबंधकार– डॉ0 बापूराव देसाई, चिंतन प्रकाशन, नौबस्ता, कानपुर
09– हिन्दी साहित्य में निबंध एवं निबंधकार– डॉ0 गंगा प्रसाद गुप्त
10– हिन्दी की हास्य व्यंग्य विधा का स्वरूप एवं विकास– इन्द्रनाथ मदान
11– हिन्दी के व्यक्तिक निबंध– रामचरण महेन्द्र
12– साहित्यिक विधायें : पुनर्विचार– हरिमोहन 17

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

बी0 ए0 (प्रथम वर्ष) प्रयोजनमूलक हिन्दी
प्रथम प्रश्न पत्र
भारत सरकार की राजभाषा नीति

पूर्णांक – 35

प्रथम प्रश्न –इस यूनिट में सभी 10 लघूत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न प्रथम प्रश्न पत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक

इकाई – (1.) हिन्दी का विकास एवं हिन्दी के राजभाषा संबंधी संवैधानिक प्रावधान। 5 अंक
इकाई – (2.) राजभाषा अधिनियम– 1963, संशोधित – 1967, परवर्ती नियम – 1976। 5 अंक
इकाई – (3.) राष्ट्रपति के आदेश, राजभाषा–संकल्प, त्रिभाषा फार्मूला, अखिल भारतीय परीक्षाओं का वैकल्पिक माध्यम। 5 अंक
इकाई – (4.) हिन्दी प्रशिक्षण और प्रोत्साहन। 5 अंक

द्वितीय प्रश्न पत्र
हिन्दी का प्रायोगिक व्याकरण और वार्तालाप

पूर्णांक – 35

प्रथम प्रश्न – इस यूनिट में सभी 10 लघूत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न द्वितीय प्रश्नपत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक
इकाई – (1.) हिन्दी भाषा की प्रकृति, अंग्रेजी की तुलना में हिन्दी वाक्य संरचना नियम। 5 अंक
इकाई – (2.) ध्वनि विज्ञान, वर्णमाला, उच्चारण, लय और स्वर विन्यास। 5 अंक
इकाई – (3.) हिन्दी व्याकरण – लिंग, वचन, क्रिया, विशेषण, उपसर्ग, प्रत्यय, परसर्ग। 5 अंक
इकाई – (4.) देवनागरी लिपि की वैज्ञानिकता, विभक्तियाँ, वर्तनी और विराम चिन्ह आदि का सही प्रयोग। 5 अंक

तृतीय प्रश्न पत्र
प्रायोगिक कार्य

पूर्णांक – 30

बी0 ए0 (द्वितीय वर्ष) प्रयोजनमूलक हिन्दी
प्रथम प्रश्नपत्र
हिन्दी में कार्यालयी और वाणिज्यिक पत्राचार

पूर्णांक – 35

प्रथम प्रश्न – इस यूनिट में सभी 10 लघुत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न प्रथम प्रश्नपत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक

इकाई – (1) पत्र की अवधारणा, स्वरूप और प्रकार। 5 अंक

इकाई – (2) कार्यालयी पत्राचार – मूलपत्र, पत्रोत्तर, अधिसूचना, आदेश, पृष्ठांकन, अन्तर्विभागीय टिप्पणी, मानक प्रालेख। 5 अंक

इकाई – (3) व्यावसायिक एवं वाणिज्यिक पत्राचार–निविदा सूचनाएँ, रिक्तियों की सूचनाएँ, कोटेशन, रपट, इनवाइस बिल, बैंकिंग कार्यवाही, शिकायत और समझौते, बीमा विषयक पत्र। 5 अंक

इकाई – (4) विज्ञापन एवं कॉपी लेखन की प्रस्तावना, गुण, क्षेत्र एवं सम्भावनाएँ। 5 अंक

द्वितीय प्रश्न पत्र
टिप्पणी एवं आलेखन

पूर्णांक – 35 अंक

प्रथम प्रश्न – इस यूनिट में सभी 10 लघुत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न द्वितीय प्रश्नपत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक

इकाई – (1) टिप्पणी लेखन : अवधारणा, स्वरूप, प्रकार, भाषा–शैली, विशेषताएँ। 5 अंक

इकाई – (2) आलेखन : अवधारणा, स्वरूप, प्रकार, भाषा–शैली, विशेषताएँ। 5 अंक

इकाई – (3) फाइल पद्धति, प्रकरण–निर्माण, सन्दर्भ–पत्रिकाएँ। 5 अंक

इकाई – (4) अभिलेख और पूरक पत्रों की पद्धति। 5 अंक

तृतीय प्रश्न पत्र
प्रायोगिक कार्य

पूर्णांक – 30 अंक

बी0 ए0 (तृतीय वर्ष) प्रयोजनमूलक हिन्दी
प्रथम प्रश्नपत्र
अनुवाद, दुभाषिया – प्रविधि, पारिभाषिक शब्दावली

पूर्णांक – 35

प्रथम प्रश्न –इस यूनिट में सभी 10 लघुत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न प्रथम प्रश्नपत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक

इकाई – (1) अनुवाद : अवधारणा, प्रक्रिया, प्रकार, राजभाषा–अधिनियम। 5 अंक

इकाई – (2) दुभाषिया–प्रविधि : अवधारणा एवं स्वरूप, आशु अनुवाद की विशेषताएँ एवं महत्व, दुभाषिये के गुण एवं महत्व। 5 अंक

इकाई – (3) परिभाषिक शब्दावली की अवधारणा एवं विकास–यात्रा, पारिभाषिक शब्दावली निर्माण प्रक्रिया के सिद्धान्त। 5 अंक

इकाई – (4) संक्षेपण एवं सम्पादन कलाए आशुलेखन : प्रक्रिया एवं प्रयोग। 5 अंक

द्वितीय प्रश्न पत्र
संचार माध्यम

पूर्णांक – 35

प्रथम प्रश्न – इस यूनिट में सभी 10 लघुत्तरीय प्रश्न अनिवार्य होंगे। ये प्रश्न द्वितीय प्रश्नपत्र के सम्पूर्ण पाठ्यक्रम को स्पर्श करते हुए बनाये जायेंगे। 15 अंक

इकाई – (1) संचार–माध्यम–पृष्ठभूमि अवधारणा, स्वरूप एवं क्षेत्र। 5 अंक

इकाई – (2) भारत में इलैक्ट्रॉनिक मीडिया का विकास – भारत में रेडियो टेजीविजन का नेटवर्क तथा इनके जनसंचार के रूप में प्रसारण के मूल सिद्धान्त। 5 अंक

इकाई – (3) भारत में प्रिंट मीडिया का विकास, प्रेस विज्ञप्ति की मुख्य विषय वस्तु, संक्षिप्तीकरण, पारिभाषिक शब्दावली, समीक्षा और सम्पादन। टेलीप्रिन्टर, टेलेक्स, टेलीकान्फ्रेंसिंग–कार्य–प्रणाली। 5 अंक

इकाई – (4) टंकण यन्त्र, प्रकार, कम्प्यूटर। संचार–माध्यम–लेखन–प्रविधि एवं प्रूफ–शोधन। रपट–लेखन कला, भाषा–शैली। 5 अंक

तृतीय प्रश्न पत्र
प्रायोगिक कार्य

पूर्णांक– 30

Appendix-I (1)

PHYSICAL EDUCATION
B.Sc/B.A-III YEAR
Management in Physical Education

Paper I

UNIT-1

Management: Meaning, Definition, Importance, aims & objectives and Principles of management.

Function of management: Planning, organizing, administering & evaluating.

Scheme of Organization: School, college & University.

Supervision: Meaning, Definition, and Principles of supervision.

Qualities of Physical Education supervisor.

UNIT-2

Evaluation: Meaning, Definition, need & Importance.

Leadership: Meaning, Definition, Qualities of a leader

Public relation: Definition, need, Importance, principles, Techniques .

Facilities & Equipments: care& maintenance.

Principles of purchasing equipments.

Qualification, qualities, and problems of physical education teacher.

UNIT-3

Teaching methods:- meaning, types and factors affecting it.
Teaching aids in Physical Education.

Class management:- meaning, types and factors affecting it.
Command & Formations:- meaning & types.

Organization and conduct of competition.
Tournaments (Fixture):- Knockout, League. Combination & challenge type.

SC

20/10/13

28/10/13

UNIT-4

Intramural & Extramural (their organization, importance, eligibility for participation, point system)
Classification of pupil, importance & methods.
Methods of promoting Physical education (Demonstration, exhibition)

Budget:- meaning, definition, preparation, principles of making budget.
Office management:- meaning & principles.

PHYSICAL EDUCATION
B. Sc/B.A-III YEAR
Kinesiology & Bio-mechanics in Physical Education

UNIT-1

Kinesiology:- definition, aim and objectives, need & importance

Axis and Plane

Proximal & distal attachments and action of the following muscles.
(pectrolis major, deltoid, biceps, triceps, rectus abdomens, Sartorius, gastronomies, quadriceps & hamstring of muscles)
Role of Kinesiology in physical education.

UNIT-2

Kinesiological fundamental movement
Levers & their application to human body.
Force and its application sports activities.
Motion: - Laws of motion and their application to sports activities.

UNIT-3

Meaning, need and scope of Biomechanics.
Definition and Brief explanation of the following terms and their application to human body:-

- **(a)** Axis and plane, centre and gravity, line of gravity
- **(b)** Mass and weight
- **(c)** Speed, Velocity, Acceleration and Momentum

UNIT-4

Definition, Types of motion (linear & angular), Relationship of linear & angular motion.
Newton's Laws of motion as applicable to linear & angular motion.
Force:- meaning, units of Force, effects of force, sources of force, moment of force.
Moment of Inertia
Levers

PHYSICAL EDUCATION
B.Sc/B.A-III YEAR
Introduction to Statistics & computer Application in Physical Education

Unit-I

1). Meaning of Statistics, Need and Importance of Statistics.
2). Frequency Tables, Meaning, Construction and uses.

Unit-II

1). Measures of Central Tendency: Meaning, Uses and Calculation from Frequency tables.
2). Graphical representation of Data: Meaning, Uses and Techniques.
3). Percentiles: Meaning, Uses and Calculations.

Unit-III

Introduction to Computers, Single users and Multiple users operating systems, concept of an active window, Icons, Buttons and Task bar, Creating Folders, Copying and Moving items, Deleting items, Creating Shot-cuts on desktops.
Ms Word and Ms-Excel, Word Processor, Formatting, Inserting, Creating, Bullets, Numbers, Spell Checks and Printing.

Unit-IV

Excels basics, Editing Cells Contents, Applications of Simple Formula, useful Functions.
Internet: Network, World Wide Web (www). Browsing, Websites, Hypertext, Transfer Protocol (http).

(5)

Physical Education as Elective/optional subject in undergraduate course in U.P Universities- ORDINANCES

Course: Physical Education shall be an optional/elective subject in undergraduate classes B.A., and B.Sc only.

Pattern for B.Sc : There shall be three theory papers and one practical of 50 marks each (4x 50) in first and second year of the course. Third year shall have three theory papers and one practical of 75 marks each (4x 75).

Pattern for B.A : There shall be three theory papers and one practical of 25 marks each (4x 25) in first and second year of the course. Third year shall have three theory papers of 35 marks each and one practical of 45 marks (4x 35=105+45=150).

Features:

1. The students who are taking this subject shall be medically fit to undergo vigorous physical activity apart from the minimum eligibility criteria. Physically handicapped students shall not be eligible for the admission.
2. Students-teacher ratio shall be 50:1
3. The teacher's minimum qualification to teach this subject shall be the same prescribed by UGC.
4. The teachers who are teaching this subject shall only be eligible to be appointed as an examiner both in theory and practical.
5. Provision for backpaper/improvement examination in this subject shall be as per the provisions laid down for optional subjects in B.A/B.Sc courses of U.P.Universities.
6. For the purposes of determining divisions at U.G level, the provisions laid down for B.A/B.Sc courses shall be followed.
7. Participation in Games at intermediate level is desirable for admission to this subject.

28/10/13

28/10/13

8. Separate board of studies shall be constituted for this course as this course is different from teacher education courses in Physical Education.

First Year B.Sc/B.A

Theory Papers	(150/75Marks)
Paper I: Foundations of Physical Education	50/25Marks
Paper II: History of Physical Education	50/25Marks
PaperIII: Anatomy&Physiology in Physical Education	50/25Marks

Practical: (50/25Marks)

(i) Athletics (Proficiency,Track events, Rules & regulations) 10/5Marks

(ii) Select any two games, one from each group of the following two groups (Proficiency, Rules & regulations) One game 20/10 X 2 = 40/20Marks

Group A
Basketball
Cricket
Football
Handball
Hockey
Kabaddi
Kho-Kho
Softball
Volleyball

Group B
Badminton
Gymnastics
Judo
Lawn Tennis
Swimming
Table Tennis
Wrestling

Weight Lifting
Yoga

Second Year B.Sc/B.A

Theory Papers	(150/75Marks)
Paper I: Health Education	50/25Marks
Paper II: Psychological basis in Physical Education	50/25Marks
PaperIII: Care of athletic injuries & Rehabilitation	50/25Marks

Practical: (50/25Marks)
(i) Athletics (Proficiency, Field Events, Rules & regulations)
10/5Marks
(ii) (Proficiency, Rules & regulations)
Select any two game, one from each group of the games given in the list under first year, other than the games selected in first year.
One game 20/10 X 2 = 40/20Marks

Third Year B.Sc/B.A

Theory Papers	(225/105Marks)
Paper I: Management in Physical Education	75/35Marks
Paper II: Introduction to statistics & Computers in Physical Education	75/35Marks
PaperIII: Kinesiology & Bio-mechanics in Physical Education	75/35Marks

Practical: (75/45Marks)
(i) Specialisation (Skills & Proficiency) 75/45Marks
(Select any one game from the games opted in first year or second year.)

28/11/13

28/11/13

चौधरी चरण सिंह विश्वविद्यालय, मेरठ

विश्वविद्यालय अनुदान आयोग के निर्देशानुसार पाठ्यचर्चा के आधार पर
नवीनीकृत

पाठ्यक्रम : संस्कृत

बी०ए०

(संस्थागत/व्यक्तिगत)

शैक्षणिक सत्र 2014-2015 एवं आगे के वर्षों के लिए

चौ०चरण सिंह विश्वविद्यालयस्य महाविद्यालयानां कृते संस्कृतस्नातकपाठ्यक्रमः

(THE COURSE OF SANSKRIT FOR GRADUATE)

अयं स्नातकपाठ्यक्रमस्त्रिवर्षीयो वर्तते। सर्वेषु वर्षेषु द्वे प्रश्नपत्रे भविष्यतः।

बी.ए.–प्रथमवर्षम्
(B.A.—First Year)

प्रथमप्रश्नपत्रम्
(First Paper)

संस्कृतकाव्यं काव्यशास्त्रञ्च
अङ्काः–50

Sanskritkavyam Kavyashastrancha

प्रथमो वर्गः (I Unit)

महाकविकालिदासकृतं - **कुमारसम्भवम्**–पञ्चमसर्गः
(हिन्दीभाषया व्याख्यात्मकमध्ययनम्)

द्वितीयो वर्गः (II Unit)

महाकविकालिदासकृत - **रघुवंशः** - प्रथम सर्गः
(हिन्दीभाषया व्याख्यात्मक मध्ययनम्)

तृतीयो वर्गः (III Unit)

उभयोर्ग्रन्थयोः समीक्षात्मकमध्ययनम्

चतुर्थो वर्गः (IV Unit)

साहित्यदर्पणः -आचार्यः विश्वनाथः
(व्याख्यात्मकसमीक्षात्मकप्रश्नाः)
(काव्यलक्षणम्, काव्यप्रयोजनम्, नाटकलक्षणम् , कथा, आख्यायिका च)

संस्तुत-ग्रन्थाः —

1. **कुमारसम्भवम्**-(पञ्चमसर्गः), कालिदासः, हिन्दीसंस्कृतटीकासहितम् डॉ. राजेश्वर शास्त्री मुसलगाँवकरः
2. **कुमारसम्भवम्**- कालिदासः, हिन्दीसंस्कृतटीकासहितम्—आचार्य शेषराज शर्मा रेग्मी
3. **रघुवंशः**–कालिदासः, हिन्दीसंस्कृतटीकासहितम्—आचार्य शेषराज शर्मा रेग्मी
4. **काव्यशोभा**–(साहित्यदर्पणात्सङ्ग्रहः) सम्पादकः—प्रो. बृजेशकुमारशुक्लः
5. **कुमारसम्भवम्**–(पञ्चमसर्गः)—कालिदासः—डॉ. शिवबालक द्विवेदी
6. **साहित्यदर्पणः**–विश्वनाथः—चौखम्बा, वाराणसी
7. **कालिदास**–अपनी बात—प्रो. रेवा प्रसाद द्विवेदी

बी.ए.–प्रथमवर्षम्
(B.A.—First Year)

द्वितीयप्रश्नपत्रम्
(Second Paper)

व्याकरणम्-अनुवादः-संस्कृतसाहित्येतिहासश्च अङ्काः–50
Vyakaranam-Anuvadah-Sanskritsahityetihasashcha

प्रथमो वर्गः (I Unit)

लघुसिद्धान्तकौमुदी – सञ्ज्ञाऽच्सन्धिप्रकरणे
(संज्ञाप्रकरणे सूत्रव्याख्या, अ च्सन्धिप्रकरणे सन्धिविच्छेदः, सन्धियोजना च)

द्वितीयो वर्गः (II Unit)

लघुसिद्धान्तकौमुदी – हल्-विसर्ग-सन्धिप्रकरणे
(सन्धिविच्छेदः, सन्धियोजना च)

तृतीयो वर्गः (III Unit)

हिन्दीगद्यस्य संस्कृतभाषयाऽनुवादः
(विभक्तिकारकयोः अध्ययनम् अपेक्षितम्)

चतुर्थो वर्गः (IV Unit)

संस्कृतकाव्यसाहित्येतिहासः
वाल्मीकिः, व्यासः, अश्वघोषः, कालिदासः, भारविः, माघः, श्रीहर्षः, भट्टिः,
कुमारदासः, विल्हणः, रत्नाकरः, जयदेवश्च
एतेषां कवीनां व्यक्तित्वं कर्तृत्वञ्च

संस्तुत-ग्रन्थाः —

1. **लघुसिद्धान्तकौमुदी** – (सञ्ज्ञासन्धिप्रकरणे)-वरदराजः, हिन्दीटीकाकर्त्री-डॉ. प्रेमा अवस्थी
2. **लघुसिद्धान्तकौमुदी** – वरदराजः, (भैमीटीकासहिता) – डॉ. भीमसेनशास्त्री
3. **बृहद् अनुवादचन्द्रिका** – चक्रधर हंस नौटियालः
4. **अनुवादकला** – चारुदेव शास्त्री
5. **अनुवादचन्द्रिका** – डॉ. यदुनन्दनमिश्रः
6. **संस्कृतसाहित्य का इतिहास** – ए.बी. कीथ, अनुवादकः- डॉ मङ्गलदेवशास्त्री
7. **संस्कृतसाहित्य का समालोचनात्मक इतिहास** – रामविलास चौधरी
8. **प्राचीन भारतीय साहित्य** – (भाग-1 प्रथमखण्ड), विन्टरनिट्ज, अनुवादकः- रामचन्द्रपाण्डेयः
9. **लघुसिद्धान्तकौमुदी** – (सञ्ज्ञासन्धिप्रकरणम्)-डॉ. शिवबालक द्विवेदी
10. **संस्कृतरचनानुवाद** – कौमुदी-डॉ. शिवबालक द्विवेदी
11. **संस्कृतरचनाऽनुवाद** – प्रभा-डॉ. श्रीनिवास शास्त्री
12. **निबन्धपथप्रदर्शक** – वी.एस. आप्टे
13. **संस्कृत व्याकरण की उपक्रमणिका** – ईश्वरचन्द विद्यासागर

बी.ए.- द्वितीयवर्षम्
(B.A. Second Year)

प्रथमप्रश्नपत्रम्
(First Paper)

नाटकं नाट्यसाहित्येतिहासश्च
Natakam Natyashaityetihasashcha

अङ्काः-50

प्रथमो वर्गः (I Unit)

अभिज्ञानशाकुन्तलम् - मूलपाठस्य व्याख्यात्मकमध्ययनम्
(प्रथमतः चतुर्थ- अङ्कपर्यन्तम्)

द्वितीयो वर्गः (II Unit)

अभिज्ञानशाकुन्तलम् - मूलपाठस्य व्याख्यात्मकमध्ययनम्
(पञ्चमतः सप्तम-अङ्कपर्यन्तम्)

तृतीयो वर्गः (III Unit)

अभिज्ञानशाकुन्तले समीक्षात्मकप्रश्नाः सूक्तिव्याख्या च

चतुर्थो वर्गः (IV Unit)

नाट्यसाहित्येतिहासः
भासस्य नाटकानि, अभिज्ञानशाकुन्तलम्, मालविकाग्निमित्रम्, विक्रमोर्वशीयम्, मुद्राराक्षसम्, मृच्छकटिकम्, मालतीमाधवम्, प्रसन्नराघवम्, महावीरचरितञ्च
एतेषां ग्रन्थानां परिचयः कर्तृत्वञ्च

संस्तुत-ग्रन्थाः —

1. **कालिदासः-अभिज्ञानशाकुन्तलम्** - हिन्दीसंस्कृतव्याख्याकारः-डॉ. सुधाकरमालवीयः
2. **कालिदासः-अभिज्ञानशाकुन्तलम्** - हिन्दीसंस्कृतटीकाकारः-डॉ. गङ्गासागरारायः
3. **कालिदासः-अभिज्ञानशाकुन्तलम्** - डॉ. कपिल देव द्विवेदी
4. **कालिदासः-अभिज्ञानशाकुन्तलम्** - डॉ. निरुपण विद्यालंकार
5. **कालिदासः-अभिज्ञानशाकुन्तलम्** - डॉ. शिवबालक द्विवेदी
6. **महाकवि कालिदास** - डॉ. रमाशङ्करतिवारी
7. **Kalidasa** - Prof. K. Krishnamurti
8. **Kalidasa - Abhijnanashakuntalam** - Dr. M.R. Kale
9. **संस्कृतनाटक (उद्भव और विकास)**- डॉ. ए.वी. कीथ, अनुवादकः- उदयभानुसिंहः
10. **संस्कृत के प्रमुख नाटककार और उनकी कृतियाँ** - डॉ. गङ्गासागरारायः

बी.ए.- द्वितीयवर्षम्
(B.A. Second Year)

द्वितीयप्रश्नपत्रम्
(Second Paper)

गद्यकाव्यम्-व्याकरणम्-निबन्धः-गद्यसाहित्येतिहासश्च अङ्काः-50
Gadyakavyam-Vyakaranam-Nibandhah-Gadyashaityetihasashcha

प्रथमो वर्गः (I Unit)

शुकनासोपदेशः (व्याख्यात्मकमध्ययनम्)

द्वितीयो वर्गः (II Unit)

शब्द-सिद्धिः — राम, कवि, लता, मति, धेनु, फल, जगत् इत्येतेषां शब्दानामेव

धातु-रूप-स्मरणम् — लट्, लोट्, लङ्, विधिलिङ्, लृट् इत्येतेषु पञ्चलकारेषु निर्दिष्टनां धातुनामेव

भ्वादिगणे-'भू'धातुः, **अदादिगणे**-'अद्'धातुः, **जुहोत्यादिगणे**-'हु'धातुः, **दिवादिगणे**-'दिव्'धातुः, **स्वादिगणे**-'सु'धातुः, **तुदादिगणे**-'तुद्'धातुः, **रुधादिगणे**-'रुध्'धातुः, **तनादिगणे**-'तन्'धातुः, **क्रयादिगणे**-'क्री'धातुः, **चुरादिगणे**-'चुर्'धातुः

(धातुरूपसिद्धेः प्रश्नाः नैव भविष्यन्ति)

तृतीयो वर्गः (III Unit)

संस्कृतभाषया निबन्धलेखनम्

1. वेदाः, 2. कविः (वाल्मीकिः, व्यासः, कालिदासः, बाणः, दण्डी), 3. संस्कृतभाषा, 4. भारतीया संस्कृतिः

(एषु विषयेषु कञ्चिदधिकृत्य शतशब्देषु संक्षिप्तम्)

चतुर्थो वर्गः (IV Unit)

गद्यसाहित्येतिहासः

गद्यकारपरिचयः - दण्डी, बाणः, सुबन्धुः, धनपालः, अम्बिकादत्तव्यासः, हृषिकेशभट्टाचार्यः, पण्डिता क्षमाराव

संस्तुत-ग्रन्थाः —

1. **संस्कृतनिबन्धमकरन्द (1-2 भागौ)** - डॉ. विजयशङ्करपाण्डेयः, डॉ, कृष्णदत्तमिश्रः, सम्पादकः- डॉ. जमुनापाठकः
2. **संस्कृत सुकवि-समीक्षा** - डॉ. बलदेव उपाध्यायः
3. **संस्कृत कवि दर्शन** - डॉ. भोलाशङ्करव्यासः
4. **संस्कृतनाटक** - उद्भव और विकास-डॉ. ए.बी. कीथ, अनुवादकः- उदयभानुसिंहः
5. **संस्कृतनिबन्धमञ्जरी** - शिवप्रसादशर्मा
6. **निबन्धकुसुमाञ्जलिः** - जयमन्तमिश्रः
7. **संस्कृतनिबन्धचन्द्रिका** - ग्रन्थम्, कानपुर
8. **आदर्शसंस्कृतनिबन्धरत्नमाला** - विश्वनाथशास्त्री
9. **वरदराजः - लघुसिद्धान्तकौमुदी** - व्याख्याकारः- डॉ. शिवबालक द्विवेदी
10. **निबन्धादर्शः** - म.म. गिरिधर शर्मा चतुर्वेदी
11. **महाकवि बाणभट्ट और उनका साहित्यिक अवदान** - प्रो. अमरनाथ पाण्डेय
12. **शुकनासोपदेशः** (हिन्दी संस्कृत व्याख्या) डॉ० रामनाथ शर्मा
13. **संस्कृत साहित्य का इतिहास** - प. बलदेव उपाध्याय

बी.ए.–तृतीयवर्षम्
(B.A.—Third Year)

प्रथमप्रश्नपत्रम्
(First Paper)

वेद-उपनिषद्-आर्षकाव्यम्-अलङ्काराश्च
Veda-Upanishad-Arshkavyam-Alankarashcha

अङ्का:-50

प्रथमो वर्ग: (I Unit)

वेदसूक्तानि

अग्निसूक्तम्-ऋग्वेदे 1/1, अक्षसूक्तम् ऋग्वेदे 10/34, संज्ञानसूक्तम् ऋग्वेदे 10/191
(व्याख्यात्मकमध्ययनम्)

द्वितीयो वर्ग: (II Unit)

कठोपनिषद् (प्रथम अध्याय:)
(व्याख्यात्मकमध्ययनम्)

तृतीयो वर्ग: (III Unit)

महाभारते यक्षयुधिष्ठिर-संवाद:
(व्याख्यात्मकमध्ययनम्)

चतुर्थो वर्ग: (IV Unit)

काव्यदीपिका

अलङ्कारा: - अनुप्रास:, यमक:, श्लेष:, उपमा, रूपकम्,
उत्प्रेक्षा, सन्देह:, भ्रान्तिमान्, विभावना, विशेषोक्तिश्च

विशेष : बी.ए. तृतीय वर्ष के दोनों प्रश्नपत्र वस्तुनिष्ठपरक होंगे तथा लेखकों के व्यक्तित्व एवं कृतित्वपरक प्रश्न भी पूछे जायेंगे।

संस्तुत-ग्रन्था: —

1. **वेदामृतम्**- ग्रन्थम्, कानपुर
2. **कठोपनिषद्**-डॉ.आद्याप्रसार मिश्र, अक्षयवट प्रकाशन, इलाहाबाद
3. **कठोपनिषद्**-साहित्यभण्डार:, मेरठ
4. **कठोपनिषद्**-ज्ञानप्रकाशन, मेरठ
5. **यक्षयुधिष्ठिर संवाद**-साहित्यभण्डार: मेरठ
6. **यक्षयुधिष्ठिर संवाद**-ज्ञान प्रकाशन, मेरठ
7. **काव्यदीपिका** - कान्तिचन्द्र भट्टाचार्य:, साहित्यभण्डार:, मेरठ
8. **साहित्यदर्पण**:- आचार्य: विश्वनाथ: चौखम्भा, वाराणसी

बी.ए.–तृतीयवर्षम्
(B.A.—Third Year)

द्वितीयप्रश्नपत्रम्
(Second Paper)

गद्यकाव्यम्-नीतिकाव्यम्-व्याकरणम्-छन्दश्च
Gadyakavyam-Neetikavyam-Vyakaranam-Chandashcha

अङ्काः–50

प्रथमो वर्गः (I Unit)

शिवराजविजयः-अम्बिकादत्तव्यासः (व्याख्यात्मकमध्ययनम्) प्रथमो निःश्वासः

द्वितीयो वर्गः (II Unit)

भर्तृहरिकृत-नीतिशतकम्

(व्याख्यात्मकमध्ययनम्)

तृतीयो वर्गः (III Unit)

लघुसिद्धान्तकौमुदी-कृदन्तप्रकरणम्

तव्यत्, अनीयर्, अच्, यत्, ण्यत्, ण्वुल्, तृच्, अण्, क्त्वा, ल्यप्, शतृ, शानच

(धातुप्रत्ययोः योगेन शब्द निर्माणम्)

चतुर्थो वर्गः (IV Unit)

वृत्तरत्नाकरः

छन्दसां लक्षणम् : - आर्या, अनुष्टप्, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजातिः, वंशस्थः, द्रुतविलम्बितम्, वसन्ततिलका, मन्दाक्रान्ता, शिखरिणी, शार्दूलविक्रीडितम्, स्रग्धरा च

(उदाहरणानि पाठ्यपुस्तकेभ्यः यथा अभिज्ञानशाकुन्तलम्, नीतिशतकम् इत्यादि ग्रन्थेभ्यः)

विशेष : बी.ए. तृतीय वर्ष के दोनों प्रश्नपत्र वस्तुनिष्ठपरक होंगे तथा लेखकों के व्यक्तित्व एवं कृतित्वपरक प्रश्न भी पूछे जायेंगे।

संस्तुत-ग्रन्थाः —

1. **कृदन्तसूत्रावलिः** (लघुसिद्धान्तकौमुद्याः कृदन्तांशसङ्कलनम्)-डॉ. बृजेश कुमार शुक्लः
2. **वृत्तरत्नाकरः** - साहित्यभण्डारः, मेरठ
3. **भर्तृहरिकृत-नीतिशतकम्**—साहित्यभंडार, मेरठ
4. **अम्बिकादत्त व्यासः - शिवराजविजयः** (प्रथमो निःश्वासः) साहित्यभंडार, मेरठ
5. **रचनानुवादकौमुदी** (छन्दःपरिचय) डा.कपिलदेवद्विवेदी, विश्वविद्यालय प्रकाशन, वाराणसी

दूरभाष : PBX-2762021, 22, 24
फैक्स नं. : 0121-2764777

चौधरी चरण सिंह विश्वविद्यालय, मेरठ
Chaudhary Charan Singh University, Meerut

GO/18/16
17/07/19

पत्रांक : BoS (Colleges)/2019-20/

दिनांक : 15/07/2019

Proceedings of the Board of Studies of History

(for affiliated colleges of Ch. Charan Singh University, Meerut)

A meeting of the Board of Studies of History was held in the Department of History on 15/07/2019 in order to update the syllabus of **M.A. (Regular & Private) & B.A. (Regular & Private)** for the students of affiliated colleges of Ch. Charan Singh University, Meerut.

Accordingly the syllabus has been revised and updated so as to generate competitive skill and research aptitude among the students. The committee unanimously approves the syllabus of **M.A. (Regular & Private) & B.A. (Regular & Private)** enclosed herewith to be presented before the academic council for approval.

This syllabus will be effective from the academic session 2019-2020 onwards.

(Prof. K.K. Sharma)
(Retd.), Dept. of History
C.C.S. Univ., Meerut
(Subject Expert)

(Prof. Prabhat Kumar)
Dept. of History
G.K. University, Haridwar
(Special Invitee)

(Prof. Yogendra Singh) 15/7/19
Dean, Faculty of Arts
C.C.S. Univ., Meerut

(Prof. Aradhana)
Dept. of History
C.C.S. Uni., Campus, Meerut
(Subject Expert)

(Prof. Vighnesh Kumar) 15-07-19
Department of History
C.C.S. Uni., Campus, Meerut
(Subject Expert)

(Dr. Seema Chaudhary)
Department of History
J.V. Jain College, Saharanpur
(College Faculty)

(Dr. Bhukan Singh)
Dept. of History
S.D. College, ~~Muzaffarnagar~~ Ghaziabad
(College Faculty)

(Dr. Archana)
Dept. of History
Meerut College, Meerut
(College Faculty)

(Prof. A.V. Kaur)
Head, Dept. of History
C.C.S. Uni., Campus, Meerut
(Convener-I)

Hon'ble Vice-chancellor,

Kindly approve the proceedings and issue orders to put up it in the Academic Council.

15/07/19

HEAD
Department of History
Ch. Charan Singh University
Meerut

20.7.19

Proposed syllabus for M.A. History (Semester System) Course for Affiliated Colleges[Regular] CCSU Campus, Meerut

M.A.I SEMESTER

COURSE 1 Historiography: Concepts, Methods, Approaches and Tools.

COURSE 2.History of Ancient India (From Earliest Times to Post Harappan settlement)

COURSE 3. History of Ancient India (From Vedic Age to Mauryan Kingdom)

COURSE 4 A History of Ancient India (From Shunga Dynasty to Rajput Era)

OR

.4th B Archaeology of Ancient Indian History

OR

4th C History of South India (From Sangam Age to Vijay Nagar Empire)

M.A.II SEMESTER

COURSE 5 Socio-Economic and Cultural History of Ancient India(From Earliest Times to 1200 A.D.)

COURSE 6 History Of Modern Europe (1789 - 1919).

COURSE 7. History Of Modern World (1920-1960)

COURSE 8 A Tourism in India)

OR

8th B Economic History of British India (1757-1950)

OR

8th C Women through Ages

M.A.III SEMESTER

COURSE 9 History of Medieval India (Till 1526 A.D.)	CG-3537
COURSE 10 History of Medieval India (1526-1707 A.D.)	CG-3538
COURSE 11 History of Modern India (1707-1885 A.D.)	CG-3539

COURSE 12 Viva Voce/

Power Point Presantation/Viva Voce/Seminars related to above themes will be discussed in Academic review .

M.A.IV SEMESTER

COURSE 13 History of Modern India (1885-1950 A.D.)

COURSE 14 Research Methodology.

COURSE 15 Socio- Cultural History of Modern India(Till 1757to 1947 A.D.)

M.A. I Semester

COURSE 1 Historiography: Concepts, Methods, Approaches and Tools.

UNIT 1.**About History**

(A) What is History : Meaning and Scope of history

(B) Nature & purpose of History

(C) History : Science or Art

(D)Types of History

UNIT 2.**History and Other Disciplines**

(A)History and Humanities

(B)History and Literature

(C) History and Art and Culture

(D) History and Science

UNIT 3.**Tradition of Historical Writings**

(A)Greeco-Roman Historiography

(B)Ancient Indian Historiography

(C)Medieval Indian Historiography

(D)Modern Indian Historiography

Either UNIT 4. **Major Approaches and Theories With special reference to Indian Historiography.**

(A) Orientalist

(B)Imperialist

(C)Nationalist

(D)Marxist,Subaltern **OR** Schools of Thought-

Ranke

Tayanbee

Spanglar

Hegal

M.A.I SEMESTER

COURSE 2 History of Ancient India (From Earliest Times to Post Harappan settlement)

UNIT1. Sources and trends of Historiography

UNIT2.**Stone Age**

(A)Paleolithic Age

(B) Mesolithic Age

UNIT3.

(A)Neolithic Age

(B)Chalcolithic age

(C)Copper Hoards

UNIT4.**Bronze Age**

(A)Early Harappan Settlements

(B)Mature Harappan Settlements

(C)Post Harappan Settlements

M.A.I SEMESTER

COURSE 3rd History of Ancient India (From Vedic Age to Mauryan Kingdom)

UNIT 1.

(A)Literary Sources (i)Religious Sources (ii) Non Religious Sources

(B)Archeological Sources

UNIT 2.

(A)Vedic Period : State, Society and Culture

(B)Later Vedic Period Age of Epics

(C)Second Urbanization

UNIT 3.

(A) Jainism: Past and Present

(B) Buddhism: Past and Present

(C) Vaishnavism and Shaivism

UNIT 4.

(A)Formation of Mauryan Empire : Chandragupta Maurya and Ashoka

(B) Mauryan Administration extent of empire

(C)Ashoka's Dhamma & Decline of Mauryan Empire

M.A.I SEMESTER

COURSE 4A. History of Ancient India (From Shunga Dynasty to Rajput Era)

UNIT 1.

(A)Shunga Dynasty: Pushyamitra and his rule

(B) Kushanas : Kanishka and his time

(C)Satvahanas, Gautami Putra Shatkarni and his time

UNIT 2.

(A) Rise of Gupta Dynasty: & origin of Guptas

(B)Chandragupta I, Kacha & Samudragupta

(C)The Historicity of Ramgupta & Chandragupta Vikrmaditya

UNIT 3.

(A)Kumargupta I & Skandgupta

(B)Administration, Society , Economy and Cultural achievements

(C)Downfall of Gupta Empire, The Golden Era Debate

UNIT 4.

(A)Harsha and his time:Achievements &Administration

(B) Triangular contest ~~for Kanauj(Battles among Pratiharas- Palas- Rastrakutas)~~.

(C) Origin of Rajputas, ~~Achievements~~ & Administration

[D]Relation with South East Asia

G. P.
Chahmanas
Paramaras
Chandella
Gahadwalas

OR

COURSE 4thB.Archaeology of Ancient Indian History

Unit I: Archaeology of Ancient Indian History

(a) Archaeology : meaning & scope
(b) History of Archaeology of India
(c) Excavation Technique in Archaeology
(d) Importance of Archaeology in India

Unit II: Epigraphy of Ancient India

(a) History and importance of Inscriptions in India
(b) Inscriptions of Mauryas
(c) Inscriptions of Guptas

Unit III: Study of Numismatics in India

(a) Importance and history of Coins in Ancient India
(b) ~~Coins of Mauryas~~ Coinage in Ancient India.

Coins of Guptas

Unit IV: Art & Architecture in Ancient in India

Gandhara Art & Mathura Art
Dravid Architecture
Ajanta Alora Art
Ellora

OR

COURSE 4thC History of South India (From Sangam Age to Vijay Nagar Empire)

UNIT 1.

(A)Sources and Literature

(B)Tamil States of Sangam Age : Cheras, Cholas and Pandyas

(C) Society during Sangam Age

UNIT 2.

(A) Later Chola Dynasty : Expansion, Administration

(B)Socio-Economic Condition during Later Chola Rule

(C)Art and Culture in Later Chola Period

UNIT 3.

(A)Pallava Dynasty : Expansion, Administration

(B) Socio-Economic Condition during Pallava Rule

(C) Art and Culture in Pallava Period

UNIT 4.

(A)Vijay Nagar : Origin, Expansion and Administration

(B)Socio-Culture Condition in Vijay Nagar Empire

~~(C)Bahmani Rule.~~

M.A.II SEMESTER

COURSE 5Th Socio-Economic and Cultural History of Ancient India(Till 1200 A.D.)

UNIT 1.

(A)Structure of Society : Varna and Jati System

(B)Ashram, Purusharth, Sanskar

(C)Position of Shudras and Slavery

UNIT 2.

(A) Position of Women: Family, Marriage System, Property rights

(B)Education :Aims Ideas and Institutions

(C)The Shad-Darshanas (Samkhya, Yoga, Vaisheshik, Nyay, Mimansa and Vedant)

UNIT 3.

(A)Agricultural Production, Techniques and Economy

(B)The Role of Iron Technology and the appropriation of Surplus

(C) Ownership of Land, Patterns of Land holdings

UNIT 4.

(A)External Trade ; Routes, Ports and Market Centers,

(B) Internal Trade ; Routes, Urban Centers, Guild System

(C) Rise Of Feudalism : Its Nature in Indian Context

M.A.II SEMESTER

COURSE 6Th History Of Modern Europe (1789 - 1919).

UNIT 1.

(A)Europe in 1789 : Background

(B)French Revolution of 1789 : Causes, Events and Impact

(C)National Assembly, National Convention and Directory in France

UNIT 2.

(A)Emergence of Napoleon: Expansion, Consolidation and Downfall

(B)Vienna Congress(1815) and its impact on European Politics

(C)Revolutions of 1830 &1848 in France : impact on Europe

UNIT 3.

(A)Unification Of Italy : Role of Mazzini, Garibaldi and Cavour and Victor Emmanuel II

(B)Unification Of Germany : Bismarck

(C) System of Alliances

UNIT 4.

(A)Industrial Revolution-Scientific and technical advancement and its stages

(B)First World War: Causes and Consequences

(C)Paris Peace Treaty(1919) and Long Term Consequences

M.A.II SEMESTER

COURSE 7th History Of Modern World (1920 - 1960).

UNIT 1.

(A)League of Nations and Collective Security

(B)Fascism in Italy and Nazism in Germany

(C)Second World War and it's Impact

UNIT 2.

(A)Great Depression and New Deal in ~~America~~ U.S.A.

(B)Oil Diplomacy

(C)Arab Nationalism

UNIT 3.

(A)U.N.O. and world Politics after Second World War

(B) Cold War

(C) Non-Aligned Movement (NAM)

UNIT 4.

(A)India's Foreign Policy after Independence ~~in the~~ with special reference to Nehru Era

(B) India's Foreign Relations With USA, USSR and China

(C)India's Foreign relations with SAARC neighboring countries

M.A.II SEMESTER

COURSE 8thA Tourism in India

UNIT 1.

(A)Tourism : Concept, Definition and History,Tourism Prodects

(B)Guide : Principle of Guiding, Types of Guide

(C)Tourist : Definition, Types of Tourist

UNIT 2.

(A)Historical and religious tourism

(B)Adventure and cultural Tourism

(C)Medical ~~and trade~~ T urism organisations of travel Agencies.

UNIT 3.

(A)Indian Culture : Salient Features, Tradition and Customs

(B)Fairs in India : Nauchandi of Meerut, Ganga Fair of Garhmukteshwar

(C)Festivals in India : Dussahera, Diwali, Holi, Eid-ul-Fitar, Christmas, Independence Day, Republic Day Celebrations of Yoga

UNIT 4.

(A)Shakumbhari Devi, Piran Kalier, Ponta Sahib

(B)Sardhana church , Augharnath Temple, Hastinapur

(C)~~Kushinagar, Shravasti, Swarn Mandir~~

[D]Tourism and Economy

Hotel and Travel Management.

OR

COURSE 8thB Economic History of British India(1757-1950)

UNIT I Pre-British Economy-An Overview

(a) Rural Economy
(b) Urban Economy
(c) Trade & Financial Institutions
(d) ~~It's~~ disintegration-A debate

UNIT II Theory & Tools of British Economy

(a) Stages of Mercantilism & Capitalism
(b) Laissez-faire
(c) Drain of Wealth
(d) Debate over industrialization

UNIT III Changes in Rural Economy during British Period

(a) Land Revenue System
(b) Commercialization of Agriculture
(c) Changes in rural, social structure , Deindustrilization and its impact on Society
(d) Famine & Irrigation policy.

UNIT IV Changes in Urban Economy during British Period

(a) Rise of Urban Economic Centers
(b) Modern Industries-Textile, Iron & Steel
(c) Development of Railways and its effect
(d) Development of Communication-Post & Telegraphy

OR

COURSE 8th C COURSE 4th C- Women Through Ages

UNIT 1.Anceint India

(A) Position of woman in family

(B)rights of woman

(C)Role of woman in society and politics

UNIT 2.Medieval India

(A) Role of woman in society and politics

(B) rights of woman

(C)Women In Educational and Religious Fields

UNIT 3. Modern India

(A) Women and Economy

(B) Women in Socio-Cultural field

(C) Women in Revolutionary movement

UNIT 4.Contemparary India

(A) Women in Politics

(B) Attitude towards woman from Manu to Gandhi

(C)Legislation for woman

(D)Woman leadership

M.A.III SEMESTER

COURSE 9th History of Medieval India (Till 1526 A.D.)

UNIT 1.

(A)Sources of Sultanat Period

(B)Muslim Invadors : Mehmud Gajhni, Mohd.Gauri

(C) Slave Dynasty : Kutubuddin Aibek ,Iltutmish ,Razia Sultan ,Balban

UNIT 2.

(A)Imamuddin Rayhan Consolidation of Muslim Rule.

(BAmir Khusro

(C)~~Nasiruddin Khushrav Shah Sultan.~~ Broken Resistance of Muslim invaders.

~~(D)~~

UNIT 3.

(A)Jalaluddin Khilji

(B)Allauddin Khilji : Expansion, Market Control , Military Reforms

(C)Mohd. Bin Tughlaq and his various Policies

(D)Fecroj Tughlaq : Reforms & his religious policy

UNIT 4.

(A)Saiyyad Dynasty

(B) Lodhi Dynasty : Behlol Lodhi, Sikander Lodhi, Ibrahim Lodhi

(C)Kingship and Administration of Delhi Sultnat

(D)Socio-economic Condition, Sufism, Decline of Sultnat

M.A.III SEMESTER

COURSE 10th History of Medieval India (1526-1707 A.D.)

UNIT 1.

(A) Sources Mughal Period

(B Babar and Humayun

(C) Sher Shah Suri and his Administration

UNIT 2.

(A)Akbar : Campaigns and Conquests,Rani Durgavati,Chand Bibi

(B) Rajput and Religious Policy

(C)Administration under Akbar: Land Revenue and Mansabdari System

(D)Jahangir & Shahjahan

(E) Aurangzeb

UNIT 3.

(A)hEMU; Hemchandra Vikrmaditya

[B]Maharana Pratap

[C]Shivaji

[D]Gokla Jat7rise Of Bharatpur

[E] Satnamis

[F]Bundela

UNIT 4.

(A)Deccan and North West Frontier Policy under Mughal Rule

(B)Bhakti Movement

(C) Debate onDownfall of Mughal Empire : its causes and Impact

M.A.III SEMESTER

COURSE IIth History of Modern India (1707-1885 A.D.)

UNIT 1.

(A)Later Mughals

(B)Banda Bahadur

(C) Churaman,Surajmal

[D]Syeed Brothers& Hindustani ~~Patriyat~~ Partly

UNIT 2.

(A) Expansion and Consolidation of Colonial Powers : Portuguese, British and French, Conflict of western Powers

[B]Warren Hastings and his time : Regulating Act of 1773 and Other Reforms

(C)Lord Cornwallis : Permanent Settlement and Judicial Reforms

(D)Lord Wellesley and his Doctrine of Subsidiary Alliances

(E)William Bentinck : Social and Educational Reforms, Charter of 1833

UNIT 3.

(A)Lord Dalhousie : Doctrine of Lapse and his Reforms

(B)Lord Canning : Proclamation of 1858 and Act of 1861

(C)Lord Lyitton and his time

(D) Lord Ripon : Local self Government and Ilbert Bill Controversy

UNIT 4.

(A) Land Revenue Policy under British Rule

(B) Social, Educational and Religious Reforms of British Period

(C)The Great Uprising of 1857 : Its Causes, Nature & Impact

M.A.III SEMESTER

COURSE 12th-Power Point Presentation & Viva-Voce

M.A.IV SEMESTER

COURSE 13th : History of Modern India (1885-1950 A.D.)

UNIT 1.

(A)Rise of Nationalism in India

(B)Formation of INC, Programmes and progress of Moderates, Extremist and Revolutionaries

(C)Act of 1892

UNIT 2.

(A)Muslim League and Act of 1909

(B) Gandhian Era: Non-Cooperation, Civil Disobedience and Quit India Movement

(C)Act of 1919

UNIT 3.

(A)Tribal and Peasant Movement

(B)Dr. B.R.Ambedkar and the Upliftment of Depressed Classes

(C)Subhash Chandra Bose,and INA

UNIT 4.

(A)Act of 1935

(B)Partition and independence of India : Act of 1947

(C)Integration of Princely States in India

M.A.IV SEMESTER

COURSE I4th Research Methodology.

UNIT 1.

(A) what is Research, Qualitative and Quantitative Research

(B)Choice Of Subject, Synopsis

(C)Chapterization

(D) Note Taking

UNIT 2.

(A)Footnote , Reference

(B) Appendix

(C)Thesis Writing

(D)Bibliography and indexing

UNIT 3.

(A) Historical Evidence

(B)Evaluation Of Evidence

(C) Authenticity Of Sources

(D)Criticism of Sources

UNIT 4.

(A)Causation and Generalization

(B)Bias and Objectivity in History

(C)Interview

(D) Book Review

M.A.IV SEMESTER

COURSE I5th. Socio- Cultural History of Modern India(1757to 1947 A.D.)

UNIT 1.

(A)Structure of Society : Clasification of Society and Caste System

(B) ~~Slavery System~~

(C) ~~Position of Shudras~~

UNIT 2.

(A) Position of Women: Family, Marriage System, Property rights

(B)Education :Aims Ideas and Institutions

(C) Socio- Cultural Movements

UNIT 3.

(A)Agricultural Production& techniques

(B)Economic Reform in British Period

(C) Ownership of Land, Patterns of Land holdings

UNIT 4.

(A) Socio- Cultural Movements---Arya Samaj

(B) Braham Samaj

(C) Ramkrishna ~~Mishan~~ Mission

Reformed class Movements

Reader of Hindi Literature

Proposed syllabus for M.A. History (Semester System) Course for Colleges[Private] CCSU Campus, Meerut

M.A.Year One

COURSE 1 Historiography: Concepts, Methods, Approaches and Tools.

COURSE 2.History of Ancient India (From Earliest Times to Post Harappan settlement)

COURSE 3. History of Ancient India (From Vedic Age to Mauryan Kingdom)

COURSE 4 A History of Ancient India (From Shunga Dynasty to Rajput Era)

COURSE 5 Socio-Economic and Cultural History of Ancient India(From Earliest Times to 1200 A.D.)

COURSE 6 History Of Modern Europe (1789 - 1919).

COURSE 7.A History Of Modern World (1920-1960)

OR

7th B Archaeology of Ancient Indian History

OR

7th C History of South India (From Sangam Age to Vijay Nagar Empire)

M.A.Year Two

COURSE 8 Tourism in India)

COURSE 9 History of Medieval India (Till 1526 A.D.)

COURSE 10 History of Medieval India (1526-1707 A.D.)

COURSE 11 History of Modern India (1707-1885 A.D.)

COURSE 12 History of Modern India (1885-1950 A.D.)

COURSE 13 Research Methodology.

COURSE.14ASocio-CulturalHistory of Modern India(Till 1757to 1947 A.D.)

OR

14th B Economic History of British India (1757-1950)

OR

14th C Women through Ages

The changes in M.A. Regular Courses may be incorporated in Private B.A. M.A. Courses.

COURSE 15 **Power Point Presantation/Viva Voce/Seminars related to above themes will be discussed in Academic Reviews**

M.A.Year One

COURSE 1 Historiography: Concepts, Methods, Approaches and Tools.

UNIT 1.**About History**

(A) What is History : Meaning and Scope of history

(B) Nature & purpose of History

(C) History : Science or Art

(D)Types of History

UNIT 2.**History and Other Disciplines**

(A)History and Humanities

(B)History and Literature

(C) History and Art and Culture

(D) History and Science

UNIT 3.**Tradition of Historical Writings**

(A)Greeco-Roman Historiography

(B)Ancient Indian Historiography

(C)Medieval Indian Historiography

(D)Modern Indian Historiography

Either UNIT 4. **Major Approaches and Theories With special reference to Indian Historiography.**

(A) Orientalist

(B)Imperialist

(C)Nationalist

(D)Marxist,Subaltern **OR** Schools of Thought-

Ranke

Tayanbee

Spanglar

Hegal

M.A.Year One

COURSE 2 History of Ancient India (From Earliest Times to Post Harappan settlement)

UNIT1. Sources and trends of Historiography

UNIT2.**Stone Age**

(A)Paleolithic Age

(B) Mesolithic Age

UNIT3.

(A)Neolithic Age

(B)Chalcolithic age

(C)Copper Hoards

UNIT4.**Bronze Age**

(A)Early Harappan Settlements

(B)Mature Harappan Settlements

(C)Post Harappan Settlements

M.A.Year One

COURSE 3rd History of Ancient India (From Vedic Age to Mauryan Kingdom)

UNIT 1.

(A)Literary Sources (i)Religious Sources (ii) Non Religious Sources

(B)Archeological Sources

UNIT 2.

(A)Vedic Period : State, Society and Culture

(B)Later Vedic Period Age of Epics

(C)Second Urbanization

UNIT 3.

(A) Jainism: Past and Present

(B) Buddhism: Past and Present

(C) Vaishnavism and Shaivism

UNIT 4.

(A)Formation of Mauryan Empire : Chandragupta Maurya and Ashoka

(B) Mauryan Administration extent of empire

(C)Ashoka's Dhamma & Decline of Mauryan Empire

M.A.Year One

COURSE 4 History of Ancient India (From Shunga Dynasty to Rajput Era)

UNIT 1.

(A)Shunga Dynasty: Pushyamitra and his rule

(B) Kushanas : Kanishka and his time

(C)Satvahanas, Gautami Putra Shatkarni and his time

UNIT 2.

(A) Rise of Gupta Dynasty: & origin of Guptas

(B)Chandragupta I, Kacha & Samudragupta

(C)The Historicity of Ramgupta & Chandragupta Vikrmaditya

UNIT 3.

(A)Kumargupta I & Skandgupta

(B)Administration, Society , Economy and Cultural achievements

(C)Downfall of Gupta Empire, The Golden Era Debate

UNIT 4.

(A)Harsha and his time:Achievements &Administration

(B) Triangular contest for Kannauj(Battles among Pratiharas- Palas- Rastrakutas)

(C) Origin of Rajputas, Achievements & Administration

[D]Relation with South East Asia

M.A.Year One

COURSE 5Th Socio-Economic and Cultural History of Ancient India(Till 1200 A.D.)

UNIT 1.

(A)Structure of Society : Varna and Jati System

(B)Ashram, Purusharth, Sanskar

(C)Position of Shudras and Slavery

UNIT 2.

(A) Position of Women: Family, Marriage System, Property rights

(B)Education :Aims Ideas and Institutions

(C)The Shad-Darshanas (Samkhya, Yoga, Vaisheshik, Nyay, Mimansa and Vedant)

UNIT 3.

(A)Agricultural Production, Techniques and Economy

(B)The Role of Iron Technology and the appropriation of Surplus

(C) Ownership of Land, Patterns of Land holdings

UNIT 4.

(A)External Trade ; Routes, Ports and Market Centers,

(B) Internal Trade ; Routes, Urban Centers, Guild System

(C) Rise Of Feudalism : Its Nature in Indian Context

M.A.Year One

COURSE 6Th History Of Modern Europe (1789 - 1919).

UNIT 1.

(A)Europe in 1789 : Background

(B)French Revolution of 1789 : Causes, Events and Impact

(C)National Assembly, National Convention and Directory in France

UNIT 2.

(A)Emergence of Napoleon: Expansion, Consolidation and Downfall

(B)Vienna Congress(1815) and its impact on European Politics

(C)Revolution of 1830 &1848 in France : impact on Europe

UNIT 3.

(A)Unification Of Italy : Role of Mazzini, Garibaldi and Cavour and Victor Emmanuel II

(B)Unification Of Germany : Bismarck

(C) System of Alliance

UNIT 4.

(A)Industrial Revolution-Scientific and technical advancement and its stages

(B)First World War: Causes and Consequences

(C)Paris Peace Treaty(1919) and Long Term Consequences

M.A. Year One

COURSE 7thA History Of Modern World (1920 - 1960).

UNIT 1.

(A)League of Nations and Collective Security

(B)Fascism in Italy and Nazism in Germany

(C)Second World War and it's Impact

UNIT 2.

(A)Great Depression and New Deal in America

(B)Oil Diplomacy

(C)Arab Nationalism

UNIT 3.

(A)U.N.O. and world Politics after Second World War

(B) Cold War

(C) Non-Aligned Movement (NAM)

UNIT 4.

(A)India's Foreign Policy after Independence in the special reference of Nehru Era

(B) India's Foreign Relations With USA, USSR and China

(C)India's Foreign relations with neighboring countries

OR

COURSE 7thB.Archaeology of Ancient Indian History

Unit I: Archaeology of Ancient Indian History

(e) Archaeology : meaning & scope
(f) History of Archaeology of India
(g) Excavation Technique in Archaeology
(h) Importance of Archaeology in India

Unit II: Epigraphy of Ancient India

(d) History and importance of Inscriptions in India
(e) Inscriptions of Mauryas
(f) Inscriptions of Guptas

Unit III: Study of Numismatics in India

(c) Importance and history of Coins in Ancient India
(d) Coins of Mauryas

Coins of Guptas
Unit IV: Art & Architecture in Ancient in India
Gandhara Art & Mathura Art
Dravid Architecture
Ajanta Alora Art

OR

COURSE 7thC History of South India (From Sangam Age to Vijay Nagar Empire)

UNIT 1.

(A)Sources and Literature

(B)Tamil States of Sangam Age : Cheras, Cholas and Pandyas

(C) Society during Sangam Age

UNIT 2.

(A) Later Chola Dynasty : Expansion, Administration

(B)Socio-Economic Condition during Later Chola Rule

(C)Art and Culture in Later Chola Period

UNIT 3.

(A)Pallava Dynasty : Expansion, Administration

(B) Socio-Economic Condition during Pallava Rule

(C) Art and Culture in Pallava Period

UNIT 4.

(A)Vijay Nagar : Origin, Expansion and Administration

(B)Socio-Culture Condition in Vijay Nagar Empire

(C)Bahmani Rule

M.A.Year Two

COURSE 8th Tourism in India

UNIT 1.

(A)Tourism : Concept, Definition and History,Tourism Prodects

(B)Guide : Principle of Guiding, Types of Guide

(C)Tourist : Definition, Types of Tourist

UNIT 2.

(A)Historical and religious tourism

(B)Adventure and cultural Tourism

(C)Medical and trade Tourism

UNIT 3.

(A)Indian Culture : Salient Features, Tradition and Customs

(B)Fairs in India : Nauchandi of Meerut, Ganga Fair of Garhmukteshwar

(C)Festivals in India : Dussahera, Diwali, Holi, Eid-ul-Fitar, Christmas, Independence Day, Republic Day

UNIT 4.

(A)Shakumbhari Devi, Piran Kalier, Ponta Sahib

(B)Sardhana church , Augharnath Temple, Hastinapur

(C)Kushinagar, Shravasti, Swarn Mandir

[D]Tourism and Economy

M.A.Year Two

COURSE 9th History of Medieval India (Till 1526 A.D.)

UNIT 1.

(A)Sources of Sultanat Period

(B)Muslim Invadors : Mehmud Gajhni, Mohd.Gauri

(C) Slave Dynasty : Kutubuddin Aibek ,Iltutmish ,Razia Sultan ,Balban

UNIT 2.

(A)Imamuddin Rayhan

(BAmir Khusro

(C)Nasiruddin Khushrav Shah Sultan

(D)

UNIT 3.

(A)Jalaluddin Khilji

(B)Allauddin Khilji : Expansion, Market Control , Military Reforms

(C)Mohd. Bin Tughlaq and his various Policies

(D)Feeroj Tughlaq : Reforms & his religious policy

UNIT 4.

(A)Saiyyad Dynasty

(B) Lodhi Dynasty : Behlol Lodhi, Sikander Lodhi, Ibrahim Lodhi

(C)Kingship and Administration of Delhi Sultnat

(D)Socio-economic Condition, Sufism, Decline of Sultnat

M.A.Year Two

COURSE 10th History of Medieval India (1526-1707 A.D.)

UNIT 1.

(A) Sources Mughal Period

(B Babar and Humayun

(C) Sher Shah Suri and his Administration

UNIT 2.

(A)Akbar : Campaigns and Conquests,Rani Durgavati,Chand Bibi

(B) Rajput and Religious Policy

(C)Administration under Akbar: Land Revenue and Mansabdari System

(D)Jahangir & Shahjahan

(E) Aurangzeb

UNIT 3.

(A)hEMU; Hemchandra Vikrmaditya

[B]Maharana Pratap

[C]Shivaji

[D]Gokla Jat7rise Of Bharatpur

[E] Satnamis

[F]Bundela

UNIT 4.

(A)Deccan and North West Frontier Policy under Mughal Rule

(B)Bhakti Movement

(C) Debate onDownfall of Mughal Empire : its causes and Impact

M.A.Year Two

COURSE 11th History of Modern India (1707-1885 A.D.)

UNIT 1.

(A)Later Mughals

(B)Banda Bahadur

(C) Churaman,Surajmal

[D]Syeed Brothers& Hindustani Patriyat

UNIT 2.

(A) Expansion and Consolidation of Colonial Powers : Portuguese, British and French, Conflict of western Powers

[B]Warren Hastings and his time : Regulating Act of 1773 and Other Reforms

(C)Lord Cornwallis : Permanent Settlement and Judicial Reforms

(D)Lord Wellesley and his Doctrine of Subsidiary Alliances

(E)William Bentinck : Social and Educational Reforms, Charter of 1833

UNIT 3.

(A)Lord Dalhousie : Doctrine of Lapse and his Reforms

(B)Lord Canning : Proclamation of 1858 and Act of 1861

(C)Lord Lyitton and his time

(D) Lord Ripon : Local self Government and Ilbert Bill Controversy

UNIT 4.

(A) Land Revenue Policy under British Rule

(B) Social, Educational and Religious Reforms of British Period

(C)The Great Uprising of 1857 : Its Causes, Nature & Impact **OR**

M.A.Year Two

COURSE 12th : History of Modern India (1885-1950 A.D.)

UNIT 1.

(A)Rise of Nationalism in India

(B)Formation of INC, Programmes and progress of Moderates, Extremist and Revolutionaries

(C)Act of 1892

UNIT 2.

(A)Muslim League and Act of 1909

(B) Gandhian Era: Non-Cooperation, Civil Disobedience and Quit India Movement

(C)Act of 1919

UNIT 3.

(A)Tribal and Peasant Movement

(B)Dr. B.R.Ambedkar and the Upliftment of Depressed Classes

(C)Subhash Chandra Bose,and INA

UNIT 4.

(A)Act of 1935

(B)Partition and independence of India : Act of 1947

(C)Integration of Princely States in India

M.A.Year Two

COURSE 13th Research Methodology.

UNIT 1.

(A) what is Research, Qualitative and Quantitative Research

(B)Choice Of Subject, Synopsis

(C)Chapterization

(D) Note Taking

UNIT 2.

(A)Footnote , Reference

(B) Appendix

(C)Thesis Writing

(D)Bibliography and indexing

UNIT 3.

(A) Historical Evidence

(B)Evaluation Of Evidence

(C) Authenticity Of Sources

(D)Criticism of Sources

UNIT 4.

(A)Causation and Generalization

(B)Bias and Objectivity in History

(C)Interview

(D) Book Review

COURSE I4th.A_Socio- Cultural History of Modern India(1757to 1947 A.D.)

UNIT 1.

(A)Structure of Society : Clasification of Society and Caste System

(B) Slavery System

(C) Position of Shudras

UNIT 2.

(A) Position of Women: Family, Marriage System, Property rights

(B)Education :Aims Ideas and Institutions

(C) Socio- Cultural Movements

UNIT 3.

(A)Agricultural Production& techniques

(B)Economic Reform in British Period

(C) Ownership of Land, Patterns of Land holdings

UNIT 4.

[A]Socio- Cultural Movements—

(B) Arya Samaj

(C) Braham Samaj

(D) Ramkrishna Mishan

OR

COURSE 14thB Economic History of British India(1757-1950)

UNIT I Pre-British Economy-An Overview

(e) Rural Economy
(f) Urban Economy
(g) Trade & Financial Institutions
(h) It's disintegration-A debate

UNIT II Theory & Tools of British Economy

(e) Stages of Mercantilism & Capitalism
(f) Laissez-faire
(g) Drain of Wealth
(h) Debate over industrialization

UNIT III Changes in Rural Economy during British Period

(e) Land Revenue System
(f) Commercialization of Agriculture
(g) Changes in rural, social structure , Deindustrilization and its impact on Society
(h) Famine & Irrigation policy.

UNIT IV Changes in Urban Economy during British Period

(e) Rise of Urban Economic Centers
(f) Modern Industries-Textile, Iron & Steel
(g) Development of Railways and its effect
(h) Development of Communication-Post & Telegraphy

OR

COURSE 14th C COURSE 4th C- Women Through Ages

UNIT 1.Anceint India

(A) Position of woman in family

(B)rights of woman

(C)Role of woman in society and politics

UNIT 2.Medieval India

(A) Role of woman in society and politics

(B) rights of woman

(C)Women In Educational and Religious Fields

UNIT 3. Modern India

(A) Women and Economy

(B) Women in Socio-Cultural field

(C) Women in Revolutionary movement

UNIT 4.Contemparary India

(A) Women in Politics

(B) Attitude towards woman from Manu to Gandhi

(C)Legislation for woman

(D)Woman leadership

COURSE 15 **Power Point Presantation/Viva Voce/Seminars related to above themes will be discussed in Academic Reviews**

New Unified[Revised/Modified] syllabus– B.A. (Regular & Private)

for affiliated colleges of Ch. Charan Singh

University,Meerut.

New Unified[Modified] syllabus – B.A. I YEAR

PAPER-I POLITICAL HISTORY OF ANICIENT INDIA [B.C.600-A.D 606]

UNIT-I

1. Sources of Ancient Indian History.
2. 2. Political Condition of Northern Indian during 6th Cent. B.C.
   a. Sixteen Mahajanapadas
   b. Republics States.
3. Persian and Aleaxander's invasion on India and Its effects.
4. Rise of Magadhan Empire:
   a. Haryanka dynasty[bimbisara, Ajatashatru and his successors].
   b. Saisunga dynasty [Sisunaga, Kalasoka]. c. Nanda dynasty [Origin,Mahapadanaanda, successors and causes of downfall].

UNIT-II

1.,The Mauryas[-Sources,Origin Early life & conquests of Chandragupta Maurya, Bindusara, Asoka, conquests, Extent of Empire, Dhamma Policy, Successors & Causes of downfall].

2. The Sungas, the Kanvas the
3. Satavahanas.
4. King Kharvela of Kalinga.

UNIT-III

1. The Indo-Greeks.
2. The Indo-Sythians
3. the Indo-Parthians.
4. The Kushanas [Kuzul & Vima Kadphysis, Kanishka, his successors].

UNIT- IV

1. The Gupta [Chandragupta, I Samudragupta, Historicity of Ramagupta ,Chandragupta II, Kumaragupta, Skandagupta, Administation,Successors and causes of downfall].
2. Brief History of the following:

   a.The Vakatakas.

   b.The Maukharis

   c. The Later Guptas.

3. Huna Invasions of India.

PAPER-II POLITICAL HISTORY OF ANICIENT INDIA [A.D. 606 UPTO A.D.1206]

UNIT-I

1. Harsha and his contemporaries

   a. Shashanka b. Bhaskarvarman.

2. Yashovarmam of Kanauj.

3. Lalita Ditya Muktaped of Kashmir.

UNIT-II

1. Origin of Rajputs.

2. The Gujara Pratihars-Origin, Nagabhatta I, Vatsaraja, Nagabhatta II, Mihirbhoja, Mahendrapala I,

3. The Palas-Dharmapala, Devapala.

4. The Senas-Vijayasena, Lankshmanasena.

UNIT –III

1. The Chandellas-Yashovarman, Dhanga, Vidyadhara and Kirttivarman.

2. The Paramaras[Munja, Bhoja].

3. The Ghahamanas[Arnoraja, Vigraharaja IV, PrithvirajaIII].

4. The Gahadawalas[Govindachandra, Jayachandra]

UNIT – IV

1. The Kalachuris [Gangeyandeva,Lakshmikarna].

2. The Western Chaulukyas [Jayasimha, Siddharaja, Bhima II].

3. Muslim Invasions.

a. Arab Invasion on Sindh. b. Excursions of Mahmud of Ghazni. c. Invasions Mohammad Gauri. d. Causes of the Defeat of the Indians.

B.A. II YEAR

PAPER-I POLITICAL HISTORY OF MEDIEVAL INDIA

[1206-1526 A.D.]

UNIT 1:

1. Significant source material of medieval India: Archaeological literary and historical.
2. Historiography – Different Approaches.
3. Rise of Turks, causes if success of Arab invasion and its impact.

Unit 2: Slave Dynasty :

1. Aibak – Early career, achievements as a commander, difficulties, an assessment.
2. Iltutmish- Early life, problems, achievements, an estimate, the successors and the rule of forty.
3. Razia – Her state policy, causes of her downfall, an assessment.
4. Balban - Early life and accession, his problems, theory of kingship, achievements, an estimate.
5. Causes of downfall of slave dynasty.
6. Khaliji Dynasty :

   Jalaluddin Firoz Shaha Khaliji- Early life and career, significant events of his reign, foreign policy, estimate.

Alauddin Khaliji- Early career and accession, difficulties, theory of kingship, Hindu policy, Domestic policy, revolts and its remedies, Administrative system, Price control and Market regulations, Foreign policy, southern conquest, mongol invasion and its effects, an assessment.

Unit 3: Tughlaq Dynasty:

1. Ghiasuddin Tughlaq – Domestic policy, foreign policy, death of Ghiasuddin.
2. Mohammad-bin-Tughlaq- Domestic policy system of Mohd. Tuglaq, Revenue reforms, Administrative reforms, foreign policy, Deccan Policy revolts, significance of his reign.
3. Firoz Shah Tughlaq-Early life, accession, was Firoz an-usurper?. Domestic Policy. foreign policy, Administrative reforms, an estimate. Invasion of Timuir, causes and its effects. Causes of downfall of Tuglaq dynasty.
4. Lodhi Dunasty :

   Bahlol Lodhi – Main events of his reign, character, assessment.

   Sikander Lodhi – Main events of his life, foreign policy

Unit 4:

1. Nature of state, different theories of kingship.
2. Causes of downfall of Delhi Sultanate.
3. Central and provincial administration, army organization.
4. Development of literate and architecture.

Paper II: POLITICAL HISTORY OF MEDIEVAL

INDIA 1526-1740 A.D.

Unit 1: : Sources

1. Archaeological, literary and historical works.
2. Historiography - different approaches.
3. North India - Political scene.

Unit 2 : Babur

1. Invasion, conquests, personality.
2. Humayun - Struggle, exile, restoration.
3. Shershah Suri- Civil, military and revenue administration achievements.

Akbar—

1. Conquests, rajput policy, religious policy.
2. Deccan policy, revolts, consolidation of empire.
3. Revenue administration, mansubdari system, estimate of Akbar.
4. Indian Registence;Hamuchandra Vikramaditya,Maharana Pratap,Rani Durgavati.

Unit 3: Jahangir –

Accession, twelve ordinances, revolts, influence of Nurjahan, Deccan policy, character of Nurjahan, Estimate of Jahangir.

Shahjahan –

Accession, early revolts, N.W.F. policy, central Asian policy, War of succession.

Aurangzeb-

Earlier career, military exploits religious policy, Deccan policy, Rajput policy, Revolt and reaction, Causes of failure of Aurangzeb character and personality.

Unit 4 : Rise of Maratha Power under Shivaji, relations with Mugals, Sambhaji, - Rajaram,Tarabai

1. Sikh-Mughal Relations
2. Later Mughals and emergence of new states- Awadh and Haiderabad.
3. Invasion of Nadirshah and Ahmad Shah Abdali.
4. Causes of downfall of Mughal Empire.

Administration – Central, Provincial, military, administration, revenue administration.

1. Law and Justice.
2. Developlent of education and literature.
3. Architecture, Painting.

B.A. III YEAR

PAPER-I POLITICAL HISTORY OF INDIA (1740-1947)

UNIT I

1. Expansion and Consolidation of British rule with special reference to Bengal Mysore, Maratha
2. William Bentinck and his Policies
3. Dalhousie and his Policies

UNIT II

1. Economic Changes: Land Revenue Settlements: permanent settlements, ryotwari, mahalwari, preasantry and recuttent famines.
2. Revolution of 1857 Causes, Nature, Ideology, Programmer, Leadership, People's Participation, failure and impact.
3. British Relations with Princely States.

UNIT III

1. Policies of Lord Canning, Lytton, Ripon and Curzon
2. The Acts-1858, 1892, 1919 and 1935.
3. Emergence of Organized Nationalism-Formation of Indian National Congress and its Programme.
4. Moderates: Extremists, Swadeshi, Revolutionary movements.

UNIT IV

1. Gandhian Movement: Non-co-operation, civil Disobedience, Quit India.

2. Pre-Partition Politics-Simon Commission, Pona Pact,August Offer, Cripps mission, Cabinet Plan.
3. Communal Polities, Partition and Independence of India-Mountbatten plan. C. Rajgopala -charia plan. Transfer of Power.

Note: The second paper the student may of any one of out Paper-II (A) History of Indian Culture or Paper-II (B) History of modern world

PAPER II (A) **HISTORY OF INDIAN CULTURE**

UNIT I:

1. Indus valley Civilization-Sources of Information, Social life, Religious Life, Town Planning.
2. Vedic Period-Social, Religious conditions, Varana Ashrama system, Status of Women.
3. Jainism-causes for the Religious Upheaval, Teaching of Mahavira & Principal of Jainism.
4. Buddhism-Rise and Growth, Doctrines of Buddhism. Causes of Downfall.
5. Shavism,Vashanavism

UNIT II

1. Mauryan period-Art, Architectures.
2. Sung and Kushana period-Art and Architecture, Gandhara art, Mathura Art.
3. Gupta Period- Art , Architectures and Culture.
4. Post Gupta Temple Architecture, sculpture and painting.

UNIT III

1. Composition and Stratification of Society in Medieval India-Upper Class.
2. Bhakti Movement and Sufism.
3. Art , Architecture and Painting Medieval India.

UNIT IV

1. Social and Religious Reformation Movement-Arya Samaj, brahm Samaj, Theosophical Society, Ramakrishna Mission, Bahavi, Deoband, Ahamadiya and Aligarh Movements.
2. Development of Movement Education and press.
3. Colonial Architecture-The New Towns , Colonial forts, Architecture in 20th Century.

OR

PAPER II (B) HISTORY OF MODERN WORLD (1453-1950 A.D.)

UNIT I:

1. Renaissance- Emergence, Nature and Impact.
2. The Reformation and Counter Reformation – Causes, Nature reformation result
3. American war of Independence- Causes, Events result.
4. French Revolution of 1889-Causes, Event, Impact on the World

RECOMMENDED UNIFIED SYLLABUS OF MATHEMATICS
For B.A./B.Sc. Classes
(From 2011-12 onwards)

B.A./B.Sc. I

Paper I : ALGEBRA and TRIGONOMETRY M.M. : 33/65

Algebra

Unit 1. Sequence and its convergence (basic idea), Convergence of infinite series, Comparison test, ratio test, root test, Raabe's test, Logarithmic ratio test, Cauchy's condensation test, DeMorgan and Bertrand test and higher logarithmic ratio test. Alternating series, Leibnitz test, Absolute and conditional convergence, Congruence modulo *m* relation, Equivalence relations and partitions.

Unit 2. Definition of a group with examples and simple properties, Permutation groups, Subgroups, Centre and normalizer, Cyclic groups, Coset decomposition, Lagrange's theorem and its consequences.

Unit 3. Homomorphism and isomorphism, Cayley's theorem, Normal subgroups, Quotient group, Fundamental theorem of homomorphism, Conjugacy relation, Class equation, Direct product.

Unit 4. Introduction to rings, subrings, integral domains and fields, Characteristic of a ring, Homomorphism of rings, Ideals, Quotient rings.

Trigonometry

Unit 5. Complex functions and separation into real and imaginary parts, Exponential, direct and inverse trigonometric and hyperbolic functions, logarithmic function, Gregory's series, Summation of series.

Paper II : CALCULUS M.M. : 33/65

Differential Calculus

Unit 1. ε–δ definition of the limit of a function, Continuous functions and classification of discontinuities, Differentiability, Chain rule of differentiability, Rolle's theorem, First and second mean value theorems, Taylor's theorems with Lagrange's and Cauchy's forms of remainder, Successive differentiation and Leibnitz's theorem.

Unit 2. Expansion of functions (in Taylor's and Maclaurin's series), Indeterminate forms, Partial differentiation and Euler's theorem, Jacobians.

Unit 3. Maxima and Minima (for functions of two variables), Tangents and normals (polar form only), Curvature, Envelopes and evolutes.

Unit 4(*a*). Asymptotes, Tests for concavity and convexity, Points of inflexion, Multiple points, Tracing of curves in Cartesian and polar co-ordinates.

Integral Calculus

Unit 4(*b*). Reduction formulae, Beta and Gamma functions.

Unit 5. Qudrature, Rectification, Volumes and surfaces of solids of revolution, Pappus

theorem, Double and triple integrals, Change of order of integration, Dirichlet's and Liouville's integral formulae.

Paper III : GEOMETRY and VECTOR CALCULUS M.M. : 34/70

Geometry

Unit 1. General equation of second degree, Tracing of conics, System of conics, Confocal conics, Polar equation of a conic and its properties.

Unit 2. Three dimensional system of co-ordinates, Projection and direction cosines, Plane, Straight line.

Unit 3. Sphere, cone and cylinder.

Unit 4. Central conicoids, Reduction of general equation of second degree, Tangent plane and normal to a conicoid, Pole and polar, Conjugate diameters, Generating lines, Plane sections.

Vector Calculus

Unit 5. Vector differentiation and integration, Gradient, divergence and curl and their properties, Line integrals, Theorems of Gauss, Green and Stokes and problems based on these.

B.A./B.Sc. II

(From 2012-13 onwards)

Paper I : LINEAR ALGEBRA and MATRICES M.M. : 33/65

Linear Algebra

Unit 1. Vector spaces and their elementary properties, Subspaces, Linear dependence and independence, Basis and dimension, Direct sum, Quotient space.

Unit 2. Linear transformations and their algebra, Range and null space, Rank and nullity, Matrix representation of linear transformations, Change of basis.

Unit 3. Linear functionals, Dual space, Bi-dual space, Natural isomorphism, Annihilators, Bilinear and quadratic forms, Inner product spaces, Cauchy-Schwarz's inequality, Bessel's inequality and orthogonality.

Matrices

Unit 4. Symmetric and skew-symmetric matrices, Hermitian and skew-Hermitian matrices, Orthogonal and unitary matrices, Triangular and diagonal matrices, Rank of a matrix, Elementary transformations, Echelon and normal forms, Inverse of a matrix by elementary transformations.

Unit 5. Characteristic equation, Eigen values and eigen vectors of a matrix, Cayley-Hamilton's theorem and its use in finding inverse of a matrix, Application of matrices to solve a system of linear (both homogeneous and non-homogeneous) equations, Consistency and general solution, Diagonalization of square matrices with distinct eigen values, Quadratic forms.

Paper II : DIFFERENTIAL EQUATIONS and INTEGRAL TRANSFORMS

M.M. : 33/65

Differential Equations

Unit 1. Formation of a differential equation (D.E.), Degree, order and solution of a D.E., Equations of first order and first degree : Separation of variables method, Solution of homogeneous equations, linear equations and exact equations, Linear differential equations with constant coefficients, Homogeneous linear differential equations,

Unit 2. Differential equations of the first order but not of the first degree, Clairaut's equations and singular solutions, Orthogonal trajectories, Simultaneous linear differential equations with constant coefficients, Linear differential equations of the second order (including the method of variation of parameters),

Unit 3. Series solutions of second order differential equations, Legendre and Bessel functions (P_n and J_n only) and their properties.

Order, degree and formation of partial differential equations, Partial differential equations of the first order, Lagrange's equations, Charpit's general method, Linear partial differential equations with constant coefficients.

Unit 4(*i*). Partial differential equations of the second order, Monge's method.

Integral Transforms

Unit 4(*ii*). The concept of transform, Integral transforms and kernel, Linearity property of transforms, Laplace transform, Inverse Laplace transform, Convolution theorem, Applications of Laplace transform to solve ordinary differential equations.

Unit 5. Fourier transforms (finite and infinite), Fourier integral, Applications of Fourier transform to boundary value problems, Fourier series.

Paper III : MECHANICS

Dynamics M.M. : 34/70

Unit 1. Velocity and acceleration along radial and transverse directions, and along tangential and normal directions, Simple harmonic motion, Motion under other laws of forces, Earth attraction, Elastic strings.

Unit 2. Motion in resisting medium, Constrained motion (circular and cycloidal only).

Unit 3. Motion on smooth and rough plane curves, Rocket motion, Central orbits and Kepler's law, Motion of a particle in three dimensions.

Statics

Unit 4. Common catenary, Centre of gravity, Stable and unstable equilibrium, Virtual work.

Unit 5. Forces in three dimensions, Poinsot's central axis, Wrenches, Null line and null plane.

B.A./B.Sc. III

(From 2013-14 onwards)

Paper I : REAL ANALYSIS M.M. : 36/75

Unit 1. Axiomatic study of real numbers, Completeness property in R, Archimedean property, Countable and uncountable sets, Neighbourhood, Interior points, Limit points, Open and closed sets, Derived sets, Dense sets, Perfect sets, Bolzano-Weierstrass theorem.

Unit 2. Sequences of real numbers, Subsequences, Bounded and monotonic sequences, Convergent sequences, Cauchy's theorems on limit, Cauchy sequence, Cauchy's general principle of convergence, Uniform convergence of sequences and series of functions, Weierstrass M-test, Abel's and Dirichlet's tests.

Unit 3. Sequential continuity, Boundeness and intermediate value properties of continuous functions, Uniform continuity, Meaning of sign of derivative, Darboux theorem.

Limit and continuity of functions of two variables, Taylor's theorem for functions of two variables, Maxima and minima of functions of three variables, Lagrange's method of undetermined multipliers.

Unit 4. Riemann integral, Integrability of continuous and monotonic functions, Fundamental theorem of integral calculus, Mean value theorems of integral calculus, Improper integrals and their convergence, Comparison test, μ-test, Abel's test, Dirichlet's test, Integral as a function of a parameter and its differentiability and integrability.

Unit 5. Definition and examples of metric spaces, Neighbourhoods, Interior points, Limit points, Open and closed sets, Subspaces, Convergent and Cauchy sequences, Completeness, Cantor's intersection theorem.

Paper II : COMPLEX ANALYSIS M.M. : 36/75

Unit 1. Functions of a complex variable, Concepts of limit, continuity and differentiability of complex functions, Analytic functions, Cauchy-Riemann equations (Cartesian and polar form), Harmonic functions, Orthogonal system, Power series as an analytic function.

Unit 2. Elementary functions, Mapping by elementary functions, Linear and bilinear transformations, Fixed points, Cross ratio, Inverse points and critical points, Conformal transformations.

Unit 3. Complex Integration, Line integral, Cauchy's fundamental theorem, Cauchy's integral formula, Morera's theorem, Liouville theorem, Maximum Modulus theorem, Taylor and Laurent series.

Unit 4. Singularities and zeros of an analytic function, Rouche's theorem, Fundamental theorem of algebra, Analytic continuation.

Unit 5. Residue theorem and its applications to the evaluation of definite integrals, Argument principle.

Paper III : NUMERICAL ANALYSIS and PROGRAMMING IN *C*

Numerical Analysis M.M. : 36/75

Unit 1. Shift operator, Forward and backward difference operators and their relationships, Fundamental theorem of difference calculus, Interpolation, Newton-Gregory's forward and backward interpolation formulae.

Unit 2. Divided differences, Newton's divided difference formula, Lagrange's interpolation formula, Central differences, Formulae based on central differences : Gauss, Striling's, Bessel's and Everett's interpolation formulae, Numerical differentiation.

Unit 3. Numerical integration, General quadrature formula, Trapezoidal and Simpson's rules, Weddle's rule, Cote's formula, Numerical solution of first order differential equations : Euler's method, Picard's method, Runge-Kutta method and Milne's method, Numerical solution of linear, homogeneous and simultaneous difference equations, Generating function method.

Unit 4. Solution of transcendental and polynomial equations by iteration, bisection, Regula-Falsi and Newton-Raphson methods, Algebraic eigen value problems : Power method, Jacobi's method, Given's method, Householder's method and *Q-R* method, Approximation : Different types of approximations, Least square polynomial approximation, Polynomial approximation using orthogonal polynomials, Legendre approximation, Approximation with trigonometric functions, exponential functions, rational functions, Chebyshev polynomials.

Programming in C

Unit 5. Programmer's model of computer, Algorithms, Data type, Arithmetic and input/out instruction, Decisions, Control structures, Decision statements, Logical and

conditional operators, Loop case control structures, Functions, Recursion, Preprocessors, Arrays, Puppetting of strings Structures, Pointers, File formatting.

OPTIONAL PAPER

Any one of the following papers : M.M. : 42/75

Paper IV(*a*) : NUMBER THEORY and CRYPTOGRAPHY

Unit 1. Divisibility : gcd, lcm, prime numbers, fundamental theorem of arithmetic, perfect numbers, floor and ceiling functions, Congruence : properties, complete and reduced residue systems, Fermat's theorem, Euler functions, Chinese remaineder theorem.

Unit 2. Primality testing and factorization algorithms, Pseudo-primes, Fermat's pseudo-primes, Pollard's rho method for factorization.

Unit 3. Introduction to cryptography : Attacks, services and mechanisms, Security services, Conventional encryption - Classical techniques : Model, Stegnanography, Classical encryption technique, Modern techniques : DES, cryptanalysis, block cipher principles and design, Key distribution problem, Random number generation.

Unit 4. Hash functions, Public key cryptography, Diffie-Hellmann key exchange, Discrete logarithm-based crypto-systems, RSA crypto-system, Signature schemes, Digital signature standard (DSA), RSA signature schemes, Knapsack problem.

Unit 5. Elliptic curve cryptography : Introduction to elliptic curves, Group structure, Rational points on elliptic curves, Elliptic curve cryptography, Applications in cryptography and factorization, Known attacks.

Paper IV(*b*) : LINEAR PROGRAMMING

Unit 1. Linear programming problems, Statement and formation of general linear programming problems, Graphical method, Slack, and surplus variables, Standard and matrix forms of linear programming problem, Basic feasible solution.

Unit 2. Convex sets, Fundamental theorem of linear programming, Simplex method, Artificial variables, Big-*M* method, Two phase method.

Unit 3. Resolution of degeneracy, Revised simplex method, Sensitivity Analysis.

Unit 4. Duality in linear programming problems, Dual simplex method, Primal-dual method Integer programming.

Unit 5. Transportation problems, Assignment problems.

Paper IV(*c*) : DIFFERENTIAL GEOMETRY and TENSOR ANALYSIS

Differential Geometry

Unit 1. Local theory of curves- Space curves, Examples, Plane curves, tangent and normal and binormal, Osculating plane, normal plane and rectifying plane, Helices, Serret-Frenet apparatus, contact between curve and surfaces, tangent surfaces, involutes and evolutes of curves, Intrinsic equations, fundamental existence theorem for space curves, Local theory of surfaces- Parametric patches on surface curve of a surface, surfaces of revolutions, Helicoids, metric-first fundamental form and arc length.

Unit 2. Local theory of surfaces (Contd.), Direction coefficients, families of curves, intrinsic properties, geodesics, canonical geodesic equations, normal properties of geodesics, geodesics curvature, geodesics polars, Gauss-Bonnet theorem, Gaussian curvature, normal curvature, Meusneir's theorem, mean curvature, Gaussian curvature, umbilic points, lines of curvature, Rodrigue's formula, Euler's theorem.

Unit 3. The fundamental equation of surface theory – The equation of Gauss, the

equation of Weingarten, the Mainardi-Codazzi equation, Tensor algebra : Vector spaces, the dual spaces, tensor product of vector spaces, transformation formulae, contraction, special tensor, inner product, associated tensor.

Unit 4. Differential Manifold-examples, tangent vectors, connexions, covariant differentiation. Elements of general Riemannian geometry-Riemannian metric, the fundamental theorem of local Riemannian Geometry, Differential parameters, curvature tensor, Geodesics, geodesics curvature, geometrical interpretation of the curvature tensor and special Riemannian spaces.

Tensor Analysis

Unit 5. Contravariant and covariant vectors and tensors, Mixed tensors, Symmetric and skew-symmetric tensors, Algebra of tensors, Contraction and inner product, Quotient theorem, Reciprocal tensors, Christoffel's symbols, Covariant differentiation, Gradient, divergence and curl in tensor notation.

Paper IV(*d*) : PRINCIPLES OF COMPUTER SCIENCE

Unit 1. Data Storage - Storage of bits, main memory, mass storage, Information of storage, The binary system, Storing integers, stroring fractions, communication errors.

Data Manipulations - The central processing unit, The stored program concept, Programme execution, Other Architectures, arithmetic/logic instructions, Computer – peripheral communication.

Unit 2. Operating System and Network – The evolution of operating system, Operating system architecture, Coordinating the machine's activates, Handling competition among process, networks, network protocol.

Unit 3. Algorithms - The concept of an algorithm, Algorithm representation, Algorithm, Discovery, Iterative structure, Recursive structures, Efficiency and correctness, (algorithm to be implemented in C++).

Unit 4. Programming Languages - Historical perspective, Traditional programming Concepts, Program units, Languages implementation, Parallel computing, Declarative computing.

Unit 5. Software Engineering - The software engineering discipline, The software life cycle, Modularity, Development, Tools and techniques, Documentation, Software ownership and liability. **Data Structures** - Array, Lists, Stack, Queues, Trees, Customised data types, Object-oriented.

Paper IV(*e*) : DISCRETE MATHEMATICS

Unit 1. Propositional Logic - Proposition logic, basic logic, logical connectives, truth tables, tautologies, contradiction, normal forms (conjunctive and disjunctive), modus ponens and modus tollens, validity, predicate logic, universal and existential quantification.

Method of Proof - Mathematical induction, proof by implication, converse, inverse, contrapositive, negation, and contradiction, direct proof by using truth table, proof by counter example.

Unit 2. Relation - Definition, types of relation, composition of relations, domain and range of a relation, pictorial representation of relation, properties of relation, partial ordering relation.

Posets, Hasse Diagram and Lattices - Introduction, ordered set, Hasse diagram of partially ordered set, isomorphic ordered set, well ordered set, properties of lattices, and complemented lattices.

Boolean Algebra - Basic definitions, Sum of products and product of sums, Logic gates and Karnaugh maps.

Unit 3. Graphs - Simple graph, multi graph, graph terminology, representation of graphs, Bipartite, regular, planar and connected graphs, connected components in a graph, Euler graphs, Hamiltonian path and circuits, Graph colouring, chromatic number, isomorphism and homomorphism of graphs.

Tree - Definition, Rooted tree, properties of trees, binary search tree, tree traversal.

Unit 4. Combinatorics - Basics of counting, permutations, combinations, inclusion-exclusion, recurrence relations (n^{th} order recurrence relation with constant coefficients, Homogeneous recurrence relations, Inhomogeneous recurrence relations), generating function (closed form expression, properties of G.F., solution of recurrence relation using, G.F, solution of combinatorial problem using G.F.).

Unit 5. Finite Automata - Basic concepts of automation theory, Deterministic finite automation (DFA), transition function, transition table, Non deterministic finite automata (NDFA), Mealy and Moore machine, Minimization of finite automation.

Paper IV(*b*) : MATHEMATICAL STATISTICS

Probability Theory

Unit 1. Three definitions of probability (Mathematical, Empirical & axiomatic). Dependent, independent and compound events.

Addition and multiplication theorems of probability, conditional probability. Bionomial and multinomial theorems of probability, Baye's theorem, Mathematical expectation and its properties, Moment generating functions (m.g.f.) and cumulants.

Distributions

Unit 2. Discrete distributions – Binomial & Poisson distributions and their properties.

Continuous distributions – Distribution function, Probability density function (Pdf), Cauchy's distribution, rectangular distribution, exponential distribution, Beta, Gamma Normal distributions and their properties.

Fitting of the Curves by method of least square – Straight line, parabola and exponential curves.

Correlation and Regression

Unit 3. Bivariate population, Meaning of correlation & regression. Coefficient of Correlation, rank correlation, lines of regression. Properties of regression coefficients, Partial and multiple correlation and their simple Properties.

Sampling Theory

Unit 4. Types of population, Parameters & Statistics, Null Hypothesis, Level of Significance, critical region. Procedure for testing Hypothesis. Type I & Type II error, χ^2 - distribution and its properties.

Unit 5. Simple and random sampling. Test of significance for large samples. Sampling distribution of Mean. Standard error, Test of significance based on χ^2. Test of significance based on t,F & Z distribution, ANOVA.

316 > 2 / 18/11/13

(1)

Reference No. MD/306
16-11-13

CH. CHARAN SINGH UNIVERSITY, MEERUT

(1)

Proceedings of the Board of Studies Meeting for B.Sc./B.A. IIIrd year, M.Sc./M.A. and Course Work of Ph.D.(Mathematics) (16.11.2013)

A meeting of Board of Studies to approve the revised syllabi of M.Sc./M.A. Sem. III Numerical Analysis and to approve the modified syllabi (minimum common syllabi of UGC) of B.Sc./B.A. IIIrd year, was held on 16.11.2013 at 11:30 AM in the, Ch. Charan Singh University, Meerut. The following members were present:

1. Prof. Y. Vimla as Dean, Faculty of Science, C.C.S. University, Meerut (for Prof. H.S. Singh)
2. Prof. S. P. Gupta, Rtd. Principal, BSA College, Mathura (Expert)
3. Prof. (Rtd.) V. P. Kaushik, Department of Maths, Kurukshetra University, Kurukshetra (Expert)
4. Prof. R. C. Mittal, Department of Maths, IIT Roorkee (Expert)
5. Prof. R. C. Dimri, Department of Maths, HNB University, Garwal (Expert)
6. Prof. Jaimala, Head, Department of Maths, C.C.S. University, Meerut (Convener)
7. Dr. Raj Pal Singh, Department of Maths, L. R. College, Sahibabad (Convener)
8. Prof. M.K. Gupta, Department of Maths, C.C.S. University, Meerut
9. Dr. Hari Kishan, D.N. College, Meerut

- The committee reviewed the minimum unified syllabi for B.Sc./B.A. III year (Mathematics) in detail and proposed and approved the following changes to be effective from the session 2013-14:
  1. The number of papers in B.Sc/B.A-III will be three in place of four.
  2. The details of papers will be as follows

     Analysis: Paper-I Marks- 33/65 Code- US-326
     Linear Programming: Paper-II Marks- 33/65 Code- US-327
     Numerical Methods and
     Fundamentals of Computers: Paper-III Marks- 34/70 Code- US-328
     Syllabi of Above papers is enclosed herewith. (3-4)

Dmm committee cell

I part up 19/11/13

Important: The teacher should spend 75% of lectures on theory and 25% of lectures on problems. As the classes of B.Sc./B.A. III year have already been started in the colleges, the course will not suffer with the above proposed and approved changes.

- In view of the changes approved in the papers and syllabi of B.Sc./B.A. III year, the committee reviewed the syllabi for mathematics of M.Sc./M.A. and revised the syllabi of Numerical Analysis. The papers of M.Sc/M.A-IVth Sem are reshuffeled the course of Functional Analysis will be compulsory and Fuzzy Sets and its applications will be optional. The changes will be implemented from the session 2014-2015. Remaining papers and syllabus (enclosed) of M.Sc./M.A. will remain the same as before. (5)

Continued

16-11-13 16/11/13. 16-11-13

(2)

CH. CHARAN SINGH UNIVERSITY, MEERUT

Proceedings of the Board of Studies Meeting

for

B.Sc./B.A. IIIrd year, M.Sc./M.A. and Course Work of Ph.D.(Mathematics) –(16.11.2013)

- The committee also approved the syllabi of the paper of Mathematics for Course Work for Ph. D. There may be objective type question papers evaluation. However, the committee feels that it should be reviewed after each year. ((6))
- The list of experts for Ph.D course work is enclosed herewith ((7))

(Y.Vimla) (S.P. Gupta) 16/11/13 (R.C. Mittal) (V.P. Kaushik) (R.C. Dimri)

(Mridul Kumar Gupta) (Jaimala) 16.11.13 (Raj Pal Singh) (Harikishen)

Submitted for kind approval :

To :

1. The Vice Chancellor, CCS University, Meerut
2. Committee Cell, C.C.S. University, Meerut.

Registrar

Sir May kindly observe the proceedings of the Board of Studies in Maths held on 16/11/2013 in anticipation of the approval of the Acad Council which the Matter be referred to the Acad Council Meeting for approval

Submitted for Orders.

16-11-13

21/11/13

DR (Ac) / Registrar /

Hon'ble VC. Sir

(5) To be effective (3)
Ref. Acad Comm. 21/3-14

B.Sc./B.A. IIIrd year

Paper code : US- 326 Paper-I M.M:- 33/65

ANALYSIS

Unit 1. Axiomatic study of real numbers, Completeness property in R, Archimedean property, Countable and uncountable sets, Neighbourhood, Interior points, Limit points, Open and closed sets, Derived sets, Dense sets, Perfect sets, Bolzano-Weierstrass theorem.

Unit 2. Sequences of real numbers, Subsequences, Bounded and monotonic sequences, Convergent sequences, Cauchy's theorems on limit, Cauchy sequence, Cauchy's general principle of convergence, Sequential continuity, Boundeness and intermediate value properties of continuous functions, Uniform continuity, Meaning of sign of derivative

Unit 3. Riemann integral, Integrability of continuous and monotonic functions, Fundamental theorem of integral calculus, Mean value theorems of integral calculus, Improper integrals and their convergence, Comparison test, μ -test, Abel's test, Dirichlet's test, Integral as a function of a parameter and its differentiability and integrability.

Unit 4. Functions of a complex variable, Concepts of limit, continuity and differentiability of complex functions, Analytic functions, Cauchy Riemann equations (Cartesian and polar form), Harmonic functions, Orthogonal system, Power series as an analytic function.

Unit 5. Elementary functions, Mapping by elementary functions, Linear and bilinear transformations, Fixed points, Cross ratio, Inverse points and critical points, Conformal transformations.

Paper ~~III(b)~~ II nd: LINEAR PROGRAMMING

Paper code : US-327 **Paper-II** **M.M:- 33/65**

Unit 1. Linear programming problems, Statement and formation of general linear programming problems, Graphical method, Slack, and surplus variables, Standard and matrix forms of linear programming problem, Basic feasible solution.

Unit 2. Convex sets, Fundamental theorem of linear programming, Simplex method, Artificial variables, Big-M method, Two phase method.

Unit 3. Resolution of degeneracy, Revised simplex method, Sensitivity Analysis.

Unit 4. Duality in linear programming problems, Dual simplex method, Primal-dual method Integer programming.

Unit 5. Transportation problems, Assignment problems.
Goal Programming: Concept of goal programming, formulation and methodology for solution of goal programming.

NUMERICAL METHODS AND COMPUTER FUNDAMENTALS

Paper Code : US-328 **Paper-III** **M.M:- 34/70**

Unit 1. Discussion of different type of Errors,Shift operator, Forward difference ,Backward difference and Central difference operators and their relationships, Fundamental theorem of difference calculus, Divided differences,

Unit 2. Interpolation, Newton-Gregory's forward and backward interpolation formulae.
, Newton's divided difference formula, Lagrange's interpolation formula, , Formulae based on central differences : Gauss, Stirling's, Bessel's and Everett's interpolation formulae, Numerical differentiation.

Unit 3. Solution of transcendental and polynomial equations by iterative methods

bisection method, Regular-falsi method and Newton -Raphson method, Successive iteration Method

Unit 4. Basic computer organization, Computer arithmetic and Number systems: Binary, octa and hexadecimal system, Storage devices, Operating system

Unit 5. Computer software, Programming languages, Computer networking: LAN, WAN and Computer network topologies

(Y.Vimla) (S.P. Gupta) (R.C. Mittal) (V.P. Kaushik) (R.C. Dimri)

(Mridul Kumar Gupta) (Jaimala) (Raj Pal Singh) (Harikishen)

(5) To be effective w.e.f. Acad/Sess 2014-15

NUMERICAL ANALYSIS (M. Sc./ M.A.)

Unit I

Errors in computation: Floating point representation of numbers, Significant digits, Rounding and chopping a number and error due to these absolute and relative errors, Computation of errors using differentials, Errors in evaluation of some standard functions, Truncation error.

Linear equations: Gauss elimination method, LU Decomposition method, Gauss–Jordan method, Tridiagonal system, Inversion of matrix, Gauss-Jacobi, Gauss-Seidal iterative methods and their convergence

Unit II

Non-linear equations: Iterative method, Secant method, Rate of convergence of Regula-Falsi method, Newton-Raphson method, Convergence of Newton-Raphson method for simple and multiple roots, Birge-Vieta method, Bairstow's method and Graffe's root squaring method for polynomial equations.

Unit III

Numerical differentiation: Differentiation methods based on Newton's forward and backward formulae, Differentiation by central difference formula.

Numerical integration: Methodology of numerical integration, Rectangular rule, Trapezoidal rule, Simpson's $1/3^{rd}$ and $3/8^{th}$ rules, Romberg Integration, Gauss-Legendre quadrature formula.

Unit IV

Algebraic Eigen values and Eigen vectors: Power method, Jacobi's method, Given's method, Householder's method, Approximation: Least square polynomial approximation, polynomial approximation using orthogonal polynomials, Approximation with algebraic and trigonometric functions.

Unit V

Ordinary differential equations: Initial and boundary value problems, Solutions of Initial Value Problems, Single and multistep methods, Picard's method, Taylor series method,Euler's and Modified Euler's methods, Runge-Kutta second order and fourth order methods, Milne's method, Adams-Bashforth method.

RECOMMENDED BOOKS

1. **Radhey S. Gupta**,Elements of Numerical Analysis, Macmillan India Ltd. New Delhi.
2. **M.K.Jain, S.R.K.Iyengar, R.K.Jain,** Numerical Methods for Scientific and Engineering Computations, New Age International (P) Ltd. New Delhi .
3. E.V. Krishnamurthy and S.K. Sen, Computer Based Numerical Analysis, PHI.
4. B. Bradie : A Friendly Introduction to Numerical Analysis, PEARSON.

(Y.Vimla) (S.P. Gupta) (R.C. Mittal) (V.P. Kaushik) (R.C. Dimri)

(Mridul Kumar Gupta) (Jaimala) (Raj Pal Singh) (Harikishen)

Mathematics for Course Work of Ph. D.

Unit:I - Extension fields, Algebraic and transcendental extensions, Separable extensions, Normal extensions, Perfect fields, Finite fields, Primitive elements, Algebraically closed fields, Automorphisms of extensions, Galois extensions, Fundamental theorem of Galois theory.

Canonical forms, Diagonal forms, Triangular forms, Jordan forms, Inner product spaces, Orthonormal basis, Quadratic forms, Reduction and classification of quadratic forms.

Unit:II - Sequences and series of functions, Pointwise and uniform convergence, Cauchy criterion for uniform convergence, Weierstrass M-test, Abel's and Dirichlet's tests for uniform convergence, uniform convergence and continuity, Weierstrass approximation theorem.

Complex integration, Cauchy-Goursat theorem, Cauchy's integral formula, Higher order derivatives, Morera's Theorem, Taylor's theorem. Maximum modulus principle, Laurent's series, Isolated singularities, Meromorphic functions. The arguement principle, Rouche's theorem, Residues, Cauchy's residue theorem.

Unit:III - Linear system of ordinary differential equations, Asymptotic stability, Existence and uniqueness theorems, Classification and characteristics of higher order PDe's, Canonical form, Dirichlets theorem, Neumann theorem, Conservation laws and shocks systems in one dimension: Conservation laws, Weak solution, Maximum principles for parabolic equations (i) weak maximum principle, (ii) strong maximum principle

Unit:IV - Fourier integral formula, Fourier transform, Inversion theorem for complex Fourier transform, Fourier Sine and Cosine transforms, Inversion formulae, Convolution theorem for Fourier transforms, Parseval's identity, Finite Fourier sine and Cosine transform. Inversion formulae, Applications to integral equations and boundary value problems, Z- transform, Hypergeometric functions.

Unit:V - Goal programming techniques, Nonlinear programming-one and multi-variable unconstrained optimization, Kuhn-Tucker conditions for constrained optimization, Quadratic Programming, Separable programming, Convex programming.

RECOMMENDED BOOKS

1. J. B. Fraleigh, A First Course in Abstract Algebra, Narosa Publishing House,New Delhi.
2. W. Rudin, Principles of Mathematical Analysis, (3rd edition) McGraw-Hill, Kogakusha, International Student Edition.
3. T. M. Apostol, Mathematical Analysis, Narosa Publishing, New Delhi.
4. L.V. Ahlfors, Complex Analysis, McGraw-Hill.
5. R.V. Churchill, Complex Variable and Applications, McGraw Hill.
6. G. F. Simmons: Differential Equations with Applications and Historical Notes, Second Edition, Tata Mcgraw-Hill Publishing Company Ltd. New Delhi.
7. B. Rai, D.P. Chaudhary and H.I. Freedman: A Course in Ordinary Differential Equations, Narosa Publishing House, New Delhi.
8. I.N. Sneddon: Elements of Partial Differential Equation, McGraw-Hill Book Company.
9. J. W. Brown, R.V. Churchill, Fourier Series and Boundary Value Problems, McGraw Hill Education, New Delhi.
10. F. B. Hildebrand, Method of Applied Mathematics, PHI, India.
11. H.A. Taha: Operation Research- An Introduction, Macmillan Publishing Co. Inc., NY.
12. Kanti Swarup, P.K. Gupta and Man Mohan, Operations Research, S Chand and Sons, New Delhi.
13. S.S. Rao, Optimization Theory and Applications, Wiley Eastern Ltd, New Delhi.

(Y.Vimla) (S.P. Gupta) (R.C. Mittal) (V.P. Kaushik) (R.C. Dimri)

(Mridul Kumar Gupta) (Jaimala) (Raj Pal Singh) (Harikishen)

PROPOSED UNIFORM SYLLABUS FOR

U.P. STATE UNIVERSITIES

Three Years Degree Course

PHYSICS

B.Sc.- FIRST YEAR

		Max. Marks
PAPER I	MECHANICS AND WAVE MOTION	50
PAPER II	KINETIC THEORY AND THERMODYNAMICS	50
PAPER III	CIRCUIT FUNDAMENTALS AND BASIC ELECTRONICS	50
PRACTICAL	TWO PRACTICALS (30 MARKS) + VIVA (10 MARKS) + RECORD (10 MARKS)	50
TOTAL		200

Candidate must obtain minimum pass marks in Theory and Practical Examinations separately.

PAPER I - MECHANICS AND WAVE MOTION

UNIT-I

Inertial reference frame, Newton's laws of motion, Dynamics of particle in rectilinear and circular motion, Conservative and Non -conservative forces, Conservation of energy, liner momentum and angular momentum, Collision in one and two dimensions, cross section.

UNIT -II

Rotational energy and rotational inertia for simple bodies, the combined translation and rotational and motion of a rigid body on horizontal and inclined planes, Simple treatment of the motions of a top. Relations between elastic constants, bending of Beams and Torsion of Cylinder.

UNIT - III

Central forces, Two particle central force problem, reduced mass, relative and centre of mass motion, Law of gravitation, Kepler's laws, motions of planets and satellites, geo-stationary satellites.

UNIT IV

Simple harmonic motion, differential equation of S. H. M. and its solution, uses of complex notation, damped and forced vibrations, composition of simple harmonic motion.

Differential equation of wave motion, plane progressive waves in fluid media, reflection of waves, phase change on reflection, superposition, stationary waves, pressure and energy distribution, phase and group velocity.

Text and Reference Books

EM Purcell, Ed: "Berkeley Physics Course, Vol. 1, Mechanics" (McGraw-Hill). RP Feymman, RB Lighton and M Sands; "The Feymman Lectures in Physics", Vol. 1 (BI Publications, Bombay, Delhi, Calcutta, Madras).

J.C. Upadhyay: 'Mechanics'.

D.S, Mathur “Mechanics”,
P.K. Srivastava: “Mechanics” (New Age International).

PAPER II- KINETIC THEORY AND THERMODYNAMICS

UNIT-I

Ideal Gas: Kinetic model, Deduction of Boyle’s law, interpretation of temperature, estimation of r.m.s. speeds of molecules. Brownian motion, estimate of the Avogadro number. Equipartition of energy, specific heat of monatomic gas, extension to di- and triatomic gases, Behaviour at low temperatures. Adiabatic expansion of an ideal gas, applications to atmospheric physics.

Real Gas: Vander Waals gas, equation of state, nature of Van der Waals forces, comparison with experimental P-V curves. The critical constants, gas and vapour. Joule expansion of ideal gas, and of a Vander Waals gas, Joule coefficient, estimates of J-T cooling.

UNIT -II

Liquefaction of gases: Boyle temperature and inversion temperature. Principle of regenerative cooling and of cascade cooling, liquefaction of hydrogen and helium. Refrigeration cycles, meaning of efficiency.

Transport phenomena in gases: Molecular collisions, mean free path and collision cross sections. Estimates of molecular diameter and mean free path.

Transport of mass, momentum and energy and interrelationship, dependence on temperature and pressure.

UNIT - III

The laws of thermodynamics: The Zeroth law, various indicator diagrams, work done by and on the system, first law of thermodynamics, internal energy as a state function and other applications. Reversible and irreversible changes, Carnot cycle and its efficiency, Carnot theorem and the second law of thermodynamics. Different versions of the second law, practical cycles used in internal combustion engines. Entropy, principle of increase of entropy. The

thermodynamic scale of temperature; its identity with the perfect gas scale. Impossibility of attaining the absolute zero;
third law of thermodynamics. Thermodynamic relationships: Thermodynamic variables; extensive and intensive, Maxwell's general relationships, application to Joule-Thomson cooling and adiabatic cooling in a general system, Van der Waals gas, Clausius-Clapeyron heat equation. Thermodynamic potentials and equilibrium of thermodynamical systems, relation with thermodynamical variables. Cooling due to adiabatic demagnetization, production and measurement of very low temperatures.

UNIT -IV

Blackbody radiation: Pure temperature dependence, Stefan-Boltzmann law, pressure of radiation, spectral distribution of Black body radiation, Wien's displacement law, Rayleigh-Jean's law, Plank's law the ultraviolet catastrophy.

Text and Reference Books

G.G. Agarwal and H.P. Sinha "Thermal Physics"
S.K. Agarwal and B.K. Agarwal "Thermal Physics"

PAPER III - CIRCUIT FUNDAMENTALS AND BASIC ELECTRONICS

UNIT-I

Growth and decay of currents through inductive resistances, charging and discharging
in R.C. and R.L.C. circuits, Time constant, Measurement of high resistance.
A.C. Bridges, Maxwell's and Scherings Bridges, Wien Bridge.
THINLY, NORTON and Superposition theorems and their applications.

UNIT -II

Semiconductors, intrinsic and extrinsic semiconductors, n-type and p-type semiconductors, unbiased diode forward bias and reverse bias diodes, diode as

a rectifier, diode characteristics, zener diode, avalanche and zener breakdown, power supplies, rectifier, bridge rectifier, capacitor input filter, voltage regulation, zener regulator.

Bipolar transistors, three doped regions, forward and reverse bias, DC alpha, DC beta

transistor curves.

UNIT - III

Transistor biasing circuits: base bias, emitter bias and voltage divider bias, DC load line.

Basic AC equivalent circuits, low frequency model, small signal amplifiers, common emitter amplifier, common collector amplifiers, and common base amplifiers, current and voltage gain, R.C. coupled amplifier, gain, frequency response, equivalent circuit at low, medium and high frequencies, feedback principles.

UNIT-IV

Input and output impedance, transistor as an oscillator, general discussion and theory of Hartley oscillator only.

Elements of transmission and reception, basic principles of amplitude modulation and demodulation. Principle and design of linear multimeters and their application, cathode ray oscillograph and its simple applications.

Text and Reference Books

B.G. Streetman; "Solid State Electronic Devices", IInTdi Edition (Prentice Hall of India, New Delhi, 1986).

W.D. Stanley: "Electronic Devices, Circuits and Applications" (Prentice-Hall, New TTC'A 1flOO\ JL4y, JJI. 1OO).

J.D. Ryder, "Electronics Fundamentals and Applications", lI'' Edition (Prentice-Hall of India, New Delhi, 1986).

J Millman and A Grabel, "Microelectronics", International Edition (McGraw Hill Book Company, New York, 1988).

PRACTICALS

Every institution may add any experiment of the same standard in the subject.

Mechanics

1. Study of laws of parallel and perpendicular axes for moment of inertia.
2. Study of conservation of momentum in two dimensional oscillations.

Oscillations

1. Study of a compound pendulum.
2. Study of damping of a bar pendulum under various mechanics.
3. Study of oscillations under a bifilar suspension.
4. Potential energy curves of a 1-Dimensional system and oscillations in it for various amplitudes.
5. Study of oscillations of a mass under different combinations of springs.

Properties of matter

1. Study of bending of a cantilever or a beam.
2. Study of torsion of a wire (static and dynamic methods)

Kinetic theory of matter

1. Study of Brownian motion.
2. Study of adiabatic expansion of a gas.
3. Study of conversion of mechanical energy into heat.
4. Heating efficiency of electrical kettle with varying voltages.

Thermodynamics

1. Study of temperature dependence of total radiation.
2. Study of temperature dependence of spectral density of radiation.
3. Resistance thermometry.

4. Thermo-emf thermometry
5. Conduction of heat through poor conductors of different geometries.

Circuit fundamentals

1. Charging and discharging in R.C. and R.C.L. circuits.
2. High resistance by leakage.
3. A.C. Bridges.
4. Half wave and full wave rectifiers.
5. Characteristics of a transistor in CE,CB and CC configurations
6. Frequency response of R.C. coupled amplifier.

Waves

I. Speed of waves on a stretched string.
2. Studies on torsional waves in a lumped system.
3. Study of interference with two coherent sources of sound.

Text and reference books

D.P. Khandelwal, "A laboratory manual for undergraduate classes" (Vani Publishing
House, New Delhi).
S.P. Singh, "Advanced Practical Physics" (Pragati Prakashan, Meerut).
Worsnop and Flint- Advanced Practical physics for students.

PHYSICS

B.Sc.- SECOND YEAR

		Max. Marks
PAPER I	PHYSICAL OPTICS AND LASERS	50
PAPER II	ELECTROMAGNETICS	50
PAPER III	ELEMENTS OF QUANTUM MECHANICS, ATOMIC AND MOLECULARS SPECTRA	50
PRACTICAL	TWO PRACTICALS (30 MARKS) + VIVA (10 MARKS) + RECORD (10 MARKS)	50
TOTAL		200

Candidate must obtain minimum pass marks in Theory and Practical Examinations separately.

PAPER I - PHYSICAL OPTICS AND LASERS

UNIT-I

Interference of a light: The principle of superposition, two-slit interference, coherence requirement for the sources, optical path retardations, lateral shift of fringes, Rayleigh refractometer and other applications. Localised fringes; thin films, applications for precision measurements for displacements.

Haidinger fringes: Fringes of equal inclination. Michelson interferometer, its application for precision determination of wavelength, wavelength difference and the width of spectral lines. Twymann Green interferometer and its uses. Iriensity distribution in multiple beam interference, Tolansky fringes, Fabry-Perrot interferometer and etalon.

UNIT -II

Fresnel diffraction: Fresnel half-period zones, plates, straight edge, rectilinear propagation.

Fraunhoffer diffraction: Diffraction at a slit, half-period zones, phasor diagram and integral calculus methods, the intensity distribution, diffraction at a circular aperture and a circular disc, resolution of images, Rayleigh criterion, resolving power of telescope and microscopic systems, outline of phase contrast microscopy.

Diffraction gratings: Diffraction at N parallel slits, intensity distribution, plane diffraction grating, reflection grating and blazed gratings. Concave grating and different mountings. Resolving power of a grating and comparison with resolving powers of prism and of a Fabry-Perrot etalon.

UNIT - III

Polarization, Double refraction in uniaxial crystals, Nicol prism, polaroids and retardation plates, Babinet's compensator. Analysis of polarised light.

Optical activity and Fresnel's explanation, Half shade and Biquartz polarirneters.

Matrix representation of plane polarized waves, matrices for polarizers, retardation plates and rotators, Application to simple systems.

UNIT-IV

Laser system: Purity of a special line, coherence length and coherence time, spatial coherence of a source, Einstein's A and B coefficients, spontaneous and induced emissions, conditions for laser action, population inversion.

Application of Lasers: Pulsed lasers and tunable lasers, spatial coherence and directionality, estimates of beam intensity; temporal coherence and spectral energy density.

Text and Reference Books

A K Ghatak, "Physical Optics" (Tata McGrew Hill).

D P Khandelwal; "Optics and Atomic Physics" (Himalaya, Publishing House, Bombay, 1988).

F Smith and JH Thomson; "Manchester Physics sries; Optics" (English Language Book Society and Joh Wiley, 1977).

Born and Wolf; "Optics"

KD Moltey; "Optics" (Oxford University Press).

Sears; "Optics".

Jonkins and White; "Fundamental of Optics" (McGraw-Hill).

Smith and Thomson; "Optics" (John Wiley and Sons).

B.K; Mathur; "Optics".

P.K. Srivastava; "Optics" (CBS).

B.B. Laud; "Lasers" (New Age).

PART II- ELECTROMAGNETICS

UNIT-I

Electrostatics

Coulomb's law, Electric Field and potentials, Field due to a uniform charged sphere, Derivations of Poisson and Laplace Equations, Gauss Law and its application: The Field of a conductor. Electric dipole, Field and potential due to an electric dipole, Dipole approximation for an arbitrary charge distribution, Electric quadruple, Field due to a quadruple , Electrostatic Energy of a charged uniform sphere, Energy of a condenser.

Magnetostatics

Magnetic field, Magnetic force of a current, Magnetic Induction and Biot-Savart Law, Lorentz Force, Vector and Scalar Magnetic potentials, Magnetic Dipole, Magnetomotive force and Ampere's Circuital theorem and its applications to calculate magnetic field due to wire carrying current and solenoid.

UNIT-Il

Electromagnetic Induction

Laws of Induction, Faraday's laws and Lanz's Law. Mutual and Self Induction, Vector potential in varying Magnetic field, Induction of current in continuous media, Skin effect, Motion of electron in changing magnetic field , Betatron , Magnetic energy in field, Induced magnetic field (Time varying electric field), Displacement current, Maxwell's equations, Theory and working of moving coil ballistic galvanometer.

UNIT-III

Dielectrics

Dielectric constant, polarization, Electronic polarization, Atomic or ionic Polarization Polarization charges, Electrostatic equation with dielectrics, Field, force and energy in Dielectrics.

Magnetic Properties of Matter

Intensity of magnetization and magnetic susceptibility, Properties of Dia, Para and Ferromagnetic materials, Curie temperature, Hysteresis and its experimental determination.

UNIT -IV

Electromagnetic Waves

The wave', equation satisfied .by E and B, plane electromagnetic waves in vacuum, Poynting's vector, reflection at, a plane boundary of dielectrics, polarization by reflection and total internal reflection, Faraday effect; waves in a conducting medium, reflection and refraction by the ionosphere

Text and Reference Books

Berkeley Physics Course; Electricity and Magnetism, Ed. E.M. Purcell (Mc GrawHill). Halliday and Resnik; "Physics", Vol 2.

D J Griffith; "Introduction to Electrodynamics" (Prentice-Hall of India). Reitz and Milford; "Electricity and Magnetism (Addison-Wesley).

A S Mahajan and A A Rangwala; "Electricity and Magnetism" (Tata McGraw-Hill). A M Portis; "Electromagnetic Fields".

Pugh and Pugh; "Principles of Electricity and Magnetism" (Addison-Welsley).

Panofsky and Phillips; "Classical Electricity and Magnetism" (India Book House). S S Atwood; "Electricity and Magnetism" (Dover).

PART III - ELEMENTS OF QUANTUM MECHANICS, ATOMIC AND MOLECULAR SPECTRA

UNIT-I

Matter Waves

Inadequacies of classical mechanics, Photoelectric phenomenon, Compton effect, wave particle duality, de- Broglie matter waves and their experimental verification, Heisenberg's Uncertainty principle, Complementary principle, Principle of superposition, Motion of wave packets.

UNIT -II

Schrodinger Equation and its Applications

Schrodinger wave equation Interpretation of wave function, Expectation values of dynamical variables, Ehrenfest theorem, Orthonormal properties of wave functions, One dimensional motion in step potential, Rectangular barrier, Square well potential, Particle in a box, normalization Simple Harmonic Oscillator.

UNIT - III

Atomic spectra

Spectra of hydrogen, deuteron and alkali atoms, spectral terms, doublet fine structure, screening constants for alkali spectra for s, p. d, and f states, selection rules. Singlet and triplet fine structure in alkaline earth spectra, L-S and J-J couplings. Weak spectra: continuous X-ray spectrum and its dependence on voltage, Duane and Haunt's law. Characteristics X-rays, Moseley's law, doublet structure and screening parameters in X-ray spectra, X-ray absorption spectra.

UNIT -IV

Molecular spectra

Discrete set of electronic energies of molecules, quantisation of vibrational and rotational energies, determination of internuclear distance, pure rotation and rotation- vibration spectra, Dissociation limit for the ground and other

electronic states, transition rules for pure vibration and electronic vibration spectra.

Text and Reference Books

H S Mani and G K Mehta; "Introduction to Modern Physics" (Affiliated East-West Press 1989). A Beiser, "Perspectives of Modern Physics".

H E White; "Introduction to Atomic Physics".

Barrow; "Introduction to Molecular Physics".

R P Feymann, R B Leighton and M Sands; "The Feyrnann Lectures on Physics, Vol. III (B I Publications. Bombay. Delhi, Calcutta, Madras).

T A Littlefield and N Thorley; "Atomic and Nuclear Physics" (Engineering Language Book Society).

Eisenberg and Resnik; "Quantum Physics of Atoms, 'Molecules, Solids, Nuclei and Particles" (John Wiley).

D P Khandelwal: "Optics and Atomic Physics", (Himalaya Publishing House, Bombay, 1988).

PRACTICALS

Every institution may add any experiment of the standard in the subject.

Physical optics

1. Study of interference of light (biprism or wedge film).
2. Study ofF-P etalon fringes.
3. Study of diffraction at a straight edge or a single slit.
4. Use of diffraction grating and its resolving limit.
5. Resolving limit of a telescope system.
6. Polarization of light by the reflection.
7. Study of optical rotation for any system.

Electrostatics

1. Characteristics of a ballistic galvanometer.
2. Setting up and using an electroscope or electrometer.

Moving charges and magnetostatics

1. Use of a vibration magnetometer to study a field.
2. Study of field due to a current.
3. Measurement of low resistance by Carey-Foster bridge or otherwise.
4. Measurement of inductance using impedance at different frequencies.
5. Measurement of capacitance using impedance at different frequencies.
6. Study of decay of currents in LR and RC circuits.
7. Response curve for LCR circuit and resonance frequency and quality factor.

Varying fields and electromagnetic theory

1. Sensitivity of a cathode-ray oscilloscope.
2. Characteristic of a choke.
3. Measurement of inductance.
4. Study of Lorentz force.
5. Study of discrete and continuous LC transmission lines.

Atomic Physics

1. Study of spectra of hydrogen and deuterium (Rydberg constant and ratio of masses of electron to proton).
2. Absorption spectrum of iodine vapour.
3. Study of alkali or alkaline earth spectra using a concave grating.
4. Study of Zeeman effect for determination of Lande g-factor.

Molecular Physics

1. Analysis of a given band spectrum.
2. Study of Raman spectrum using laser as an excitation source

Lasers

1 Study of laser as a monochromatic coherent source

2 Study of divergence of a laser beam

Text and Reference Books

D.P. Khandelwal, "A Laboratory Manual for Undergraduate Classes (Vani Publishing

House, New Delhi).

S.P. Singh, “Advanced Practical Physics” (Pragati Prakashan, Meerut).

Worsnop and Flint- Advanced Practical physics for students.

PHYSICS

B.Sc.- THIRD YEAR

		Max. Marks
PAPER I	RELATIVITY AND STATISTICAL PHYSICS	75
PAPER II	SOLID STATE AND NUCLEAR PHYSICS	75
PAPER III	SOLID STATE ELECTRONICS	75
PRACTICAL	TWO PRACTICALS (50 MARKS) + VIVA (15 MARKS) + RECORD (10 MARKS)	75
TOTAL		300

Candidate must obtain minimum pass marks in Theory and Practical Examinations separately.

PAPER I - RELATIVITY AND STATISTICAL PHYSICS

UNIT-I

Relativity

Reference systems, inertial frames, Galilean invariance and conservation laws, propagation of light, Michelson-Morley experiment; search for ether.

Postulates for the special theory of relativity, Lorentz transformations, length contraction, time dilation, velocity addition theorem, variation of mass with velocity, mass-energy equivalence, particle with a zero rest mass.

UNIT -II

Statistical physics

The statistical basis of thermodynamics: Probability and thermodynamic probability, principle of equal a prior probabilities, probability distribution and its narrowing with increase in number of particles. . The expressions for average properties. Constraints; accessible and inaccessible states, distribution of particles with a given total energy into a discrete set of energy states.

UNIT - III

Some universal laws: The ji- space representation, division of i- space into energy sheets and into phase cells of arbitrary size, applications to one-dimensional harmonic oscillator and free particles. Equilibrium before two systems in thermal contact, bridge with macroscopic physics. Probability and entropy, Boltzmann entropy relation. Statistical interpretation of second law of thermodynamics. Boltzmann canonical distribution law and its applications; rigorous form of equipartition of energy.

UNIT -IV

Maxwellian distribution of0 speeds in an ideal gas: Distribution of speeds and of velocities, experimental verification, distinction between mean, r.m.s. and most probable speed values. Doppler broadening of spectral lines.

Transition to quantum statistics: 'h' as a natural constant and' its implications, cases of particle in a one-dimensional box and one-dimensional harmonic oscillator, Indistinguishability of particles and its consequences, Bose-Einstein, and Fermi-Dirac distributions, photons in black body chamber, free electrons in a metal, Fermi level and Fermi energy.

Text and Reference Books

A. Beiser, "Concepts of Modern Physics" (McGraw-Hill).

B B Laud, "Introduction to Statistical Mechanics" (Macmillan 1981).

F Reif, "Statistical Physics" (McGraw-Hill 1988).

K Haung, "Statistical Physics" (Wiley Eastern, 1988).

PAPER II- SOLID STATE AND NUCLEAR PHYSICS

UNIT-I

Crystal Structure

Lattice translation vectors and lattice, Symmetry operations, Basis and Crystal structure, Primitive Lattice cell, Two-dimensional lattice types, systems, Number of lattices, Point groups and plane groups, Three dimensional lattice types, Systems, Number of Lattices, Points groups and space groups. Index system for crystal planes Miller indices, Simple crystal structures, NaCI, hcp, diamond, Cubic ZnS; and hexagonal , Occurrence of Nonideal crysal structures, random stacking of polyprism, glasses.

Crystal Diffraction and Reciprocal Lattice

Incident beam, Bragg law, Experimental diffraction method, Laue method, Rotating crystal method, Powder method, Derivation of scattered 'wave amplitude, Fourier analysis, Reciprocal lattice vectors, Diffraction conditions, Ewald method, Brillion zones, Reciprocal lattice to sc, bcc and face lattices , Fourier analysis of the basis and atomic form factor.

UNIT -II

Crystal Bindings

Crystal of inert gases, Van der Walls-London interaction, repulsive interaction, Equilibrium lattice constants, Cohesive energy, compressibility and bulk modulus, ionic crystal, Madelung energy, evaluation of Madelung constant, Covalent crystals, Hydrogen-bonded crystals, Atomic radii.

Lattice Vibrations

Lattice Heat capacity, Einstein model, Vibrations of monatomic lattice, derivation of dispersion relation, First brillouin zone, group velocity, continuum limit, Force constants, Lattice with two atoms per primitive cell, derivation of dispersion relation, Acoustic and optical modes, Phonon momentum. Free electron theory, Fermi energy, density of states, Heat capacity of electron gas, Paramagnetic susceptibility of conduction electrons, Hall effect in metals. Origin of band theory, Qualitative idea of Bloch theorem, Kronig-Penney model, Number of orbitals in a band, conductor, Semi-conductor and insulators, Effective mass, Concept of holes.

UNIT - III

Nuclear Physics

1. **General Properties of Nucleus:**

   Brief survey of general Properties of the Nucleus, Mass defect and binding energy, charges, Size, Spin and Magnetic moment, Bainbridge mass spectrograph.

2. **Nuclear Forces:**

   Saturation phenomena and Exchange forces, Deutron ground state properties.

3. **Nuclear Models:**

   Liquid drop model and Bethe Weiszacker mass formula, Single particle shell model (only the level scheme in the context of reproduction of magic numbers).

4 Natural Radioactivity:

Fundamental laws of radioactivity, Soddy-Faj an's displacement law and law of radioactive disintegration, Basic ideas about α, β and ϒ decay.

UNIT-IV

1. Nuclear Reactions:

Nuclear reactions and their conservation laws, Cross section of nuclear reactions, Theory of fission (Qualitative), Nuclear reactors and Nuclear fusion.

2. Accelerators and detectors:

Vande Graff, Cyclotron and Synchrotron, Interaction of charged particles and gamma rays with matter (qualitative), GM counter, Scintillation counter and neutron detectors.

3. Elementary Particles:

Basic classification based on rest mass, Spin and half life, particle interactions (gravitational, Electromagnetic, week and strong Interactions).

Text and Reference Books

Pun and Babbar, "Solid State Physics" (S. Chand).

C. Kittel, "Introduction to Solid State Physics"- Vth Edition (John Wiley & Sons). H.S. Mani and G.K. Mehta, "Introduction to Modern Physics" (Affiliated East-West Press— 1989).

A. Beiser, "Perspectives of Modern Physics".

T.A. Littlefield and N. Thoreley, "Atomic and Nuclear Physics" (Engineering Language Book Society). Eisenberg and Resnik, "Quantum Mechanics of Atoms, Molecules, Solids, Nuclei and Particles" (John Wiley).

Ghoshal S.N.- Nuclear Physics - S. Chand & Co.

PAPER III - SOLID STATE ELECTRONICS

UNIT-I

Diffusion of minority carriers in semiconductor, work function in metals and semiconductors Junctions between metal and semiconductors, Semiconductor and semiconductor, p.n. Junction, Depletion layer, Junction Potential Width of depletion layer, Field and Capacitance of depletion layer, Forward A.C. and D.C. resistance of junction, Reverse Breakdown.

Zener and Avalanche diodes, Tunnel diodes, Point contact diode, their importance at High frequencies, LED photodiodes, Effect of temperature on Junction diode Thermistors.

UNIT -II

Transistor parameters, base width modulation, transit time and life-time of minority carriers, Base- Emitter resistance Collector conductance, Base spreading resistance, Diffusion capacitance, Reverse feedback ratio, Equivalent circuit for transistors, Basic model, hybrid model and Y parameter equivalent circuit, Input and output impedances.

UNIT III

Current and Voltage gain, Biasing formulae for transistors, Base bias, emitter bias and mixed type bias and mixed type biasing for small and large signal operation. Transistor circuit application at law frequencies, their AC and DC equivalent for three different modes of operation, Large signal operation of transistors, Transistor Power amplifiers, Class A and B operation, Maximum power output Effect of temperature, heat sinks, thermal resistance Distorsion in amplifiers, cascading of stages, Frequency response, Negative and positive feedback in transistor amplifiers.

UNIT -IV

Field effect transistors and their characteristics, biasing of FET, use in preamplifiers , MOSFET and their simple uses.

Power Supplies:

Electronically regulated low and high voltage power supplies, Inverters for battery operated equipments.

Miscellaneous:

Basic linear integrated circuits, phototransistors, Silicon Controlled rectifiers, Injunction transistor and their simple uses.

Text and Reference Books

B G Streetman; "Solid State Electronic Devices", UK Edition (Prentice-Hall of India. New Delhi, 1986).

W D Stanley; "Electronic Devices, Circuits and Applications" (Prentice-Hall, New Jersey, USA. 1988).

J D Ryder; "Electronics Fundamentals and Applications" 1jnd Edition\ (Prentice-Hall of India. New Delhi, 1986). I Miliman and A Grabel; "Microelectronics", International. Edition (McGraw-Hill Book Company, New York, 1988).

PRACTICAL

NOTE:

This is a suggested list. Every institution may add any experiment of same standard in the same subject area.

Statistical Physics

1. Data from n-option systems of several relative weightages to be examined and interpreted.
2. Plotting F-D distribution in the neighbourhood of Fermi energy for different temperature values.
3. Solar wind as a thermal expansion of solar corona at one million Kelvin.
4. Study of dilute gas for experimental verification of Maxwell-Boltzman statistics.
5. Number of microscopic states of perfect gas (Gibbs-paradox).

Solid State Physics

1. Goniometric study of crystal faces.
2. Determination of dielectric constant.
3. Hysteresis curve of transformer core.
4. Hall-probe method for measurement of magnetic field

Solid State Devices

1. Specific resistance and energy gap of a semiconductor
2. Characteristics of a transistor
3. Characteristics of a tunnel diode

Electronics

1. Study of voltage regulation system
2. Study of, a regulated power supply
3. Study of Lissajuous figures using a CR0
4. Study of VTVM

5. Study of RC and TC coupled amplifiers

6. Study of AF and RF oscillators

Nuclear Physics

1. Study of absorption of alpha and beta rays.

2. Study of statistics in radioactive measurement.

Text and Reference Books

B.G. Strechman, "Solid State Electronic Devices". II Edition (Prentice-Hall of India, New Delhi, 1986).

W.D. Stanley, "Electronic Devices, Circuits and Applications" (Prentice-Hall, New Jersey, USA, 1988).

D.P. Khandelwal, "A Laboratory Manual for Undergraduate Classes (Vani Publishiing House, New Delhi). S.P. Singh, "Advanced Practical Physics" (Pragati Prakashan, Meerut).

Instructions for Paper Setting

All questions carry equal marks.

Section A: One compulsory question with four parts. One part (numerical or short answer type) from each unit.

Section B: Two questions (long answer or numerical type) from each unit but only one question from each unit is to be attempted.

B.Sc. – FIRST YEAR

CHEMISTRY

There shall be three written papers and a practical examination as follows:

		Max. Marks
Paper- I	Inorganic Chemistry	50
Paper- II	Organic Chemistry	50
Paper- III	Physical Chemistry	50
	TOTAL	150
	PRACTICAL	50
GRAND TOTAL		200

Candidate will be required to pass in theory and practical separately.

B.Sc.- I Chemistry (Paper-I)

Inorganic Chemistry:

Unit-I

I. Atomic Structure:

Idea of de-Broglie matter waves, Heisenberg uncertainty principal, atomic orbitals, Schrodinger wave equation, significance of Ψ and Ψ^2, quantum numbers, radial and angular wave functions and probability distribution curves, shapes of s, p, d, orbitals, Aufbau and Pauli exclusion principles, Hund's multiplicity rule, Electronic configurations of the elements, effective nuclear charge.

II. Periodic Properties:

Atomic and ionic radii, ionization energy, electron affinity and electronegativity-definition, methods of determination or evaluation, trends in periodic table and applications in predicting and explaining the chemical behavior.

Unit- II

III. Chmical Bonding

(A) Covalent Bond – Valence bond theory and its limitions, directional characteristic of covalenr bond, various types of hybridization and shaped of simple inorganic molecules and ions, valence shall elevtron pair repulsion (VSEPR) theory to NH_3 H_3O^+, SF_4, CIF_3 , ICI_2 And H_2O, MO theory, homonclear and heteronuclear (CO and NO) diatomic molecules, multicenter bondin in electron deficienr molecules, bond strength and bond energy, percentage ionic character from dipole moment and electro- negative difference.

(B) Ionic Solids – lonic structures, radium ratio effect and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born Haber cycle, salvation energy and solubility of ionic solids, polarizing

power and polarisality of ions, Fajan's rule, Metallic bond Free electron, valence bond and band theories.

(C) Weakinteractiom – Hydrogen bonding, Vander Waals foeces .

Unit III

IV. s-Block Elements:

Comparative study, diagonal relationship, salient features of hydrides, salvation and complication tendencies including their function in biosystems, and introduction to alkyls and aryls.

V. Chemistry of Noble Gasses:

Chemical properties of the noble gases, chemistry of xenon, structure and bonding in xenon compounds.

Unit IV

VI. p-Block Elements:

Comparative study, including diagonal relationship of groups 13-17 elements, compounds like hydrides, oxides oxyacids and halides of group 13-16, hydrides of boron-diborane and higher boranes, borazine, borohydrides, fullerenes, carbides, fluorocarbons, silicates (structural principal), tetrasulphur tetra nitride, basic properties of halogens, interhalogens and polyhalides,

B.Sc.- I Chemistry (Paper-II)

Organic Chemistry:

Unit-I

I. Structure and Bonding :

Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bonding, van der Walls interactions, inclusion compounds, clatherates, Charge transfer complexes, resonances, hyperconjugation, aromaticity, inductive and field effects, hydrogen bonding.

II. Mechanism of Organic Reactions :

Curved arrow notation, Drawing electron movements with allow, half-headed and double-headed arrows, hemolytic and heterolysis bond fission, types of reagents-electrophones and nucleophiles, Types of organic reaction, Energy consideration.

Reactive intermediates – Carbocations, carbanions, fee radicals, carbenes, arynes and niters (with examples)/ Assigning formal charges on intermediates, isotope effects, kinetic and stereochemical studies).

III. Alkanes and Cycloalkanes:

IUPAC nomenclature of branched and unbranched and unbranched alkanes, the alkyl group, classification of carbon atom in alkanes, Isomerism in alkanes, sources methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes, Mechanism of free radical halogenations of alkanes : orientation, reactivity and selectivity.

Cycloalkanes- Nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitations. Ring Strain in small rings (cyclopropane and cyclobutane), theory of strain less rings. The case o cyclopropane ring, banana bonds.

Unit-II

IV. Stereochemistry of Organic Compounds :

Concept of isomerism, types of isomerism ;

Optical isomerism- elements of symmetry, molecular chirality, enantiomers, stereogenic center, optical activity, properties of enantiomers chiral and achiral molecules with two sterogenic centers, diastereomers, meso compounds, resolution of enantionmer, inversion, retention and recemization.

Relative and absolute configuration, sequence rules, D & L and R & S systems of nomenclature.

Geometric isomerism- determination of configuration of geometric isomers, E & Z system of nomenclature, geometric isomerism in oximes and alicyclic compounds.

Conformational isomerism-conformational analysis of ethane and n-butane ; conformations of cyclohexane, axial and equatorial bonds, conformation of mono substituted cyclohexane derivatives, Newman projection and Sawhorse formulae, Fischer and flying wedge formulae, Difference between configuration and conformation.

Unit-III

V. Alkenes, Cycloalkenes, Dienes and Alkynes :

Nomenclature of alkenes, methods of formation, mechanisms of dehydration of alcohols and dehydrohalogenation of alkyl halids, regioslectivity in alcohol dehydration, The Saytzeff rule, Hofmann elimination, physical properties and relative stabilities of alkenes.

Chemical reactions of alkenes-mechanism involved in hydrogenation, electrophilic and free radical additions, Markownikoff's rule, hydroboration-oxidation, oxymercuration-reducation. Epoxidation, ozonolysis, hydration, hydroxylation and oxidation with KM_nO_4, Polymerization of alkenes, Substitution at the allylic and vinylic positions of alkenes, industrial applications of ethylene and propene.

Methods of formation, conformation and chemical reactions of cycloakenes ;

Nomenclature and classification of dienes : isolated, conjugated and cumulated dienes, structure of allenes and butadiene, methods of formation, polymerization, chemical reaction-1, 2and 1, 4 additions, Diels-Alder reaction,Nomenclature, structure and bonding in alkynes, methods of formation, chemical reactions of alkynes, acidity of alkynes, mechanism of electrophilic and nuclephilic addition reactions, hydroboration-oxidation, metal-ammonia reductions, oxidation and polymerization.

Unit-IV

VI. Arenes and Aromaticity :

Nomenclature of benzene derivatives, the aryl group, Aromatic nucleus and side chain, structure of benzene; molecular formula and kekule structure, stability and carbon-carbon bond lengths of benzene, resonance structure, MO picture.

Armaticity : The Huckle rule, aromatic ions.

Aromatic electrophilic substitution – general pattern of the mechanism, role of σ and π complexes, Mechanism of nitration, halogenations, sulphonation, mercuration and Friedel-Crafts reaction, Energy profile diagrams, activating and deactivating substituent's orientation and ortho/para ratio, side chain reactions of benzene derivatives, birch reducation.

Methods of formation and chemical reactions of alkybenzenes, alkynylbenzenes and biphenyl, naphthalene and Anthracene.

VII. Alkyl and Aryl Halides :

Nomenclature and classes of alkyl halides, methods of formation, chemical reactions, mechanisms of nucleophilic subsititution reactions of alkyl halides, S_N2 and S_N1 reactions with energy profile diagrams ;

Polyhalogen compounds :Choloroform, carbon tetrachloride ;

Methods of formation of aryl halides, nuclear and side chain reactions ;

The addition-elimination and the elimination-addition mechanisms of nucleophilc aromatic substitution reactions ;

Relative reactivates of alkyl halides vs allyl, vingl and aryl halides, synthesis and uses of DDT and BHC.

B.Sc.- I Chemistry (Paper-III)

Physical Chemistry:

Unit-I

I. Mathematical Concepts and Computers :

(A) Mathematical Concepts :

Logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation of functions K_x, e^x, X^n, sin x, log x; maxima and minima, partial differentiation and reciprocity relations, Intergration of some useful/relevant fuctions; permutations and combinations Factorials, Probability.

(B) Computers :

General introduction to computers, different components of a computer, hardware and software, input-output devices; binary numbers and arithmethic's introduction to computer languages, programming operating systems.

Unit-II

II. Gaseous States :

Postulates of kinetic theory of gases, deviation from ideal behavior, Vander Walls equation of state.

Critical Phenomena : PV isotherms of real gases, continuity of states, the isotherms of vander Waals equation, relationship between critical constants and vander Waals constants, the law of corresponding states, reduced equation of state.

Molecular velocities : Root mean square, average, and most probable velocities, qualitative discussion of the Maxwell's distribution of molecular velocities, sollision number, mean free path and collision diameter, liquefaction of gases (based on Joule-Thomson effect).

iii. **Liquid State :**

Intermolecular forces, structure of liquids (a qualitative description)

Structural differences between solids, liquids and gases;

Liquid crystals: Difference between liquid, crystal, solid and liquid, Classification, structure of nematic and cholestric phases, Thermograph and seven segment cells.

Unit-III

IV. Solid States:

Definition of space lattice, unit cell;

Laws of crystallography-(i) Law of constancy of interfacial angles, (ii) Law of rationality of indices (iii) Law of symmetry, symmetry elements in crystals.

X-ray diffraction by crystals, Derivation of Bragg equation, Determination of crystal structure of NaCL, KCI and CsCI (Laue's method and powder method).

V. Colloidal States:

Definition of colloids, classification of colloids;

Solids liquids (sols): properties-kinetic, optical and electrical; stability of colloids, protective action, Hardy-Schulze law, gold number.

Liquids in liquids (gesl): classification, preparation and properties, inhibition, general application of colloids, colloidal electrolytes.

VI. Chemical Kinetics:

Chemical Kinetics and its scope, rate of a reaction, factors influencing the rate of a reaction-concentration, temperature, pressure, solvent, light catalyst,

concentration dependence of rates, mathematical characteristics of simple chemical reactions- zero order, first order, second order, pseudo order, half life and mean life, determination of the order of reaction- differential methods, method of integration, method of half life period and isolation method.

Radioactive decay as a first order phenomenon;

Experimental methods of chemical Kinetics: conduct metric, potentiometric, optical methods, polarimetry and spectrophotometer.

Theories of chemical kinetics: effect of temperature on rate of reaction, Arrhenius equation, concept of activation energy.

Simple collision theory based on hard sphere model, transition state theory (equilibrium hypothesis), Expression for the rate constant based on equilibrium constant and thermodynamic aspects.

Catalysis, characteristics of catalyzed reactions, classification of catalysis homogeneous and heterogeneous catalysis, enzyme analysis, miscellaneous examples.

B.Sc.-I (PRACTICAL)

180 hrs (6Hrs/week)

Inorganic Chemistry:

Semi Micros Macro Analysis-cation analysis, separation and identification of ions from Grops I, II, III, IV, V and VI, Anion analysis of radicals (miximum 2 acidic/ basic) and not more than one interfering radical.

Organic Chemistry :

1- Laboratory techniques;

a. ***Calibration of Thermeter:***

80-82^0 (Naphthalene), 113.5-114^0 (Acetanilide)

132.5-133^0 (Urea), 100^0 (Distilled Water)

b. ***Determination of melting point:***

Naphthalene 80-82^0, Benzoic acid 121.5-122^0

Urea 132.5-133^0, Succinic acid 184.5-185^0

Cinnamic acid 132.5-133^0, Sallicylic acid 157.5-158^0

Acetanilide 113.5-114^0, 114^0, m-Dinitrobezence 90^0

p- Dichlorbenzene 52^0, Aspirin 135^0

c. *Determination of boint :*

Ethanol 78^0, Cyclohexane 81.4^0, Toluene 110.6^0, Benzene 80^0

d. *Mixed melring point determination*

Urea-Cinnamic acid mixture of various composition (1:4, 1:1,4:1)

e. *Distillation*

Simple distillation of ethanol-water mixture using water condenser, Distillation of nitrobenzene and aniline Using air condenser

f. Crytallizarion :

Concepr of induction of crystallization,

Phthalic acid from hot water (using fluter fiter paper and steamless funnel)

Acetanilide from boiling water

Napthalene from ethanol

Benzoic acid from water

g. Decolorisation and crystallization using charcoal:

Decolorsation of bron sugar (sucrose) with animal charcoal using gravity filtration.

Crystallization and decolorisation of impure naphthalene (100 of naphthalene mixes with 0.3 g of Congo Red using 1g decolorizing carbon) from enthanol.

h. Sublimation (Siple and Vacuum)

Camphor, Naphtalene, Phthalic acid and succinic acid.

i. Qualitative Analysis:

Detection of extra elements (N, S and halogens) and functional groups (phenolic, carboxylic, carbonyl, esters, carbohydrates, amines, amides, nitro and anilide) in simple organic compounds.

Physical Chemistry:

Chemical Kinetics:

1. To determine the specific reaction rate of the hydrolysis of methyl acetate/ethyl acetate catalyzed by hydrogen ions at rooms temperature.
2. To study the effect of acid strength on the hydrolysis of an ester.
3. To compare the strengths of HCL and H2SO4 by studying the kinetics of hydrolysis of ethyl acetate.
4. To study kinetically the reaction rate of decomposition of iodide by H2O4.

Distribution Law:

1. To study the distribution of iodine between water and CCl4.
2. To study the distribution of benzoic acid between benzene and water.

Colloids:

1. To prepare arsenious sulphide sol and compare the precipitating power of mono-, bi- and trivalent anions.

Viscosity, Surface Tension:

1. To determine the percentage composition of a given mixture (non interacting systems) by viscosity method/ surface tension.
2. To determine the viscosity of amyl alcohol in water at different concentration and calculate the excess viscosity of these solutions.
3. To determine the percentage composition of a given binary mixture by surface tension method (acetone & ethyl methyl ketone).

Viva: 5 marks, Record: 5 marks

Note: Organic Practical

1. M. pt, B.pt and element detection.

   Or Any one Practical from 1a, 1d, 1h, 1f, 1g, 1h

m.m. 50

B.Sc. – I (PRACTICAL) 180 hrs (6 Hrs/week)

Inorganic Chemistry : (Macro)

18 Marks

Semi micro Analysis – cation analysis, separation and identification of ions from Grops I, II, III, IV, V and VI, Anion analysis of 6 radicals (minimum 2 acidic/basic) and not more than one interferring radical.

Organic Chemistry :

12 Marks

1. Laboratory techniques;

a. ***Calibration of Thermometer***:

80-82^0 (Naphthalene), 113.5-114^0 (Acetanilide)

132.5-133^0 (Urea), 100^0 (Distilled Water)

b ***Determination of melting point***:

Naphthalene 80-82^0, Benzoic acid 121.5-122^0

Urea 132.5-133^0, Succinic acid 184.5-185^0

Cinnamic acid 132.5-133^0, Sallicylic acid 157.5-158^0

Acetanilide 113.5-114^0, m-Dinitrobenzene 90^0

p-Dichlorobenzene 52^0, Aspirin 135^0

c. ***Determination of boiling point***:

Ethanol 78^0, Cyclohexane 81.4^0, Toluene 110.6^0, Benzene 80^0

d. ***Mixed melting point determination***:

Urea-Cinnamic acid mixture of various compositions (1:4, 1:1, 4:1)

e. ***Distillation***:

Simple distillation of ethanol-water mixture using water condenser,

Distillation of nitrobenzene and aniline using air condenser

f. ***Crystallization***:

Concept of induction of crystallization,

Phthalic acid from hot water (using fluted filter paper and steamless funnel)

Acetanilide from boiling water

Naphthalene from ethanol

Benzoic acid from water

g ~~***Decolorisation and crystallization using charcoal***~~:

Decolorsation of brown sugar (sucrose) with animal charcoal using gravity filtration.

Crystallization and decolorisation of impure naphthalene (100g of naphthalene mixes with 0.3 g of Congo Red using 1g decolorizing carbon) from ethanol.

22/8/11

20/8/11

h. *Sublimation (Siple and Vacuum)*:

Camphor, Naphtalene, Phthalic acid and succinic acid.

i *Qualitative Analysis*:

Detection of extra elements (N, S and halogens) and functional groups (phenolic, carboxylic, carbonyl, esters, carbohydrates, amines, amides, nitro and anilide) in simple organic compounds.

(X) **Physical Chemistry** : Any one of the following — 10 Marks

Chemical Kinetics:

1. To determine the specific reaction rate of the hydrolysis of methyl acetate/ethyl acetate catalyzed by hydrogen ions at rooms temperature.
2. To study the effect of acid strength on the hydrolysis of an ester.
3. To compare the strengths of HCl and H_2SO_4 by studying the kinetics of hydrolysis of ethyl acetate.
4. To study kinetically the reaction rate of decomposition of iodide by H_2O_4.

Distribution Law:

1. To study the distribution of iodine between water and CCl_4.
2. To study the distribution of benzoic acid between benzene and water.

Colloids:

1. To prepare arsenious sulphide sol and compare the precipitating power of mono-, bi- and trivalent anions.

Viscosity, Surface Tension:

1. To determine the percentage composition of a given mixture (non interacting systems) by viscosity method/Surface tension
2. To determine the viscosity of amyl alcohol in water at different concentration and calculate the excess viscosity of these solutions.
3. To determine the percentage composition of a given binary mixture by surface tension method (acetone & ethyl methyl ketone).

Viva : 5 marks ; Record 5 Marks

⊛⊛⊛⊛⊛

(X) Note: organic Practical

1. M.pt, B.pt and element detection — 12

OR Any one practical from 1a, 1d, 1e, 1b, 1g, 1f

Umesh

20/8/11

20/8/11

Proceedings of B.O.S committee held on 6/8/11

1. B.Sc. Ist yr Common Syll. obtained from w.e. for the approval of Board of Studies, has been approved. The additions required in this Syll. will be discussed in next meeting of B.O.S. to be held on 20.8.11.

2. The M.Sc (IInd yr) Sem. Syll. has been finally approved. to be given in 2011-12 Session. A copy is enclosed.

3. The distribution of marks & allocation of Practicals to be performed in 12 hrs (two days) has been finally approved.

4. One examiner has to be appointed for the said Practical examination from this ces university

Dinesh
6/8/11

6/8/11

6/8/11

6/8/11 Dean (Science)

(Expert)

Sir, The syllabus has been reduced by making one paper into two papers.

6/8/11