कार्यालय आयुक्त उच्च शिक्षा
ब्लॉक सी–3, द्वितीय एवं तृतीय तल, इंद्रावती भवन,
नवा रायपुर, अटल नगर (छ.ग.)

(Email - highereducation.cg@gmail.com Website - www.highereducation.cg.gov.in)

कमांक 3150/1252/आउशि/राम./2023 नवा रायपुर, अटल नगर दिनांक 01/6/2023

प्रति,

1. कुलसचिव,
   समस्त विश्वविद्यालय छ.ग.।
2. प्राचार्य,
   समस्त महाविद्यालय छ.ग.।

विषय :– **शैक्षणिक सत्र 2023–24** हेतु अकादमिक कैलेण्डर विषयक ।

संदर्भ :– अवर सचिव छ.ग. शासन उच्च शिक्षा विभाग का पत्र कमांक एफ 17–83/2018/38–2 दिनांक 31.05.2023

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उपर्युक्त संदर्भित विषयान्तर्गत लेख है कि छ.ग.उच्च शिक्षा विभाग द्वारा शैक्षणिक सत्र **2023–24** का अकादमिक कैलेण्डर जारी किया गया है, जो मूलतः संलग्न कर प्रेषित है।

कृपया उक्त अकादमिक कैलेण्डर का कड़ाई से पालन करना सुनिश्चित करें ।

(आयुक्त,उच्च शिक्षा द्वारा अनुमोदित)

संलग्न :– उपरोक्तानुसार

अपर संचालक
उच्च शिक्षा संचालनालय,
नवा रायपुर अटल नगर(छ.ग.)

पृ.कमांक/3351/1252/आउशि/ सम/2023 नवा रायपुर अटल नगर दिनांक 01/6/2023

प्रतिलिपि :–

1. अवर सचिव छ.ग. शासन, उच्च शिक्षा विभाग मंत्रालय महानदी भवन नवा रायपुर अटल नगर छ.ग. को सूचनार्थ ।
2. क्षेत्रीय अपर संचालक, क्षेत्रीय कार्यालय, उच्च शिक्षा रायपुर/बिलासपुर/जगदलपुर/अंबिकापुर/दुर्ग की ओर सूचनार्थ।

अपर संचालक
उच्च शिक्षा संचालनालय,
नवा रायपुर अटल नगर(छ.ग.)

Govt. Shaheed Gendsingh College-Charama Dist. Kanker (C.G.)

Principal
Govt. Shaheed Gendsingh College Charama
Distt. Uttar Bastar Kanker (C.G.)

छत्तीसगढ़ शासन
उच्च शिक्षा विभाग
::मंत्रालय::
महानदी भवन, नवा रायपुर अटल नगर, रायपुर
Email-higher-education@cg.gov.in

क्रमांक एफ 17–83/2018/38–2 नवा रायपुर अटल नगर, रायपुर, 31/5/2023

प्रति,

आयुक्त,
उच्च शिक्षा संचालनालय,
इंद्रावती भवन,
नवा रायपुर अटल नगर, रायपुर।

विषयः– शैक्षणिक सत्र 2023–24 हेतु अकादमिक कैलेण्डर विषयक।
संदर्भः– आपका प्रस्ताव कमांक 3920/1252/आउशि/सम./2023 दिनांक 12.05.2023

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उपरोक्त विषयांतर्गत संदर्भित प्रस्ताव के संबंध में छ.ग. उच्च शिक्षा विभाग, के अंतर्गत संचालित छ.ग. के शैक्षणिक संस्थानों के लिए शैक्षणिक सत्र 2023–24 का अकादमिक कैलेण्डर आवश्यक कार्यवाही हेतु संलग्न प्रेषित है।

संलग्नः– यथोपरि।

(ए.आर.खान)
अवर सचिव
छ0ग0 शासन, उच्च शिक्षा विभाग

क्रमांक एफ 17–83/2018/38–2 नवा रायपुर अटल नगर, रायपुर, 31/5/2023

प्रति,

1. विशेष सहायक, माननीय मंत्रीजी, उच्च शिक्षा विभाग, छ.ग शासन, मंत्रालय, नवा रायपुर अटल नगर, रायपुर।
2. निज सचिव, सचिव छत्तीसगढ़ शासन, उच्च शिक्षा विभाग, मंत्रालय, नवा रायपुर अटल नगर, रायपुर।
3. विशेष कर्त्तव्यस्थ अधिकारी, उच्च शिक्षा विभाग, मंत्रालय, नवा रायपुर अटल नगर, रायपुर।

की ओर सूचनार्थ प्रेषित

4. गार्ड फाईल।

अवर सचिव
छ0ग0 शासन, उच्च शिक्षा विभाग

Govt. Shaheed Gendsingh College Charama U.B.Kanker (C.G.)

Principal
Govt. Shaheed Gendsingh College Charama
Distt. Uttar Bastar Kanker (C.G.)

उच्च शिक्षा विभाग, छत्तीसगढ़ शासन

शैक्षणिक सत्र 2023–24 का अकादमिक कैलेण्डर

क्र.	विवरण		तिथियाँ
1	प्रवेश प्रक्रिया (महाविद्यालय स्तर पर)		
	(क)	स्नातक प्रथम वर्ष हेतु	16.06.2023 से 31.07.2023 तक
	(ख)	अन्य कक्षाओं हेतु	16.06.2023 से 15.07.2023 या परीक्षा परिणाम घोषित होने के उपरान्त 10 दिन के भीतर
	(ग)	प्रवेश प्रक्रिया विश्वविद्यालय के माध्यम से ऑनलाइन पद्धति से या शासन के निर्देशानुसार	
2	कुलपति की अनुमति से प्रवेश की अंतिम तिथि		14 अगस्त 2023 तक
3	नियमित कक्षायें प्रारंभ		01.07.2023 से
4	वार्षिक परीक्षाओं का आयोजन		मार्च 2024 के प्रथम सप्ताह से
5	सभी वार्षिक परीक्षा परिणामों की घोषणा		15.06.2024 तक
6	पुनर्मूल्यांकन के सभी परिणामों की घोषणा		31.08.2024 तक
7	पूरक परीक्षा का आयोजन		न्यूनतम समय में
8	पूरक परीक्षा के परिणामों की घोषणा		31.10.2024 तक
9	छात्रसंघ गतिविधियाँ		
	(क)	छात्रसंघ गठन प्रकिया एवं शपथ ग्रहण	24.08.2023 से 31.08.2023 तक छात्रसंघ गठन हेतु चुनाव/मनोनयन, शासन के निर्देशानुसार
10	खेलकूद एवं सांस्कृतिक, गतिविधियाँ :–		
	(क)	खेलकूद प्रतिस्पर्धा प्रारम्भ (इंडोर आउटडोर)	18.07.2023 से
	(ख)	खेलकूद प्रतिस्पर्धाओं का समापन (इंडोर आउटडोर)	20.12.2023 तक
	(ग)	महाविद्यालय स्तर पर खेलकूद (इंडोर आउटडोर) का वार्षिक आयोजन एवं पुरस्कार वितरण	21, 22 एवं 23 दिसम्बर 2023 में से कोई दो दिन
11	एन सी.सी. /एन.एस.एस. एवं अन्य गतिविधियाँ :–		
	(क)	वृक्षारोपण कार्यक्रम	जुलाई, 2023 के द्वितीय सप्ताह
	(ख)	महाविद्यालय स्तर पर वार्षिकोत्सव का आयोजन	21, 22 एवं 23 दिसम्बर, 2023 में से कोई एक दिन
	(ग)	एनसीसी/एनएसएस कैम्प का आयोजन	23.12.2023 से 29.12.2023 तक
	(घ)	दीक्षान्त समारोह	जनवरी–फरवरी 2024

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Principal
Shaheed Gendsingh College Charama
Dist. Uttar Bastar Kanker (C.G.)

Govt. Shaheed Gendsingh College-Charama Dist. U.B.Kanker (C.G.)

क्र.		विवरण	तिथियाँ
12	अवकाश		
	(क)	दशहरा अवकाश (3 दिन)	23.10.2023 से 25.10.2023 तक
	(ख)	दीपावली अवकाश (5 दिन)	10.11.2023 से 14.11.2023 तक
	(ग)	शीतकालीन अवकाश (3 दिन)	25.12.2023 से 27.12.2023 तक
	(घ)	ग्रीष्मकालीन अवकाश (1 माह)	16.05.2024 से 15.06.2024 तक
13	आंतरिक परीक्षाओं का कार्यक्रम		
	1	प्रथम यूनिट परीक्षा	01.09.2023
	2	द्वितीय यूनिट परीक्षा	30.09.2023
	3	तृतीय यूनिट परीक्षा	06.11.2023
	4	प्रथम सत्र/सेमेस्टर परीक्षा	28, 29, 30 नवम्बर 2023
	5	चतुर्थ यूनिट परीक्षा	19.12.2023
	6	द्वितीय सत्र/सेमेस्टर परीक्षा	28, 29, 30 दिसम्बर 2023
	7	प्री– फाइनल परीक्षा	29, 30, 31 जनवरी 2024
14	वार्षिक परीक्षा कार्यक्रम		
	1	वार्षिक प्रायोगिक परीक्षाओं का आयोजन	फरवरी 2024 से
	2	वार्षिक परीक्षाओं का आयोजन	मार्च 2024 प्रथम सप्ताह से

नोटः– अपरिहार्य कारणवश शैक्षणिक कार्य दिवस निर्धारित मानक 180 दिवसों से कम होने की स्थिति में समस्त महाविद्यालयों एवं विश्वविद्यालयो में अपने स्तर पर शैक्षणिक कालखण्डों की अवधि में वृद्धि कर शैक्षणिक दिवसों की पूर्ति की जाए ताकि अकादमिक केलेण्डर का पालन सुनिश्चित हो।

नियमित विद्यार्थी के रूप में वार्षिक परीक्षा में बैठने की पात्रता :–

1. प्रत्येक विषय की कक्षाओं में 75 प्रतिशत उपस्थिति अनिवार्य है।
2. पाठ्यक्रम में निर्धारित निहित प्रावधानों के अन्तर्गत विद्यार्थियों को आन्तरिक परीक्षा में सम्मलित होना अनिवार्य है।
3. एन.सी.सी./एन.एस.एस. कैम्प/खेलकूद/राज्य स्तरीय प्रतिस्पर्धाओं में सम्मिलित हुए छात्रों को उपस्थित माना जाये।
4. कक्षाओं में उपस्थिति की प्रथम गणना 30 नवम्बर तक की जाये।
5. कम उपस्थिति वाले छात्रो को तथा उनके पालको को सूचना दी जाये।
6. कक्षाओं में उपस्थिति की द्वितीय गणना 28 फरवरी तक की जाये।

02.05.23 02.05.23 02.05.23

Principal
Govt. Shaheed Gendsingh College Charama
Distt. Uttar Bastar Kanker (C.G.)

Govt. Shaheed Gendsingh College-Charama, Distt.-U.B.Kanker (C.G.)
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(सेमेस्टर कक्षाओं के लिए)

अकादमिक कार्य	स्नातक / स्नातकोत्तर / स्वशासी (I/III/V/VII/IX सेमेस्टर)	स्नातक / स्नातकोत्तर / स्वशासी (II/IV/VI/VIII/X सेमेस्टर)
प्रवेश प्रक्रिया	16 जून से 30 जून 2023 तक	—
कक्षाओं का आरम्भ	1 जुलाई 2023 से	02 जनवरी 2024 से
प्रायोगिक परीक्षाएँ	02 से 11 नवम्बर 2023 तक	15 से 24 अप्रैल 2024 तक
परीक्षा पूर्व तैयारी	13 नवम्बर से 20 नवम्बर 2023 तक	25 अप्रैल 2024 से 01 मई 2024 तक
लिखित परीक्षाएँ	24 नवम्बर 2023 से	02 मई 2024 से
परीक्षा परिणाम	01 जनवरी 2024 तक	15 जून 2024 तक

शिक्षक के कर्तव्य एवं निर्देश

प्रत्येक कार्य दिवस पर शिक्षक को महाविद्यालय / विश्वविद्यालय शिक्षण विभाग में 07 घण्टे रूकना आवश्यक होगा।

1. प्रातः कालीन पाली के लिए – प्रातः 07:30 से 02:30 अपरान्ह तक
2. द्वितीय कालीन पाली के लिए – प्रातः 10:30 से 05:30 संध्या तक
3. 07 घण्टे का कार्य विवरण –
   6 घण्टे अध्ययन–अध्यापन कार्य
   (सैद्धान्तिक, प्रायोगिक, ट्यूटोरियल, रेगेडियल, शोधकार्य, लाईब्रेरी वर्क शामिल है।)

   1 घण्टा अन्य कार्य (खेलकूद, रिक्रियेशन, प्राचार्य द्वारा प्रदत्त कार्य, विद्यार्थियों का शंका समाधान, नैक मूल्यांकन संबंधी कार्य)

4. समस्त प्रकार की बैठक / स्टॉफ कौंसिल की बैठक दोपहर 03:00 बजे के पश्चात् आयोजित की जाये।
5. विश्वविद्यालय / स्वशासी महाविद्यालयो द्वारा आयोजित परीक्षाओं के संचालन एवं मूल्यांकन से संबंधित कार्य का निष्पादन अनिवार्यतः करेगे।
6. छ.ग. शासन, उच्च शिक्षा विभाग के निर्देशानुसार सभी महाविद्यालयों एवं विश्वविद्यालयों मे हेल्प डेस्क का गठन कर विद्यार्थियों को वांछित जानकारियॉ प्रदान करेगें।
7. यदि पाठ्यक्रम पूर्ण नही हुआ है तो पाठ्यक्रम को पूर्ण करने के लिए अध्यापन हेतु महाविद्यालय स्तर पर कालखण्ड मे यथोचित समय वृद्धि की जाये।
8. आवश्यकता पड़ने पर अध्ययन–अध्यापन की पद्धति में सूचना प्रौद्योगिकी का यथोचित विस्तार किया जाये।

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02.05.23

02.05.23

Principal
Govt. Shaheed Gendsingh College Charama
Dist. Uttar Bastar Kanker (C.G.)

Govt. Shaheed Gendsingh College-Charama, Dist.-Uttar Bastar Kanker (C.G.)

शासकीय शहीद गेंदसिंह महाविद्यालय चारामा,जिला–उ.ब.कांकेर(छ.ग.)

महाविद्यालयीन अकादमिक कैलेण्डर सत्रः 2023–24

क्रं.	दिनांक	विवरण / दिवस / कार्यक्रम	रिमार्क
		माह–जून 2023	
1	**प्रवेश प्रक्रिया** (क) 16.06.2023 से 31.07. 2023 तक	स्नातक / स्नातकोत्तर : प्रथम वर्ष / प्रथम सेमेस्टर हेतु	
	(ख) अन्य कक्षाओं हेतु	परीक्षा परिणाम घोषित होने के 10 दिवस के अदंर	
	(ग) प्रवेश प्रक्रिया विश्वविद्यालय के माध्यम से ऑनलाइन पद्वति से....		
2	29.06.2023	विश्व सांख्यिकी दिवस	अर्थशास्त्र एवं गणित विभाग द्वारा आयोजन
		माह–जुलाई 2023	
1	01 जुलाई 2023	नियमित कक्षायें प्रारंभ (बी.ए.,बी.एस. सी,बी.कॉम–द्वितीय व तृतीय वर्ष एवं स्नातकोत्तर की कक्षायें)	
2	04 जुलाई 2023	IQAC की बैठक	समय दोपहर 3 बजे से
3	जुलाई 2023(द्वितीय सप्ताह)	वृक्षारोपण कार्यक्रम	
4	खेलकूद प्रतिस्पर्धा प्रांरभ(इंडोर आउटडोर)	18.07.2023 से	
		माह–अगस्त 2023	
1	09.08.2023	अंग्रेजो भारत छोड़ो आन्दोलन दिवस	इतिहास विभाग द्वारा आयोजन
2	11.08.2023	खुदीराम बोस शहीद दिवस	इतिहास एवं राजनीतिशास्त्र विभाग द्वारा आयोजन
3	12.08.2023	अंतर्राष्ट्रीय युवा दिवस	
4	12.08.2023	IQAC की बैठक	समय दोपहर 3 बजे से
5	15.08.2023	स्वतंत्रता दिवस	
6	16.08.2023	महाविद्यालय स्थापना दिवस	
7	20.08.2023	सद्भावना दिवस / राजीव गांधी जयंती	
8	22.08.2023	संस्कृत दिवस	
9	24.08.2023	छात्रसंघ गठन चुनाव / मनोनयन	शासन के निर्देशानुसार
10	25.08.2023	स्नातक प्रथम वर्ष विद्यार्थियों हेतु उन्नमुखीकरण कार्यक्रम	
11	29.08.2023	खेल दिवस	खेलकुद विभाग द्वारा आयोजन
12	31.08.2023	पर्यावरण संरक्षण हेतु महाविद्यालय द्वारा वृक्षो को राखी बांधने का कार्यक्रम	
13	31.08.2023	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का

Govt. Shaheed Gendsingh College-Charama, Dist.-U.B.Kanker (C.G.)

			निष्पादन प्रतिवेदन प्रस्तुत करें।
माह–सितबंर 2023			
1	01.09.2023	प्रथम यूनिट परीक्षा	
2	04.09.2023	विश्व वन्यजीव दिवस	आईक्यूएसी द्वारा आयोजन
3	05.09.2023	डॉ.राधाकृष्णन जंयती	
4	08.09.2023	विश्व साक्षरता दिवस	अर्थशास्त्र विभाग द्वारा आयोजन
5	09.09.2023	IQAC की बैठक	समय दोपहर 3 बजे से
6	11.09.2023	संत विनोबा भावे जयंती	अर्थशास्त्र/इतिहास विभाग द्वारा आयोजन
7	14.09.2023	राष्ट्रीय हिन्दी दिवस	हिन्दी विभाग द्वारा आयोजन
8	15.09.2023	समस्त विभागों द्वारा 01 सितम्बर 2022 को आयोजित प्रथम यूनिट परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
9	16.09.2023	अंतराष्ट्रीय ओजोन दिवस	रसायनशास्त्र विभाग द्वारा आयोजन
10	21.09.2023	अंतर्राष्ट्रीय शांति दिवस	अर्थशास्त्र एवं आईक्यूएसी द्वारा आयोजन
11	27.09.2023	विश्व पर्यटन दिवस	अर्थशास्त्र विभाग द्वारा आयोजन
12	28.09.2023	शहीद भगत सिंह जयंती	राजनीति/इतिहास विभाग द्वारा आयोजन
13	29.09.2023	विश्व हृदय दिवस	प्राणीशास्त्र विभाग द्वारा आयोजन
14	30.09.2023	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करें।
15	30.09.2023	द्वितीय यूनिट परीक्षा	
माह–अक्टूबर 2023			
1	02.10.2023	रक्तदान दिवस	प्राणीशास्त्र/एनसीसी/एनएसएस विभाग द्वारा आयोजन
2	02.10.2023	गांधी जयंती/स्वच्छता कार्यक्रम/सामुदायिक स्वास्थ केन्द्र चारामा में फल वितरण	समस्त स्टॉफ/एनसीसी/एनएसएस द्वारा
3	05.10.2023	रानी दुर्गावती जयंती	इतिहास विभाग द्वारा आयोजन
4	08.10.2023	सेना दिवस	एनसीसी विभाग द्वारा आयोजन(अवकाश होने के कारण अगले दिन मनाया जायेगा)
5	10.10.2023	विश्व मानसिक स्वास्थ दिवस	श्री रवीन्द्र सिंह चन्द्रवंशी(सहा. प्राध्या.अर्थशास्त्र) व डॉ.अभिषेक मिश्र (सहा.प्राध्या.प्राणीशास्त्र) द्वारा आयोजित किये जायेगें।
6	10.10.2023	विश्व दृष्टि दिवस	प्राणीशास्त्र विभाग द्वारा

			सामुदायिक स्वास्थ केन्द्र चारामा के माध्यम से आयोजित किये जायेंगें।
7	12.10.2023	वेबिनार	अर्थशास्त्र विभाग द्वारा
8	13.10.2023	समस्त विभागों द्वारा 30 सितम्बर 2022 को आयोजित ईकाइ परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
09	21.10.2023	पुलिस स्मृति दिवस	एनसीसी विभाग द्वारा मनाया जायेगा।
10	21.10.2023	IQAC की बैठक	समय दोपहर 3 बजे से
11	23.10.2023 से 25.10.2023 तक	दशहरा अवकाश	
12	30.10.2023	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करें।
नवंबर 2023			
1	01.11.2023	छग राज्य स्थापना दिवस	इतिहास/राजनीति विभाग द्वारा आयोजन
2	06.11.2023	तृतीय यूनिट परीक्षा	
3	10.11.2023 से 14.11.2023	दीपावली अवकाश	
4	16.11.2023	तिमाही परीक्षा/प्रथम सत्र का समय–सारणी जारी करना	
5	16.11.2023	समस्त विभागों द्वारा 05 नवम्बर 2022 को आयोजित ईकाइ परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
6	19.11.2023	रानी लक्ष्मीबाई जयंती	अवकाश होने के कारण अगले दिन मनाया जायेगा
7	20.11.2023	तिमाही परीक्षा/ प्रथम सत्र हेतु प्रश्नपत्र तैयार कर प्राचार्य को सौंपना	
8	28,29,30 नवम्बर 2023	तिमाही/प्रथम सत्र परीक्षा	
9	25.11.2023	IQAC की बैठक	समय दोपहर 3 बजे से
10	26.11.2023	भारतीय संविधान दिवस	अवकाश होने के कारण अगले दिन मनाया जायेगा
11	30.11.2023	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक

			डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करें।
		दिसम्बर 2023	
1	01.12.2023	विश्व एड्स दिवस	वनस्पति/प्राणीशास्त्र विभाग द्वारा आयोजन
2	03.12.2023	किसान दिवस	अर्थशास्त्र विभाग द्वारा आयोजन (अवकाश होने के कारण अगले दिन मनाया जायेगा)
3	06.12.2023	छःमाही परीक्षा हेतु समय सारणी जारी करना	
4	06.12.2023	अबेंडकर पुण्यतिथि	
5	07.12.2023	झंडा दिवस	एनसीसी विभाग द्वारा आयोजन
6	08.12.2023	तिमाही परीक्षा की उत्तरपुस्तिकाओं एवं प्राप्तांको की सूची प्राचार्य को सौंपना	
7	10.12.2023	मानव अधिकार/वीरनारायण सिंह शहीद दिवस	राजनीति विज्ञान विभाग द्वारा आयोजन (अवकाश होने के कारण अगले दिन मनाया जायेगा)
8	11.12.2023	पर्वत दिवस	भूगोल विभाग द्वारा
9	15.12.2023	IQAC की बैठक	समय दोपहर 3 बजे से
10	15.12.2023	छःमाही परीक्षा/ द्वितीय सत्र हेतु प्रश्नपत्र तैयार कर प्राचार्य को सौंपना	
11	19.12.2023	चतुर्थ यूनिट परीक्षा	
12	20.12.2023	खेलकूद प्रतिस्पर्धाओं का समापन(इंडोर आउटडोर)	
13	21,22,23 दिसम्बर 2023 में से कोई एक दिन	महाविद्यालय स्तर पर वार्षिकोत्सव का आयोजन	
14	21,22,23 दिसम्बर 2023 में से कोई दो दिन	महाविद्यालय स्तर पर खेलकूद ,पुरस्कार वितरण,वार्षिकोत्सव का आयोजन	
15	25.12.2023 से 27.12.2023	शीतकालीन अवकाश	
16	30.12.2023	समस्त विभागों द्वारा 19 नवम्बर 2022 को आयोजित ईकाइ परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
17	28,29,30 दिसम्बर 2023	छःमाही/द्वितीय सत्र् परीक्षा	
18	30.12.2023	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का

			निष्पादन प्रतिवेदन प्रस्तुत करें।
19	23.12.2023 से 29.12.2023 तक	एनसीसी / एनएसएस कैम्प का आयोजन	
20	माह के अंतिम रविवार को	एनसीसी दिवस	
जनवरी 2024			
1	08.01.2024	छःमाही / द्वितीय सत्र परीक्षा के उत्तरपुस्तिकाओं एवं प्राप्तांको के सूची को प्राचार्य को सौंपना	
2	10.01.2024	विश्व हिन्दी दिवस	हिन्दी विभाग द्वारा आयोजन
3	12.01.2024	स्वामी विवेकानंद जंयती	एनएसएस द्वारा आयोजन
4	15.01.2024	थल सेना दिवस	एनसीसी विभाग द्वारा आयोजन
5	20.01.2024	शहीद गेंदसिंह बलिदान दिवस	
6	23.01.2024	सुभाषचन्द्र बोस जयंती	राजनीति विज्ञान विभाग द्वारा आयोजन
7	24.01.2024	राष्ट्रीय बालिका दिवस	
8	25.01.2024	मतदाता दिवस	
9	26.01.2024	गणतंत्र दिवस	
10	26.01.2024	अंतराष्ट्रीय कस्टम दिवस	वाणिज्य विभाग द्वारा आयोजन
11	29,30,31 जनवरी 2024	प्री–फाइनल परीक्षा	
12	26.01.2024	IQAC की बैठक	समय दोपहर 3 बजे से
13	30.01.2024	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करें।
फरवरी 2024			
1	04.02.2024	विश्व कैंसर दिवस	सामुदायिक स्वास्थ केन्द्र चारामा के माध्यम से जनजागरूकता कार्यक्रम का आयोजन(अवकाश होने के कारण अगले दिन मनाया जायेगा)
2	10.02.2024	प्री फायनल परीक्षा के उत्तरपुस्तिकाओं एवं प्राप्तांको के सूची को प्राचार्य को सौंपना	
3	11.02.2024	पं.दीनदयाल उपाध्याय पुण्यतिथि	(अवकाश होने के कारण अगले दिन मनाया जायेगा)
4	24.02.2024	केन्द्रीय उत्पाद दिवस	वाणिज्य विभाग द्वारा आयोजन
5	24.02.2024	IQAC की बैठक	समय दोपहर 3 बजे से
6	28.02.2024	साइंस डे	समस्त विज्ञान संकाय द्वारा आयोजन
7	28.02.2024	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से
8	फरवरी 2024	वार्षिक प्रायोगिक परीक्षा का आयोजन	

मार्च 2024			
1	03.03.2024	वर्ल्ड वाइड लाइफ डे	प्राणीशास्त्र विभाग व आईक्यूएसी द्वारा आयोजन (अवकाश होने के कारण अगले दिन मनाया जायेगा)
2	04.03.2024	राष्ट्रीय सुरक्षा दिवस	
3	08.03.2024	अंतराष्ट्रीय महिला दिवस	समाजशास्त्र विभाग द्वारा आयोजन
4	15.03.2024	अंतराष्ट्रीय उपभोक्ता दिवस	अर्थशास्त्र विभाग व आईक्यूएसी द्वारा आयोजन
5	19.03.2024	IQAC की बैठक	समय दोपहर 3 बजे से
6	20.03.2024	विश्व गौरेया दिवस	प्राणीशास्त्र/भूगोल विभाग द्वारा आयोजन
7	21.03.2024	विश्व वानिकी दिवस	वनस्पति विभाग द्वारा आयोजन
8	22.03.2024	विश्व पानी दिवस	भूगोल/अर्थशास्त्र/आईक्यूएसी द्वारा आयोजन
9	23.03.2024	विश्व मौसम विज्ञान दिवस/शहीद दिवस	भूगोल/आईक्यूएसी/एनसीसी द्वारा आयोजन
10	मार्च प्रथम सप्ताह	वार्षिक परीक्षा का आयोजन	
11	30.03.2024	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से एवं समस्त प्राध्यापक मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करें।

नोटः–

1. उक्त तिथियों को अवकाश होने पर अगले दिवस कार्यक्रम आयोजित किया जायेगा।
2. उपर्युक्त दिवसों/कार्यक्रमों के अतिरिक्त समस्त विभागों द्वारा अपने–अपने विषय क्षेत्र से संबंधित कार्यक्रमों को आयोजन करेंगें
3. अपरिहार्य कारणवश शैक्षणिक कार्य दिवस निर्धारित मानक 180 दिवसों से कम होने की स्थिति में समस्त प्राध्यापक अपने स्तर पर शैक्षणिक कालखण्डों की अवधि में वृद्वि कर शैक्षणिक दिवसों की पूर्ति की जाए ताकि अकादमिक केलेण्डर का पालन सुनिश्चित हो।
4. प्रत्येक विषय में ऑफलाइन कक्षाओं में 75 प्रतिशत उपस्थिति अनिवार्य है।
5. कुल 7 आंतरिक परीक्षाओं कक्षाओं में से कम से कम 5 में सम्मिलित होना अनिवार्य है। बिना इसके वार्षिक परीक्षा में बैठने की अनुमति नहीं दी जाये।
6. कक्षाओं में उपस्थिति की प्रथम गणना 30 नवम्बर तक की जाये।
7. कम उपस्थिति वाले छात्रों को तथा उनके पालकों को सूचना दी जाये।
8. कक्षाओं में उपस्थिति की द्वितीय गणना 28 फरवरी तक की जाये।

संयोजन आईक्यूएसी
IQAC संयोजक

प्राचार्य
शासकीय शहीद गंदासिंह महाविद्यालय चारामा
जिला– उ.ब.कांकेर (छ.ग.)
Govt. Shaheed Gendsingh College Charama
Distt. Uttar Bastar Kanker (C.G.)

Govt. Shaheed Gendsingh College-Charama, Distt.-U.B.Kanker

शासकीय शहीद गेंदसिंह महाविद्यालय चारामा,जिला–उ.ब.कांकेर(छ.ग.)

विभागीय (अर्थशास्त्र) अकादमिक कैलेण्डर सत्र 2023–24

क्रं.	दिनांक	विवरण / दिवस / कार्यक्रम	रिमार्क
		माह–जून 2023	
1	**प्रवेश प्रक्रिया** (क) 16 जून से 31 जुलाई तक	स्नातक / स्नातकोत्तर : प्रथम वर्ष / प्रथम सेमेस्टर हेतु	
2	(ख) अन्य कक्षाओं हेतु	परीक्षा परिणाम घोषित होने के 10 दिवस के अदंर	
	(ग) प्रवेश प्रक्रिया विश्वविद्यालय के माध्यम से ऑनलाइन पद्वति से....		
3	29 जून	विश्व सांख्यिकी दिवस	अर्थशास्त्र एवं गणित विभाग द्वारा आयोजन
		माह–जुलाई 2023	
1	01 जुलाई	बीए–भाग एक / दो एवं तीन की नियमित कक्षाएँ प्रारंभ	
2	15 जुलाई तक	विद्यार्थियों हेतु इंडक्शन प्रोग्राम	
3	**11 जुलाई**	**विश्व जनसंख्या दिवस**	
		माह–अगस्त 2023	
1	31 अगस्त	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना
		माह–सितबंर 2023	
1	01 सितम्बर	प्रथम यूनिट परीक्षा	
2	08 सितम्बर	विश्व साक्षरता दिवस	
3	11 सितम्बर	संत विनोबा भावे जयंती	
4	15 सितम्बर	समस्त विभागों द्वारा 01 सितम्बर 2022 को आयोजित प्रथम यूनिट परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
5	21 सितम्बर	अंतर्राष्ट्रीय शांति दिवस	अर्थशास्त्र एवं आईक्यूएसी द्वारा आयोजन
6	21 सितम्बर	चौथा वैल्यू एडेड कोर्स (फण्डामेंटल ऑफ कम्प्यूटर) प्रारंभ	
7	27 सितम्बर	विश्व पर्यटन दिवस	
8	30 सितम्बर	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना
9	30 सितम्बर	द्वितीय यूनिट परीक्षा	
		माह–अक्टूबर 2023	
1	03 अक्टूबर	महात्मा गाँधी के आर्थिक विचारों की प्रासंगिकता विषय पर संगोष्ठी	
2	अक्टूबर मध्य	नोबेल पुरस्कार–2023 पर परिचर्चा	

3	12 अक्टूबर	वेबिनार	
4	13 अक्टूबर	30 सितम्बर 2022 को आयोजित ईकाइ परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
5	16 अक्टूबर	विश्व खाद्य दिवस पर जन–जागरूकता कार्यक्रम	
6	23 से 25 अक्टूबर तक	दशहरा अवकाश	
7	30 अक्टूबर	विश्व बचत दिवस पर जन–जागरूकता कार्यक्रम	
8	30 अक्टूबर	करियर मार्गदर्शन	
9	30 अक्टूबर	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना।
		नवंबर 2023	
1	06 नवम्बर	तृतीय यूनिट परीक्षा	
2	10 से 14 नवम्बर	दीपावली अवकाश	
3	16 नवम्बर	तिमाही परीक्षा / प्रथम सत्र का समय–सारणी जारी करना	
4	16.11.2023	समस्त विभागों द्वारा 06 नवम्बर 2023 को आयोजित इकाई परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
5	20.11.2023	तिमाही परीक्षा / प्रथम सत्र हेतु प्रश्नपत्र तैयार कर प्राचार्य को सौंपना	
6	23 नवम्बर	राष्ट्रीय उपभोक्ता दिवस	
7	28,29,30 नवम्बर	तिमाही / प्रथम सत्र परीक्षा	
8	30 नवम्बर	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी / शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना
		दिसम्बर 2023	
1	06 दिसम्बर	छःमाही परीक्षा हेतु समय सारणी जारी करना	
2	08 दिसम्बर	तिमाही परीक्षा की उत्तरपुस्तिकाओं एवं प्राप्तांको की सूची प्राचार्य को सौंपना	
3	15 दिसम्बर	छःमाही परीक्षा / द्वितीय सत्र हेतु प्रश्नपत्र तैयार कर प्राचार्य को सौंपना	
4	19 दिसम्बर	चतुर्थ यूनिट परीक्षा	

5	21,22,23 दिसम्बर 2023 में से कोई दो दिन	महाविद्यालय स्तर पर खेलकूद ,पुरस्कार वितरण,वार्षिकोत्सव का आयोजन	
6	किसान दिवस 23-12-23	अर्थशास्त्र विभाग द्वारा आयोजन (अवकाश होने के कारण अगले दिन मनाया जायेगा)	
7	25 से 27 दिसम्बर	शीतकालीन अवकाश	
8	30.12.2023	समस्त विभागों द्वारा 19 नवम्बर 2022 को आयोजित ईकाइ परीक्षा के उत्तरपुस्तिकाओं को मूल्यांकन के बाद प्राचार्य के पास जमा करना।	
9	28,29,30 दिसम्बर 2023	छःमाही/द्वितीय सत्र् परीक्षा	
10	30 दिसम्बर	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना
जनवरी 2024			
1	08 जनवरी	छःमाही/द्वितीय सत्र् परीक्षा के उत्तरपुस्तिकाओं एवं प्राप्तांको के सूची को प्राचार्य को सौंपना	
2	जनवरी के मध्य	शैक्षणिक भ्रमण	
3	26 जनवरी	गणतंत्र दिवस	
4	29,30,31 जनवरी	प्री–फाइनल परीक्षा	
5	30 जनवरी	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना
फरवरी 2024			
1	10 फरवरी	प्री फायनल परीक्षा के उत्तरपुस्तिकाओं एवं प्राप्तांको के सूची को प्राचार्य को सौंपना	
2	28.02.2024	स्टॉफ काउंसिल की समीक्षा बैठक	समय दोपहर 3 बजे से
3	फरवरी 2024	वार्षिक प्रायोगिक परीक्षा का आयोजन	
मार्च 2024			
1	15 मार्च	अंतर्राष्ट्रीय उपभोक्ता दिवस	अर्थशास्त्र विभाग व आईक्यूएसी द्वारा आयोजन
2	22 मार्च	विश्व पानी दिवस	भूगोल/अर्थशास्त्र/आईक्यूएसी द्वारा आयोजन
3	मार्च प्रथम सप्ताह	वार्षिक परीक्षा का आयोजन	
4	30 मार्च	स्टॉफ काउंसिल की समीक्षा बैठक	मासिक विद्यार्थी उपस्थिति विवरण,उपस्थिति पंजी/शिक्षक

			डेली डायरी में प्राचार्य का हस्ताक्षर व सौंपे गए कार्य का निष्पादन प्रतिवेदन प्रस्तुत करना

नोटः–

1. उक्त तिथियों को अवकाश होने पर अगले दिवस कार्यक्रम आयोजित किया जायेगा।
2. प्रत्येक विषय में ऑफलाइन कक्षाओं में 75 प्रतिशत उपस्थिति अनिवार्य है।
3. कक्षाओं में उपस्थिति की प्रथम गणना 30 नवम्बर तक की जायगी।
4. कम उपस्थिति वाले छात्रों को तथा उनके पालकों को सूचना दी जायगी।
5. कक्षाओं में उपस्थिति की द्वितीय गणना 28 फरवरी तक की जायगी।

(रवीन्द्र सिंह **चंद्रवंशी)**
विभागाध्यक्ष
अर्थशास्त्र विभाग
शासकीय शहीद गेंदसिंह महाविद्यालय **चारामा**
जिला–उ.ब.कांकेर(छ.ग.)

(Head of The Department)
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Principal
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शासकीय शहीद गेंदसिंह महाविद्यालय,चारामा

जिला- उ.ब. कांकेर (छ.ग.)

(तिमाही परीक्षा : 2023)

परीक्षा समय :- प्रातः 10.00 बजे से 11.30 बजे तक

क्र.	कक्षा	विषय	प्रश्न पत्र	प्रश्न पत्र का नाम	परीक्षा दिनांक
01	बीए-भाग एक	अर्थशास्त्र	प्रथम	व्यष्टि अर्थशास्त्र	26.10.2023
02	बीए-भाग एक	अर्थशास्त्र	द्वितीय	भारतीय अर्थव्यवस्था	27.10.2023
03	बीए-भाग एक	राजनीति विज्ञान	प्रथम	राजनीतिक सिद्धांत	28.10.2023
04	बीए-भाग एक	राजनीति विज्ञान	द्वितीय	भारतीय शासन एवं राजनीति	30.10.2023
05	बीए-भाग एक	इतिहास	प्रथम	भारत का इतिहास	31.10.2023
06	बीए-भाग एक	इतिहास	द्वितीय	विश्व का इतिहास	01.11.2023
07	बीए-भाग एक	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	02.11.2023
08	बीकॉम-भाग एक	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	02.11.2023
09	बीएससी (बायो/गणित) -भाग एक	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	02.11.2023

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शासकीय शहीद गेंदसिंह महाविद्यालय,चारामा

जिला- उ.ब. कांकेर (छ.ग.)

(तिमाही परीक्षा : 2023)

परीक्षा समय :- प्रातः 10.00 बजे से 11.30 बजे तक

क्र.	कक्षा	विषय	प्रश्न पत्र	प्रश्न पत्र का नाम	परीक्षा दिनांक
01	बीए-भाग दो	अर्थशास्त्र	प्रथम	समष्टि अर्थशास्त्र	28.11.2023
02	बीए-भाग तीन	अर्थशास्त्र	प्रथम	विकास एवं पर्यावरणीय अर्थशास्त्र	28.11.2023
03	बीएससी-भाग एक	गणित	प्रथम	Algebra	28.11.2023
04	बीएससी-भाग दो	गणित	प्रथम	Advanced Calculus	28.11.2023
05	बीएससी-भाग तीन	गणित	प्रथम	Analysis & Complex Analysis	28.11.2023
06	बीए-भाग दो	अर्थशास्त्र	द्वितीय	मुद्रा, बैंकिंग एवं राजस्व	29.11.2023
07	बीए-भाग तीन	अर्थशास्त्र	द्वितीय	सांख्यिकीय विधियाँ	29.11.2023
08	बीए-भाग दो	राजनीति विज्ञान	प्रथम	राजनीतिक चिंतन	30.11.2023
09	बीए-भाग तीन	राजनीति विज्ञान	प्रथम	अंतर्राष्ट्रीय राजनीति एवं भारतीय विदेश नीति	30.11.2023
10	बीए-भाग दो	राजनीति विज्ञान	द्वितीय	तुलनात्मक शासन एवं राजनीति	01.12.2023
11	बीए-भाग तीन	राजनीति विज्ञान	द्वितीय	लोक प्रशासन	01.12.2023
12	बीए-भाग दो	इतिहास	प्रथम	भारत का इतिहास (1206 से 1761)	02.12.2023
13	बीए-भाग तीन	इतिहास	प्रथम	भारत का इतिहास (1761 से 1947)	02.12.2023
14	बीए-भाग दो	इतिहास	द्वितीय	विश्व का इतिहास (1761 से 1964)	04.12.2023
15	बीए-भाग तीन	इतिहास	द्वितीय	भारतीय स्वतंत्रता संग्राम	04.12.2023
16	बीए-भाग दो	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	05.12.2023
17	बीकॉम-भाग दो	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	05.12.2023
18	बीएससी (बायो/गणित) -भाग दो	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	05.12.2023
19	बीए-भाग तीन	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	06.12.2023
20	बीकॉम-भाग तीन	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	06.12.2023
21	बीएससी (बायो/गणित) -भाग तीन	आधार पाठ्यक्रम	द्वितीय	अंग्रेजी भाषा	06.12.2023

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शासकीय शहीद गेंदसिंह महाविद्यालय चारामा,जिलाः उ.ब.कांकेर(छ.ग)

समय–सारणी

छःमाही परीक्षा सत्र : 2023–24

समय : प्रात : 10:00 से 12:00 बजे तक

दिनांक	बी.ए.भाग–1 विषय / प्रश्न पत्र	बी.ए.भाग–2 विषय / प्रश्न पत्र	बी.ए.भाग–3 विषय / प्रश्न पत्र
08/01/2024	अर्थशास्त्र–प्रथम	अर्थशास्त्र–प्रथम	अर्थशास्त्र–प्रथम
09/01/2024	अर्थशास्त्र–द्वितीय	अर्थशास्त्र–द्वितीय	अर्थशास्त्र–द्वितीय
10/01/2024	राजनीति विज्ञान–प्रथम	आ.पा.हिन्दी भाषा–प्रथम	आ.पा.हिन्दी भाषा–प्रथम
11/01/2024	राजनीति विज्ञान–द्वितीय	आ.पा.अंग्रेजी भाषा–द्वितीय	आ.पा.अंग्रेजी भाषा–द्वितीय
12/01/2024	इतिहास–प्रथम	इतिहास–प्रथम	इतिहास–प्रथम
13/01/2024	इतिहास–द्वितीय	इतिहास–द्वितीय	इतिहास–द्वितीय
15/01/2024	आ.पा.हिन्दी भाषा–प्रथम	भूगोल–प्रथम	भूगोल–प्रथम
16/01/2024	आ.पा.अंग्रेजी भाषा–द्वितीय	भूगोल–द्वितीय	भूगोल–द्वितीय
17/01/2024	हिन्दी साहित्य–प्रथम	–	–
18/01/2024	हिन्दी साहित्य–द्वितीय	–	–
19/01/2024	समाजशास्त्र–प्रथम	समाजशास्त्र–प्रथम	समाजशास्त्र–प्रथम
20/01/2024	समाजशास्त्र–द्वितीय	समाजशास्त्र–द्वितीय	समाजशास्त्र–द्वितीय
22/01/2024	भूगोल–प्रथम	हिन्दी साहित्य–प्रथम	हिन्दी साहित्य–प्रथम
23/01/2024	भूगोल–द्वितीय	हिन्दी साहित्य–द्वितीय	हिन्दी साहित्य–द्वितीय
24/01/2024	पर्यावरण	राजनीति विज्ञान–प्रथम	राजनीति विज्ञान–प्रथम
27/01/2024	–	राजनीति विज्ञान–द्वितीय	राजनीति विज्ञान–द्वितीय

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प्राचार्य
शासकीय शहीद गेंदसिंह महाविद्यालय चारामा
जिला : उ.ब.कांकेर(छ.ग.)

Govt.Shaheed Gendsingh College-Charama,Distt.-U.B.Kanker(C.G.)

शासकीय शहीद गेंदसिंह महाविद्यालय चारामा,जिलाः उ.ब.कांकेर(छ.ग)

समय–सारणी

छ:माही परीक्षा सत्र : 2023–24

समय : प्रात : 12:30 से 02:30 बजे तक

दिनांक	बी.एस.सी भाग–1 विषय / प्रश्न पत्र	बी.एस.सी भाग–2 विषय / प्रश्न पत्र	बी.एस.सी भाग–3 विषय / प्रश्न पत्र
08/01/2024	रसायनशास्त्र–प्रथम	रसायनशास्त्र–प्रथम	रसायनशास्त्र–प्रथम
09/01/2024	रसायनशास्त्र–द्वितीय	रसायनशास्त्र–द्वितीय	रसायनशास्त्र–द्वितीय
10/01/2024	रसायनशास्त्र–तृतीय	रसायनशास्त्र–तृतीय	रसायनशास्त्र–तृतीय
11/01/2024	पर्यावरण	आ.पा.हिन्दी भाषा–प्रथम	आ.पा.हिन्दी भाषा–प्रथम
12/01/2024	वनस्पतिशास्त्र / भौतिकशास्त्र–प्रथम	वनस्पतिशास्त्र / भौतिकशास्त्र–प्रथम	वनस्पतिशास्त्र / भौतिकशास्त्र–प्रथम
13/01/2024	वनस्पतिशास्त्र / भौतिकशास्त्र–द्वितीय	वनस्पतिशास्त्र / भौतिकशास्त्र–द्वितीय	वनस्पतिशास्त्र / भौतिकशास्त्र–द्वितीय
15/01/2024	आ.पा.हिन्दी भाषा–प्रथम	आ.पा.अंग्रेजी भाषा–द्वितीय	आ.पा.अंग्रेजी भाषा–द्वितीय
16/01/2024	आ.पा.अंग्रेजी भाषा–द्वितीय	–	–
17/01/2024	प्राणीशास्त्र / गणित–प्रथम	प्राणीशास्त्र / गणित–प्रथम	प्राणीशास्त्र / गणित–प्रथम
18/01/2024	प्राणीशास्त्र / गणित–द्वितीय	प्राणीशास्त्र / गणित–द्वितीय	प्राणीशास्त्र / गणित–द्वितीय
19/01/2024	गणित–तृतीय	गणित–तृतीय	गणित–तृतीय

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Charama Dist.Kanker (C.G.)

प्राचार्य
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जिला : उ.ब.कांकेर(छ.ग.)

शासकीय शहीद गेंदसिंह महाविद्यालय चारामा,जिला: उ.ब.कांकेर(छ.ग)

समय–सारणी

छ:माही परीक्षा सत्र : 2023–24

समय : प्रात : 08:00 से 10:00 बजे तक

दिनांक	बी.कॉम भाग–1 विषय / प्रश्न पत्र	बी.कॉम भाग–2 विषय / प्रश्न पत्र	बी.कॉम भाग–3 विषय / प्रश्न पत्र
08/01/2024	आ.पा.अंग्रेजी भाषा–द्वितीय	आ.पा.अंग्रेजी भाषा–द्वितीय	आ.पा.अंग्रेजी भाषा–द्वितीय
09/01/2024	व्यावसायिक लेखांकन	नगमीय लेखांकन	प्रबंधकीय लेखांकन
10/01/2024	व्यावसायिक गणित	सांख्यिकी	आयकर
11/01/2024	व्यावसायिक पर्यावरण	लागत लेखांकन	अंतराष्ट्रीय विपणन
12/01/2024	व्यावसायिक अर्थशास्त्र	प्रबंध का सिद्वांत	अप्रत्यक्ष कर
13/01/2024	व्यावसायिक संचार	उद्यमिता का सिद्वांत	अंकेक्षण
15/01/2024	व्यावसायिक नियमन एवं रूपरेखा	कम्पनी लॉ	विपणन का सिद्वांत
16/01/2024	आ.पा.हिन्दी भाषा–प्रथम	आ.पा.हिन्दी भाषा–प्रथम	आ.पा.हिन्दी भाषा–प्रथम

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प्राचार्य
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जिला : उ.ब.कांकेर(छ.ग.)

Govt. Shaheed Gendsingh College-Charama, Distt. Kanker (C.G.)

कार्यालय प्राचार्य,शासकीय शहीद गेंदसिंह महाविद्यालय, चारामा
जिला–उ. ब. कांकेर (छग.)

AISHE Code : C-24958 **College Code : 2105**
Website : www.govtcollegecharama.in Email : gccharama1989@gmail.com

पत्र क्र. 476 A /स्था/2024 चारामा, दिनांक : 31/01/2024

//मॉडल परीक्षा समय सारणी//

(समय : प्रात-10 से 01 बजे तक)

क्र	कक्षा	विषय	प्रश्न पत्र	प्रश्न पत्र का नाम	परीक्षा दिनाँक
01	बीए–भाग एक	अर्थशास्त्र	प्रथम	व्यष्टि अर्थशास्त्र	08–02–2024
02	बीए–भाग दो	अर्थशास्त्र	प्रथम	समष्टि अर्थशास्त्र	08–02–2024
03	बीए–भाग तीन	अर्थशास्त्र	प्रथम	विकास एवं पर्यावरणीय अर्थशास्त्र	08–02–2024
04	बीए–भाग एक	अर्थशास्त्र	द्वितीय	भारतीय अर्थव्यवस्था	12–02–2024
05	बीए–भाग दो	अर्थशास्त्र	द्वितीय	मुद्रा, बैंकिंग एवं राजस्व	12–02–2024
06	बीए–भाग तीन	अर्थशास्त्र	द्वितीय	संख्यिकीय विधियाँ	12–02–2024

(रवीन्द्र सिंह चंद्रवंशी)
प्राचार्य
शासकीय शहीद गेंदसिंह महाविद्यालय,चारामा
जिला–उ.ब.कांकेर (छ.ग.)

(डॉ. के. के. मरकाम)
प्राचार्य
शासकीय शहीद गेंदसिंह महाविद्यालय,चारामा
जिला–उ.ब.कांकेर (छ.ग.)

(Head of The Department)
Department of Economics
Govt.Shaheed Gendsingh College,Charama
Distt -Uttar Bastar Kanker (C.G.)

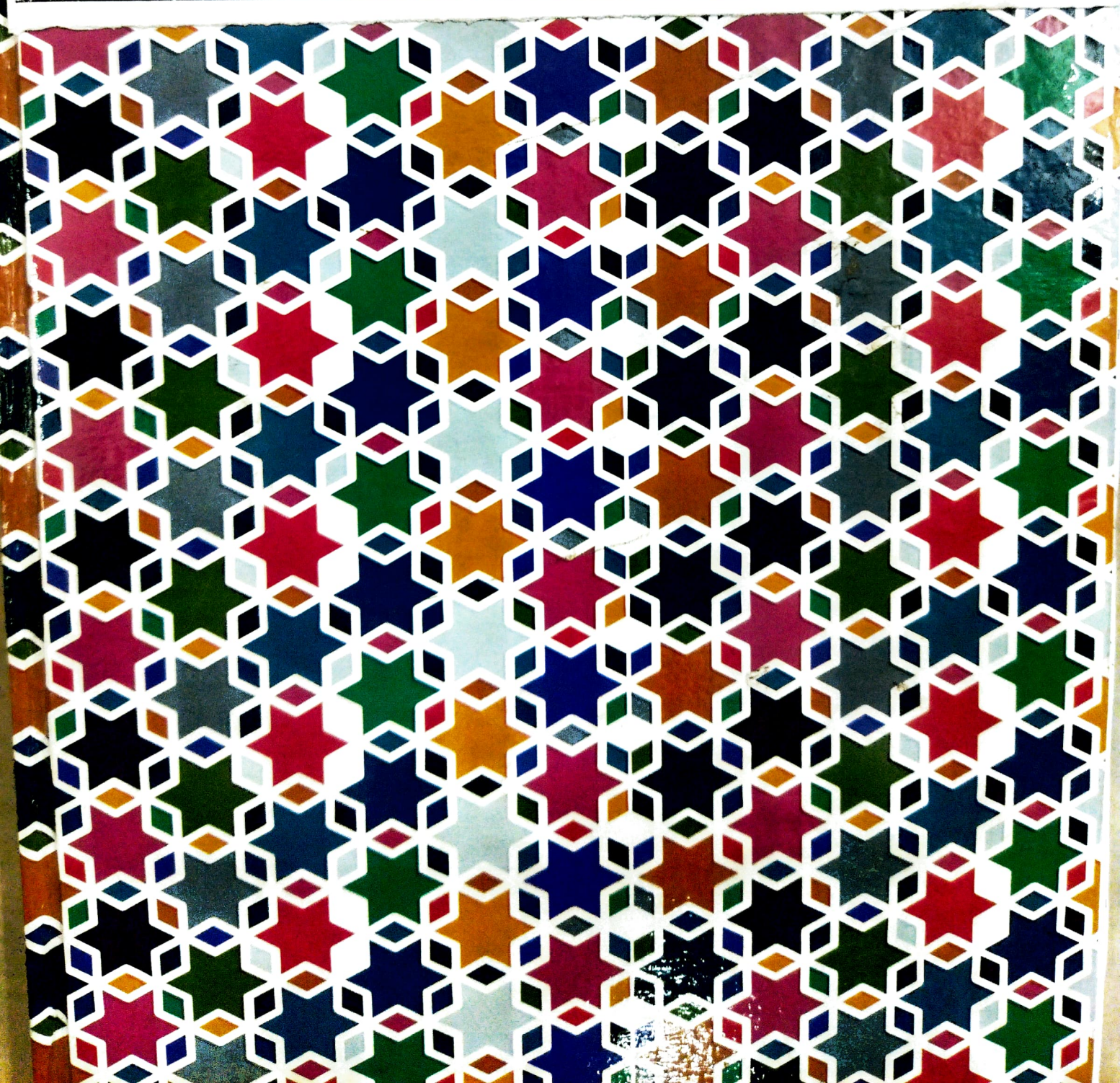
Govt. Shaheed Gendsingh College-Charama Dist. Kanker (C.G.)

Daily Diary (2023-24)

Dr. Vishal Varshney

Assistant Professor (Botany)

Govt. Shaheed Gend Singh College, Charama



B.Sc.Part-III
BOTANY
PAPER –I
(ANALYTICAL TECHNOLOGY PLANT PATHOLOGY, EXPERIMENTAL EMBRYOLOGY, ELEMENTARY BIOSTATISTICS, ENVIRONMENTAL POLLUTION AND CONSERVATION)

UNIT-I Structure, Principle and applications of analytical instrumentation

Chromatography technique, Oven, Incubator, Autoclave, Centrifuge, Spectrophotometer

UNIT-II Plant Tissue culture techniques, growth media, totipotency, protoplast culture, somatic hybrids and cybrids, micropropagation , somaclonal variations, haploid culture.

Analytical techniques: Microscopy-Light microscope, Electron microscope

UNIT-III General principles of plant pathology, general symptoms of fungal, bacterial and vi diseases, mode of infection, diseases resistance and control measures, plant quarantine, study of epidemiology and etiology of following plant diseases.

Rust diseases of wheat, Tikka diseases of groung nut, Red rot of sugar can, Bacter blight of rice, Yellow vein mosaic of b hindi, Little leaf of brinjal.

UNIT-IV Introduction to pollution, green house gases, Ozone depletion, Dissolve oxygen, B.O.D. C.O.D.

Bio magnification, Eutrophication, Acid precipitation, Phytoremediation, Plant indicato Biogeographical Zones of India, Concept of biodiversity, CBD, MAB, National parks Biodiversity Hot spots, Conservation strategies, Red Data Book, IUCN threat categor invasive species, endemic species, concept of sustainable development.

UNIT-V **ELEMENTARY BIOSTATISTICS:**

Introduction and application of Biostatics, measure of central tendency-Mean, Medi Mode, measures of dispersal-Standard deviation, standard error.

BOOKS RECOMMENDED:

Singh, RS, Plant Diseases, Oxford & IBH, New Delhi

Pandey, BP, Plant Pathology, S Chand Publishing, New Delhi

Sharma PD, Microbiology and Plant pathology, Rastogi Publications, Meerut

Sharma PD, Mycology and Phytopathology, Rastogi Publications, Meerut

Singh, IS, Singh, SP and Gupta, SR, Ecology, Environmental Science and Conservation, S. Cha Publishing, New Delhi

Sharma, PD, Ecology and Environment, Rastogi Publications, Meerut

Bhojwani, SS and Razdan, MK, Plant Tissue Culture: Theory and Practices, Elsevier

Sharma, SK, Text book of Biostatistics, Discovery Publishing House Pvt. Ltd.

2. Lichens crustose, foliose and fruticose specimens

PHYCOLOGY:

1. Study / Slide preparation and Staining of algae *Volvox, Oedogonium* and *Chara, Vaucheria, Ectocarpus, Polysiphonia*

EXPERIMENTAL PLANT PATHOLOGY

Isolation of pathogen from diseased leaf.

Identification: Pathological specimens of Brown spot of rice, Bacterial blight of rice, Loose smut of wheat, red rot of sugar cane, [illegible] of ground nut. Slides of uredial, telial, pycnial & aecial stages of *Puccinia*, [illegible] and bacterial plant diseases, like- Leaf curl of Papaya, Citrus canker

PRACTICALS IN APPLIED MICROBIOLOGY

1. Isolation of rhizosphere to non rhizosphere population of bacteria
2. Isolation of phyllosphere microflora
3. Alcohol production from grapes in anaerobic condition
4. Isolation of lactic acid bacteria from curd.
5. Enzyme production and assay – catalase, protease and amylase

Bryophyta:

Study of morphology and anatomy of:

1. *Riccia*
2. *Marchantia*
3. *Anthoceros*
4. *Sphagnum*

Pteridophyta:

Study of morphology and anatomy of:

1. *Lycopodium*
2. *Selaginella*
3. *Equisetum*
4. *Pteris*
5. *Marsilea*

Gymnosperm:

Study of morphology and anatomy of:

1. *Cycas*
2. *Pinus*
3. *Ephedra*

Part C – Learning Resources

Text Books, Reference Books, Other Resources

Readings:

[illegible] Botany (Part I) ISBN 978-81-301-0008-8 Sunil D Purohit, Gotam K Kukda & Anamika [illegible] Edition 2013 Apex Publishing House Durga Nursery Road, Udaipur, Rajasthan (bilingual)

[illegible] S.K. (2012) Quick Concept of Botany. Publisher LAP LAMBERT Academic Publishing GmbH & Co. KG Germany (ISBN: 978-3-8484-3101-5)

[illegible] R.C. and Maheshwari, D.K. 2012. Practical Microbiology, S. Chand & Company Pvt. Ltd.,

Part A : Introduction

Programme: Certificate | Class B.Sc. I | Year: 2022 | Session: 2022-[illegible]

1	Course Code	BOT 1P
2	Course Title	Microbial Techniques and Archegoniate identification
3	Course Type	Practical
4	Pre-requisite (if any)	No
5	Course outcomes	After the completion of the course the students will be able to: • Understand the instruments, techniques [illegible] lab [illegible] working in a microbiology laboratory • Develop skills for identifying microbes and [illegible] for [illegible] Agriculture and Environment purposes • Practical skills in the field and laboratory experiments [illegible] & Pathology • learn to identify Algae, Lichens and plant pathogens [illegible] Symbiotic and Parasitic associations • Can initiate his own Plant & Seed Diagnostic Clinic • Can start own enterprise on microbial products
6	Credit Value	2
7	Total Marks	Max. Marks: 50 / Min. Passing Marks: [illegible]

Part B : Content of the Course

Total No. of Periods – 30

Tentative Practical List	**Topic [illegible] (Minimum Any three from each unit depending on facilities [illegible] syllabus. 20% for spotting, 10% each for viva and sessional and rest [illegible] equally in each unit.)** **INSTRUMENTS & TECHNIQUES:** 1. Laboratory safety and [illegible] laboratory practices 2. Principles and application of Laboratory instruments [illegible] autoclave, centrifuge, laminar air flow, filtration [illegible] 3. Buffer preparation & [illegible] 4. Cleaning and Sterilization of glassware 5. Preparation of media – PDA and NAM 6. Inoculation and culturing of fungi and bacteria **BACTERIAL IDENTIFICATION:** 1. Isolation of bacteria [illegible] 2. Staining techniques: Gram's staining
	MYCOLOGY: 1. Study: Slide preparation and Staining of fungi: *[illegible]* *[illegible]* *Penicillium* [illegible] *[illegible]*, *[illegible]* [illegible]

Date

Session
2023 - 2024

Daily Diary

Dr. Vishal Varshney
Assistant Professor (Botany)
Govt. Shaheed Gend Singh College, Charama
Dist Uttar Bastar, Kanker
Chattisgarh, - India

B.Sc (BOTANY)
+
M.Sc. (BOTANY)

B.Sc.Part-III

BOTANY

PAPER – II

(GENETICS, MOLECULAR BIOLOGY, BIOTECHNOLOGY AND BIOCHEMISTRY)

UNIT-I

UNIT-II

UNIT-III

UNIT-IV

UNIT-V

BOOKS RECOMMENDED

B.Sc. Part-II
BOTANY
PAPER-II
ECOLOGY AND PLANT PHYSIOLOGY

UNIT-I Introduction and scope of ecology, environmental and ecological factors and soil profile, Liebig's law of minimum, Shelford's law of tolerance, anatomical adaptations in hydrophytes, xerophytes and epiphytes.

UNIT-II Population and community characteristics, Raunkiaer's life form, population ... Symbiosis, Amensalism etc.) succession, ecotone and edge effect, ecotypes, ecads, keystone specie

Concept of ecosystem, trophic levels, flow of energy in ecosystem, food chain and food web, concept of ecological pyramids

Biogeochemical cycles, carbon cycle, nitrogen cycle and phosphorus cycle

UNIT-III Plant water relations: Diffusion, permeability, osmosis, imbibitions, plasmolysis, osmotic potential and water potential, Types of soil water, water holding capacity, wilting, Absorption of water, theories of Ascent of sap, Mineral nutrition and absorption, Deficiency symptoms, Transpiration, stomata movement, significance of transpiration, Factors affecting transpiration, guttation.

UNIT-IV Photosynthesis: Photosynthetic apparatus and pigments, light reaction mechanism of ATP synthesis, C3, C4 CAM pathway of carbon reduction, photorespiration, factors affecting photosynthesis.

Respiration: Aerobic and anaerobic respiration, Glycolysis, Kreb's cycle, factors affecting respiration, R.Q.

UNIT-V Plant growth hormones: Auxin, Gibberellins, Cytokinin, Ethylene and Abscissic acid, Physiology of flowering, Florigen concept, Photoperiodism and Vernalization, Seed dormancy and germination, plant movement.

Books Recommended:

1. Koromondy, EJ. **Concepts of Ecology**, Prentice Hall, USA
2. Singh, JS Singh SP and Gupta SR. **Ecology and Environmental Science and Conservation**, S Chand Publishing, New Delhi
3. Sharma, PD. **Ecology and Environment**, Rastogi Publications, Merrut
4. Hopkins, WG and Huner, PA. **Introduction to Plant Physiology**, John Wiley and Sons
5. Pandey SN and Sinha BK. **Plant Physiology**, Vikas Publishing, New Delhi
6. Taiz, L and Zeiger, E. **Plant Physiology**, 5th edition, Sinauer Associates Inc. MA, USA
7. Srivastava, HS **Plant Physiology and Biotechnology**, Rastogi Publications, Meerut

Part A : Introduction

Programme: Certificate	Class B.Sc. I	Year: 2022	Session: 2022
1	Course Code	BOT-1P	
2	Course Title	Microbial Techniques and Archegoniate identification	
3	Course Type	Practical	
4	Pre-requisite (if any)	No	
5	Course outcomes	After the completion of the course the students will be able to: • Understand the instruments, techniques and good lab practic[e] working in a microbiology laboratory. • Develop skills for identifying microbes and using them for Indu[stry] Agriculture and Environment purposes. • Practical skills in the field and laboratory experiments in Microb[iology] & Pathology. • learn to identify Algae, Lichens and plant pathogens along wi[th] Symbiotic and Parasitic associations. • Can initiate his own Plant & Seed Diagnostic Clinic • Can start own enterprise on microbial products	
6	Credit Value	2	
7	Total Marks	Max. Marks: 50	Min. Passing Marks:17

Part B : Content of the Course

Total No. of Periods – 30

Tentative Practical List

Topic * (Minimum Any three from each unit depending on facilities syllabus. 20% for spotting, 10% each for viva and sessional and rest 60 % ma[rks] equally in each unit.)

INSTRUMENTS & TECHNIQUES. 1. Laboratory safety and g[ood] laboratory practices

2. Principles and application of Laboratory instruments-microscope, incuba[tor], autoclave, centrifuge, Laminar air flow, filtration unit, shaker, pH meter.

3. Buffer preparation & titration

4. Cleaning and Sterilization of glassware

5. Preparation of media- PDA and NAM

6. Inoculation and culturing of Fungi and bacteria

BACTERIAL IDENTIFICATION: 1. Isolation of bacteria.

2. Staining techniques: Gram's staining

MYCOLOGY:

1. Study, Slide preparation and Staining of fungi: *Rhizopus, Saccharomyces, Penicillium, Peziza, Ustilago, Puccinia, Fusarium, Alternaria, Agaricus*

2. Lichens: crustose, foliose and fruticose specimens

PHYCOLOGY:

1. Study, Slide preparation and Staining of algae *Volvox, Oedogonium* and *Chara, Vaucheria, Ectocarpus, Polysiphonia*

EXPERIMENTAL PLANT PATHOLOGY

Isolation of pathogen from diseased leaf.

Identification: Pathological specimens of Brown spot of rice, Bacterial blight of rice, Loose smut of wheat, red rot of sugar cane, Tikka disease of ground nut and slides of uredial, telial, pycnial & aecial stages of *Puccinia*, Leaf curl of Papaya, Citrus canker bacterial plant diseases, like- Leaf curl of Papaya, Citrus canker

PRACTICALS IN APPLIED MICROBIOLOGY

1. Isolation of rhizosphere to non rhizosphere population of bacteria
2. Isolation of phyllosphere microflora
3. Alcohol production from grapes in anaerobic condition
4. Isolation of lactic acid bacteria from curd.
5. Enzyme production and assay – catalase, protease and amylase

Bryophyta:

Study of morphology and anatomy of

1. *Riccia*
2. *Marchantia*
3. *Anthoceros*
4. *Sphagnum*

Pteridophyta:

Study of morphology and anatomy of

1. *Lycopodium*
2. *Selaginella*
3. *Equisetum*
4. *Pteris*
5. *Marsilea*

Gymnosperm:

Study of morphology and anatomy of :

1. *Cycas*
2. *Pinus*
3. *Ephedra*

Part C – Learning Resource

Text Books, Reference Books, Other Resources

[Suggested] Readings:

[Pra]ctical Botany (Part I) ISBN #:81-301-0008-8 Sunil D Purohit, Gotam K Kukda & Anamika [Sin]ghvi Edition 2013 Apex Publishing House Durga Nursery Road, Udaipur, Rajasthan (bilingual)

[Pa]ndey S.K. (2012). Quick Concept of Botany. Publisher LAP LAMBERT Academic Publishing [Gm]bH & Co. KG, Germany (ISBN: 978-3-8484-3104-5)

[Du]bey, R. C. and Maheshwari, D.K. 2012. Practical Microbiology. S. Chand & Company. Pvt. Ltd., [Ne]w Delhi

[Pa]ndey, B.P. 2014 Modern Practical Botany. (Vol-I) S. Chand and Company Pvt. Ltd., New Delhi

Page No.
Date

JULY - 2023

Date	B.Sc. I year (Theory)	B.Sc. I year (Prac.)	B.Sc. II year (Theory)	B.Sc. II year (Prac.)	B.Sc. III year (Theory)	B.Sc. III year (Prac.)
1.07.2023	Introduction of Students					
2.07.2023	SUNDAY					
3.07.2023	Introduction to Course					
4.07.2023	Admission Incharge					
5.07.2023			Introduction to course			
6.07.2023			Paper-I	Unit-I - Bentham & Hooker Classification		
7.07.23					Introduction to course	
8.07.23					Unit-I Chromatography	
9.07.23	SUNDAY					
10.07.23						
11.07.23						
12.07.23			Taxonomy			
13.07.23				Classification		
14.07.23					Instrumental techniques	
15.07.23					Oven, Autoclave,	
16.07.23	SUNDAY					
17.07.23						
18.07.23						
19.07.23			Nomenclature			
20.07.23				Herbarium		
21.07.23					Centrifuge	
22.07.23					Spectrophotometer	
23.07.23	SUNDAY					
24.07.23						
25.07.23						
26.07.23				Typification		
27.07.23				Botanical Gardens		
28.07.23					Basics of Biotechnology	
29.07.23						
30.07.23					Instrumentation in Biotechnology	
31.07.23						

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Date

S.No.	Date	B.Sc I year (T)	B.Sc I year (P)	B.Sc II year (T)	B.Sc II year (P)	B.Sc III year (T)	B.Sc III year (P)
	01.08.23						
	02.08.23						
	03.08.23			Plant tissue culture techniques			
	04.08.23				"		
	05.08.23					Plant tissue culture techniques.	
	06.08.23	SUNDAY					
	07.08.23					Growth media preparation	
	08.08.23						
	09.08.23					Tribal Day	
	10.08.23			Typification.			
	11.08.23			Wild life Sanctuaries			
	12.08.23					Microscopy	
	13.08.23	SUNDAY					
	14.08.23	Unit V: Plant Pathology: Disease concept, Symptoms, Etiology					
	15.08.23					Independence Day	
	16.08.23	~~Prim~~		Bentham and hooker Classification			
	17.08.23			Bionomial Nomenclature			
	18.08.23					Unit - III General Principles of Plant Pathology	
	19.08.23					General Symptoms of fungal, bacterial & viral disease	
	20.08.23	SUNDAY					
	21.08.23	Primary & Secondary Inoculum, Pathogenesis					
	22.08.23	Koch Postulates, Mechanism of Infection					
	23.08.23			IUCN			
	24.08.23			Typification, Numerical Taxonomy & chemotaxonomy			
	25.08.23					Mode of infection, Disease Resistance & Control measures	
	26.08.23					Plant Quarantine, Study of Epidemiology	
	27.08.23	SUNDAY					
	28.08.23	Disease Recurrence, Defense mechanism Physical & Biochemical.					
	29.08.23	Disease Resistance, Systemic fungicides					
	30.08.23					RakshaBandhan	
	31.08.23						

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S.No	Date	B.Sc. I year (T)	B. I (P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
	01.09.23						
→	02.09.23			SUNDAY			
	03.09.23	Unit-I: microbial world					
	04.09.23	Cell Structure: Pro & Eukaryotic cells.					
	05.09.23	structure of Bacteria, Sporulation					
	06.09.23						
	07.09.23					Janmashtami	
	08.09.23					Diseases: Rust of Wheat, Tikka Diseases, Red Rot of Sugarcane	Practical related to diseases.
→	09.09.23			~~SUNDAY~~		Bacterial Blight of Rice, Yellow mosaic	
	10.09.23			SUNDAY			
	11.09.23	factors affecting growth of microbes					
	12.09.23	Reproduction					
	13.09.23	Viruses, General Characteristics & structure		Herbarium techiques			
	14.09.23						
	15.09.23					Unit-II: Elementary Biostatistics Introduction	Practical related to diseases
→	16.09.23					Measure of Central Tendency, mean, mode, Median	
	17.09.23			SUNDAY			
	18.09.23					C.L.	
	19.09.23					Ganesh Chaturthi	
	20.09.23						
	21.09.23					C.L.	
	22.09.23						
→	23.09.23						
	24.09.23			SUNDAY			
	25.09.23	Bacteriophages & TMV; lytic & lysogenic					
	26.09.23	Viroids, Prions, Mycoplasma, Phytoplasma					
	27.09.23			Botanical Garden Herbaria			
	28.09.23					Milad-Un-Nabi	
	29.09.23					Measures of Dispersal: Standard Deviation	Practical related to Diseases
→	30.09.23					Standard Error.	

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S.No	Date	B.Sc. I year (T)	(P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
→	01.10.23	SUNDAY					
	02.10.23	GANDHI JAYANTI				Gandhi Jayanti	
	03.10.23	Applied microbiology					
	04.10.23			Unit-II: family general chara. family discussion.	Practicals related to families		
	05.10.23					Unit-IV: Introduction to Pollution, Green house gases.	
	06.10.23					Ozone depletion, DO, BOD & COD	
	07.10.23						
→	08.10.23	SUNDAY					
	09.10.23	Production of Antigen, Antibodies +					
	10.10.23	Unit-III: Phycology Algae: General Characterstics.					
	11.10.23			Unit-II: Sexual reproduction Microsporogenesis	Practical related to families.		
	12.10.23					Biomagnification, Eutrophication, Acid ppt.	
	13.10.23					Phytoremediation, Plant Indicators	
	14.10.23						
→	15.10.23	SUNDAY					
	16.10.23	Classification + Range of thallus					
	17.10.23	Life cycle of Volvox, Oedogonium, Chara					
	18.10.23			Megasporogenesis, Types of ovule	Practical related to families.		
	19.10.23			Pollination, & its mechanisms		Biogeographical Zones of India, Concept of Biodiversity	
	20.10.23					CBD, MAB, National parks	
	21.10.23						
→	22.10.23	SUNDAY					
	23.10.23	Dussherra					
	24.10.23						
	25.10.23						
	26.10.23			fertilization, Self-incompatibility, Endosperm, Apomixis, Polyembryony, Parthenocarpy	Practical related to families		
	27.10.23						
	28.10.23					Conservation strategies, Red Data Bank.	
→	29.10.23	SUNDAY					
	31.10.23	Roles of Algae in Soil fertility, Biofertilizer					

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SNo	Date	B.Sc. I year (T)	(P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
	01.11.23					CG. foundation Day	
	02.11.23					M.Sc. III sem Seminar	
	03.11.23					M.Sc. III sem Seminar.	
	04.11.23						
→	05.11.23			SUNDAY			
	06.11.23	Unit IV:- Mycology General Characters of fungi					
	07.11.23	Economic importance & Classification of fungi-		Unit - V : RAM & SAM.	Ratical related to families.		
	08.11.23					IUCN threat strategies,	
	09.11.23					Invasive species	
	10.11.23					Endemic species	
	11.11.23						
	11.12.23						
→	12.12.23			SUNDAY			
	13.12.23						
	14.12.23			DIWALI VACATION		Diwali Vacation	
	15.12.23						
	16.12.23						
	17.12.23						
	18.12.23						
→	19.12.23			SUNDAY			
	20.12.23	Distinguishing characters of Myxomycota					
	21.12.23	General Characters of Mastigomycota.		Permanent tissue Dicot & monocot	Dicot & Stem Root & leaf	Practical Dicot & monocot Anatomy	
	22.12.23			Dicot & monocot			
	23.12.23						
	24.12.23					Concept of Sustainable Development	
	25.12.23					Sust. Dev." Indicators	
→	26.12.23			SUNDAY			
	27.12.23	GURU NANAK		JAYANTI		Guru nanak Jayanti	
	28.12.23	Phytophthora, Albugo; Zygomycota Rhizopus			in Root &		
	29.12.23			Secondary gr			
	30.12.23			— Stem			

S.No.	Date	B.Sc. I year (T)	(P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
	01.12.23						
	02.12.23						
→	03.12.23	SUNDAY					
	04.12.23	Ascomycota: Saccharomyces, Penicillium, Peziza					
	05.12.23	Basidiomycota: Ustilago, Puccinia					
	06.12.23			Anatomical anomalies in 1° stem	Practical related to Anatomy		
	07.12.23						
	08.12.23					Unit-II: Plant tissue culture tech. Introduction	
	09.12.23					Growth media, Totipotency	
→	10.12.23	SUNDAY					
	11.12.23	M.Sc. III Sem Practical					
	12.12.23	"					
	13.12.23	M.Sc. I Sem Practical					
	14.12.23	"					
	15.12.23						
	16.12.23						
→	17.12.23	SUNDAY					
	18.12.23	Deuteromycota: Colletotrichum, Fusarium					
	19.12.23						C.L.
	20.12.23			Anamolous growth in: Dracaena, Bignonia, Leptadenia	Practical related to families		
	21.12.23						
	22.12.23					Plant tissue culture methods & types	
	23.12.23			C.L.			C.L.
→	24.12.23	SUNDAY					
	25.12.23	WINTER VACATION					
	26.12.23						
	27.12.23						
	28.12.23			Plant Anatomy	Practical related to families		
	29.12.23					Protoplast Culture	
	30.12.23					Somatic hybrids & Cybrids	
→	31.12.23	SUNDAY					

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S.No.	Date	B.Sc. I year (T)	(P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
	01.01.24	Practical					
	02.01.24	Practical					
	03.01.24			Practical	Practical Hydro & Xeroplyte		
	04.01.24			Practical	Osmosis, Imbibition & Plasmolysis		
	05.01.24					Practical	
	06.01.24					"	
	07.01.24					Sunday	
	08.01.24	Practical					
	09.01.24	Practical					
	10.01.24			Practical	Osmosis.		
	11.01.24			Practical			
	12.01.24					Half yearly Exam.	
	13.01.24					"	"
	14.01.24					Sunday	
	15.01.24					Half year exam.	
	16.01.24					"	
	17.01.24					"	
	18.01.24					C.L.	
	19.01.24					Protoplast fusion	
	20.01.24						
	21.01.24					Sunday	
	22.01.24					SHRI RAM PRAN-PRATISHTA	
	23.01.24					C.L.	
	24.01.24					O.L.	
	25.01.24					HOLIDAY	
	26.01.24						
	27.01.24						
	28.01.24					Sunday	
	29.01.24	Exam Duty					
	30.01.24	Exam Duty					
	31.01.24	Exam Duty					

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Page No. Date

S.No.	Date	B.Sc. I year (T)	(P)	B.Sc. II year (T)	(P)	B.Sc. III year (T)	(P)
	01.02.2024	PRACTICAL					
	02.02.2024	PRACTICAL					
	03.02.2024			PRACTICAL			
	04.02.2024						Sunday
	05.02.2024			PRACTICAL			
	06.02.2024					PRACTICAL	
	07.02.2024					PRACTICAL	
	08.02.2024	PRACTICAL					
	09.02.2024	PRACTICAL					
	10.02.2024			PRACTICAL			
	11.02.2024						Sunday
	12.02.2024			PRACTICAL			
	13.02.2024						C.L.
	14.02.2024						C.L.
	15.02.2024						C.L.
	16.02.2024						C.L.
	17.02.2024						C.L.
	18.02.2024						Sunday
	19.02.2024					PRACTICAL	
	20.02.2024					PRACTICAL	
	21.02.2024	PRACTICAL					
	22.02.2024					B.Sc PART ONE PRACTIC-	
	23.02.2024					B.Sc. PART-ONE PRACTICAL	
	24.02.2024					B.Sc PART TWO & THREE "	
	25.02.2024						Sunday
	26.02.2024						
	27.02.2024						
	28.02.2024						
	29.02.2024						

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M.Sc I / III

and

M.Sc II / IV

Daily Routine

M.Sc. I Sem (Theory) M.Sc. I Sem (P)

S.No	Date	
	01.07.23	
→	02.07.23	
	03.07.23	
	04.07.23	
	05.07.23	Paper-I: Introduction to Syllabus and General Intro
	06.07.23	"
	07.07.23	Paper-I: Unit-I: Introduction to Cells
	08.07.23	Structural Organization of Plant Cell
→	09.07.23	
	10.07.23	Specialized Plant Cell Type
	11.07.23	Chemical foundation
	12.07.23	Biochemical Energetics.
	13.07.23	Cell Wall
	14.07.23	Structure & function, biogenesis growth
	15.07.23	
→	16.07.23	
	17.07.23	
	18.07.23	
	19.07.23	
	20.07.23	
	21.07.23	
	22.07.23	
→	23.07.23	
	24.07.23	
	25.07.23	
	26.07.23	
	27.07.23	
	28.07.23	
	29.07.23	
→	30.07.23	
	31.07.23	

Admission process

KRM

M.Sc. II Sem (T) M.Sc. II Sem (P)

Sunday

Paper-I: Introduction to Syllabus

"

Paper-III: Unit-I

Biotechnology

Basic concepts, principles & Scope

Sunday

Recombinant DNA technology

Gene cloning principles

Tools of RDT

Restriction endonucleases

DNA modifying enzymes

Sunday

Sunday

Sunday

Vishal

S.No	Date	M.Sc. I Sem (T)	(P)
	01.08.23	Introduction to Cell.	
	02.08.23	Plasma membrane	
	03.08.23	Structure, models & function	
	04.08.23	Site for ATPase	
	05.08.23	ion carriers, channels	
	06.08.23		
	07.08.23	Pumps	
	08.08.23	Receptors	
	09.08.23		
	10.08.23	Chloroplast Structure	
	11.08.23	Genome Organization	
	12.08.23	Gene expression	
	13.08.23		
	14.08.23	RNA editing	
	15.08.23		
	16.08.23	Mitochondria - Structure	
	17.08.23	Genome Organization	
	18.08.23	Biogenesis	
	19.08.23	Revision to Unit -I	
	20.08.23		
	21.08.23	Plant Vacuole	
	22.08.23	Tonoplast membrane,	
	23.08.23	ATPases transporters as a	
	24.08.23	Storage organelle	
	25.08.23	Revision to Unit - I	
	26.08.23	Revision to Unit - II	
	27.08.23		
	28.08.23	Unit - I Test	
	29.08.23	"	
	30.08.23		
	31.08.23		

KSM

M.Sc II Sem (T) (P)

Choice of Vectors
Plasmid
Cosmid
Bacteriophage Vectors
Phagmids

Sunday

Artificial Chromosomes
Shuttle Vectors

Tribal Day

Yeast Vectors
Expression vectors
Construction of genomic / cDNA libraries

Sunday

UNIT-II :-
Bacterial transformation

Independence Day

Selection of Recombinants
& transformants
Genetic improvement of industrial microbes
" " " nitrogen fixers

Sunday

Fermentation technology
Genetic Engineering of Plants
Aims & Strategies
Gene transfer methods,
Vector mediated gene transfer
Agrobacterium

Sunday

1- DNA mediated DNA transformation
Virus mediated gene transfer

Rakhshabandhan

Vectorless or direct DNA transfer

Vis

S.No	Date	M.Sc. I Sem (T)	(P)
	01.09.23	Nucleus: Structure.	
	02.09.23	Nuclear Pore	
	03.09.23		
	04.09.23	Nucleosome Organization	
	05.09.23	Ribosome.	
	06.09.23	Structure & functional sig.	
	07.09.23		
	08.09.23	Cell cycle	
	09.09.23	Apoptosis	
	00.09.23		
	11.09.23	Control mechanisms — M.Sc. I Internal	
	12.09.23	Role of CDKs.	
	13.09.23	Retinoblastoma	
	14.09.23	E2F proteins	
	15.09.23	Cytokinesis & Cell plate	
	16.09.23	Mechanisms of PCDs	
	17.09.23		
	18.09.23		
	19.09.23		
	20.09.23		
	21.09.23		
	22.09.23		
	23.09.23		
	24.09.23		
	25.09.23	Revision to Unit III	
	26.09.23	Structure & function of	
	27.09.23	microbodies, microtubules,	
	28.09.23		
	29.09.23	microfilaments, Golgi apparatus	
	30.09.23	lysosome, ER. — M.Sc. I Internal	

KJ

M.Sc. II Sem (T) (P)

Unit-III :- DNA synthesis & Sequencing

Chemical synthesis of gene

Sunday

Polymerase Chain Reaction

Variation and Application of PCR

Advantages & limitation of PCR

Janmas Hami

DNA sequencing

Sanger & Coulson method

Sunday

Internal

Maxam Gilbert method

High throughput DNA sequencing

DNA fingerprinting

Sunday

C.L.

Ganesh Chaturthi

C.L.

Sunday

Unit-IV :- Genomics & Proteomics

Genetic & physical mapping of genes

Molecular markers

Milad-Ul-Nabi

Transposon mediated gen tagging

M.Sc. II Internal

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S.No	Date	M.Sc. I Sem (T)	(P)	M.Sc. III Sem (T)	(P)
	01·10·23				Sunday
	02·10·23				Gandhi Jayanti
	03·10·23	Techniques in Cell Biology		Genome Proproject	
	04·10·23	FISH		Bioinformatics	
	05·10·23	GISH		functional genomics	
	06·10·23	Confocal microscopy.		Microarrays	
	07·10·23	ISH.		Protein profiling & its significance	
	08·10·23				Sunday
	09·10·23	Paper-II: Unit-I. Chromosol organization			
	10·10·23	Chromosome structure			M.Sc. III Internal
	11·10·23	Packaging of DNA		Paper-IV Molecular Plant Pathology	
	12·10·23	Molecular Organization of centromere		Introduction & History of PP	
	13·10·23	Telomere		General principles of plant pathology	
	14·10·23	Nucleolus & rRNA genes		Classification of Plant diseases	
	15·10·23				Sunday
	16·10·23	Euchromatin & Heterochromatin		Animate pathogens – fungi, Bacteria,	
	17·10·23	Karyotype		Mycoplasma, Viruses, Nematodes	
	18·10·23	Banding Pattern		Heterotrophic behaviour with emphasis on parasitism	
	19·10·23	Polytene Chromosome		Virulence	
	20·10·23	Lampbrush "		Unit-II :- Disease Syndrome	
	21·10·23	B & Sex "		Pathogenic & Non-pathogenic	
	22·10·23				Sunday
	23·10·23				Dusshera Vacation
	24·10·23				
	25·10·23				
	26·10·23	Molecular basis of chromosome		Symptoms caused by fungi	
	27·10·23	pairing "		" " " Bacteria	
	28·10·23	Chromosomal Abberations		" " " Viruses	
	29·10·23				Sunday
	30·10·23	Polyploidy		" Mycoplasma	
	31·10·23	"		" " Nematodes	

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NOVEMBER 2023

Page No. ____ Date ____

SNo	Date	M.Sc. I Sem (T)	(P)	M.Sc. III Sem (T)	(P)
	01.11.23				C.G. Foundation Day
	02.11.23				M.Sc. III sem Seminar
	03.11.23				"
	04.11.23	Mapping of Bacteriophage Genome			
	05.11.23				Sunday
	06.11.23	Phage Phenotype		Sources of infection	
	07.11.23	Recombination in Phage		Significance of Phyllosphere & Rhizosphere	
	08.11.23	Genetic transformation		Pathogenesis: Dissemination of pathogens	
	09.11.23	& transduction.		Mode of infection	
	10.11.23	Genetic Recombination		Inoculum Potential	
	11.11.23	Genetic mapping		Unit-III: Predisposing factors	
	12.11.23				Sunday
	13.11.23				Diwali Vacation
	14.11.23				
	15.11.23				
	16.11.23	Mechanism of Cross-over		Survival of fungi	
	17.11.23	Molecular Mechanism of Recom.		Germination of Spores	
	18.11.23	Role of rec-A, & Rec-BCD		Disease initiation & Epidemics	
	19.11.23				Sunday
	20.11.23	Paper II Internal		Host-Parasite Relationship	
	21.11.23	Site-specific Recombination		Mechanism & Physiology of infection	
	22.11.23	Linkage		Path of infection	
	23.11.23	Linkage Group		Role of enzymes	
	24.11.23	Paper-II Internal			Internal
	25.11.23	Genetic Marker		Growth regulators & toxins in pathogenesis	
	26.11.23				Sunday
	27.11.23				Guru Nanak Jayanti
	28.11.23		M.Sc. I Seminar		
	29.11.23				M.Sc. I Seminar.
	30.11.23			Physiological Specialization, General	

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S.No.	Date	M.Sc. I Sem (T)	(P)
	01.12.23	Alien gene transfer	
	02.12.23	Chromosome manipulation	
	03.12.23		
	04.12.23	Transfer of whole genome	
	05.12.23	Wheat	
	06.12.23	Arachis	
	07.12.23	Brassica	
	08.12.23	Transfer of individual	
	09.12.23	chromosomes.	
	10.12.23		
	11.12.23		
	12.12.23		
	13.12.23		
	14.12.23		
	15.12.23	Transfer of chromosomal	
	16.12.23	segment examples.	
	17.12.23		
	18.12.23		
	19.12.23		
	20.12.23	Methods for detecting	
	21.12.23	alien chromatin	
	22.12.23	& production	
	23.12.23		
	24.12.23		
	25.12.23		
	26.12.23		
	27.12.23		
	28.12.23		
	29.12.23		
	30.12.23		
	31.12.23		

M.Sc. III Sem (T)	(P)
Rust diseases	
Smut disease	
	Sunday
Unit IV :- Recurrence of disease.	
Rust in India.	
Methods of Studying Plant diseases.	
General account	
Macroscopic Study	
Microscopic Study	
	Sunday
	M.Sc. III Sem Practical
	"
	M.Sc. I Sem Practical
	"
Koch postulates	
Culture technique	
	Sunday
Preparation of Culture tubes	
	C.L
Media preparation, Inoculation & Isolation	
Pure culture, Parasitism of Obligate Parasites.	
Methods in bacteriology, & Techniques	
	C.L
	Sunday
	Winter Vacation
	PRACTICAL
	"
	"
	Sunday

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S.No.	Date	M.Sc I Sem (T)	(P)	M.Sc III Sem (T)	(P)
	01.01.2024				ATKK exams preparation leave.
	02.01.2024				
	03.01.2024				
	04.01.24				
	05.01.24				
	06.01.24				
	07.01.24				Sunday.
	08.01.24				
	09.01.24	Examinations of M.Sc I and III Sem			
	10.01.24				

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Page No.
Date

Sno	Date	M.Sc. I Sem (Theory)	M.Sc. IV Sem (P)	M.Sc. IV Sem Theory	M.Sc. IV Sem (Prac.)
	01.02.24	Examinations of		M.Sc. I and III Sem	
	02.02.24				
	03.02.24				
	04.02.24				
	05.02.24				
	06.02.24				
	07.02.24				
	08.02.24				
	09.02.24				
	10.02.24				
	11.02.24				
	12.02.24				
	13.02.24				
	14.02.24				
	15.02.24				
	16.02.24				
	17.02.24				
	18.02.24				
	19.02.24				
	20.2.24				
	21.02.24				B.Sc. I year Practical
	22.02.24				B.Sc. II & III years Practical
	23.02.24				"
	24.02.24	Introduction to M.Sc. II Sem Syllabus		Introduction to M.Sc. IV Sem Syllabus.	Sunday
	25.02.24				
	26.02.24	Paper-II: Molecular Biology. Nucleic Acid: RNA/DNA		Papes-I :- Unit-I. Vegetative Reproduction	Demonstration of Veg. Prop. techniques.
	27.02.24	A, B & Z forms of DNA		Methods of Propagation	M.Sc. Educational Tour.
	28.02.24				"
	29.02.24	DNA Replication		Advantages of Vegetative Repdn.	

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Distt. Uttar Bastar Kanker (C.G.)

MARCH 2024

Sr.	Date	M.Sc. II Sem (T)	M.Sc. II Sem (P)	M.Sc. IV Sem (T)	M.Sc. IV Sem (P)
	01.03.24	Transcription		Pollination	Study of Pollen Structure
	02.03.24	Translation.		Pollination Mechanisms	
	03.03.24	Molecular Cytogenetics		Pollination Vector	Pollen tube germination.
	04.03.24				Sunday.
	05.03.24	Nuclear DNA content, C-value & paradox.		Structure of Anther.	Pollen tube germination.
	06.03.24	Restriction Mapping		Microsporogenesis & Role of Tapetum	
	07.03.24	Multigene families.		Structure of Pollen / Pollen development	
	08.03.24				Mahashivratri.
	09.03.24	in-situ hybridization techniques		Megasporogenesis / Ovule development	
	10.03.24				Sunday.
	11.03.24	FISH, GISH		Structure of Embryo sac	
	12.03.24	Confocal microscopy		Double fertilization & Pollen-Pistil Interaction	
	13.03.24				

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Dist. Ratnagiri (M.S.)

B.Sc.Part-III
BOTANY
PAPER –II
(GENETICS, MOLECULAR BIOLOGY, BIOTECHNOLOGY AND BIOCHEMISTRY)

UNIT-I Cell and cell organelles; organization and morphology of chromosome chromosomes; cell division; Mendel's Laws; gene interactions, linkage and cross chromosomal aberration, polyploidy, sex linked inheritance, sex deter cytoplasmic inheritance, gene concept; cistron, muton, recon

UNIT-II Nucleic acids, structure and forms of DNA and RNA, DNA RNA as genetic replication of DNA, biochemical and molecular basis of mutation, genetic code properties, mechanism of transcription and translation in prokaryotes, regulation expression, Operon model.

UNIT-III Recombinant DNA, Enzymes in recombinant DNA technology, cloning vectors (P Bacteriophages, Cosmids, Phagemids), gene cloning, PCR, Application of Biotech GM Plants, Monoclonal antibodies, DNA finger printing

UNIT-IV Protein: Chemical composition, primary, secondary and tertiary structure of Protein

Carbohydrate: general account of monosaccharides, disaccharids and Polysaccharide

Fat: Structure and properties of fats and fatty acids, synthesis and breakdown.

UNIT-V ENZYMES: Nomenclature and classification, components of enzyme, theories of action, enzyme kinetics (Michaelis-Menten constant), allosteric enzymes, Isoz Abzymes, Ribozymes, factors affecting enzymic activity

BOOKS RECOMMENDED:

Nelson, D.L., Cox, M.M., Lehninger Principles of Biochemistry. W.H. freeman and Company, N York, USA

Cooper, G.M., The Cell: A Molecular Approach. ASM Press & Sunderland, Washington, D.C. Associates, MA

Singh, B.D., Fundamental of Genetics, Kalyani Publication

Singh, B.D. Genetics, Kalyani Publication

Gupta, P.K., Cell and Molecular Biology, Rastogi Publications, Meerut

Singh, B.D., Biotechnology, Expanding Horizons, Kalyani publications

Gupta, P.K., Elements of Plant Biotechnology, Rastogi Publications, Meerut

Gupta, S.N., Concepts of Biochemistry, Rastogi Publications, Meerut

Jain, J.L., Jain, S., Jain, N., Fundamentals of Biochemistry, S Chand Publishing, New Delhi

DAILY DIARY

DEPARTMENT OF ZOOLOGY

(2023-24)

Part A: Introduction

Programme/Class: [illegible] Year: [illegible] Session: [illegible]

Course Code: ZOOL 11

Course Title: Animal Diversity: Non Chordata and Chordata, Comparative Anatomy and Physiology of Non-chordates

Course Type: Theory

Pre-requisite (if any): No

Course Learning Outcomes (CLO): Upon completion of the course students should be able to

- Learn about the importance of systemic,taxonomy and phylogeny to get a concrete idea of evolution of non-chordate phyla.
- Understand the various morphological, anatomical structures and functions of animals of different phyla.
- Get the knowledge about economic,ecological and medical significance of various animals in human welfare
- Understand the important parasites and their control measures
- Comparative study of anatomy and physiology of the different systems in chordates

Credit Value:

Total Marks: Max. Marks: 50 Min. Passing Marks:

Part B: Content of the Course

Total Lectures: 60

Unit	Topics	No. of Lectures
I	**Taxonomy, Protozoa, Porifera** **Taxonomy-** Elementary knowledge of Zoological Nomenclature and International Code. Classification of Animal Kingdom upto Phylum of acoelomate and coelomate non chordates according to Parker and Haswell 7th edition. **Protozoa-** Phylum Protozoa: General characters of the phylum and classification up to order with characters and suitable examples. Structure, life history and pathogenicity of malaria parasite *Plasmodium vivax*. Protozoan and disease. **Porifera-** Phylum Porifera: General characters of the phylum and classification up to order with characters and suitable examples. Type study of Sycon.	
II	**Coelenterata, Platyhelminthes, Nemathelminthes :** **Coelenterata-** Phylum Coelenterata: General characters of the phylum and classification up to order with characters and suitable examples. Type Study of Obelia. **Platyhelminthes-** Phylum Platyhelminthes: General characters of Amphilina up to order with characters and suitable examples. Type study of Liver fluke. **Nemathelminthes-** Phylum Nemathelminthes: General characters of the phylum and classification up to order with characters and suitable examples. Pathogenic nematodes and diseases.	
III	**Annelida, Arthropoda, Mollusca :** **Annelida-** Phylum Annelida: General Characters of the phylum and classification upto order with characters and suitable examples. Type study of Earthworm *Pheretima*. **Arthropoda -** Phylum Arthropoda: General Characters of the phylum and classification up to order with characters and suitable examples. Type study of Prawn. Insects as vector of human disease. **Mollusca -** Phylum Mollusca: General characters of the phylum and classification upto order with characters and suitable examples. Type study of *Pila*.	

Echinodermata, Hemichordata, Classification of Chordata :

Echinodermata - Phylum Echinodermata [illegible] characters of the [illegible] classification up to order with characters and suitable examples. Type [illegible] Starfish (*Asterias*) [illegible]

IV **Hemichordata** - [illegible] and relationship [illegible]

Classification of Chordata - [illegible] and suitable examples. Brief account [illegible] chordata, Cephalochordata in [illegible]

V **Comparative Anatomy and Physiology of Non-chordates:** Coelom and coelomducts in Non chordate. Locomotory organs and locomotion in Non- chordate. Pattern of feeding and digestion in lower Metazoans. Comparative anatomy and physiology of respiration and excretion in Non- chordate. Primitive, diffused and advance-nervous system in Non- chordate. Reproduction in Non-chordate.

Keywords : Locomotary organ, feeding and digestion, respiration, International Code of Zoological Nomenclature (ICZN), Classification, Protozoa, [illegible] Liver Fluke, [illegible] Crustacea larva, Echinodermata larva

B.Sc. Part-II
ZOOLOGY
PAPER-I
ANATOMY AND PHYSIOLOGY

Comparative Anatomy of various organ systems of vertebrates

UNIT-I

1. Integument and its derivatives: structure of scales, hair and feathers
2. Alimentary canal and digestive glands in vertebrates
3. Respiratory organs : Gills and lung , air-sac in birds

UNIT-II

1. Endoskeleton: (a) Axial Skeleton- Skull and Vertebrae. (b) Appendicular S and girdles
2. Circulatory System: Evolution of heart and aortic arches
3. Primogenital System: Kidney and excretory ducts

UNIT-III

1. Nervous System: General plan of brain and spinal cord
2. Ear and Eye: structure and function
3. Gonads and genital ducts

UNIT-IV

1. Digestion and absorption of dietary components
2. Physiology of heart, cardiac cycle and ECG
3. Blood Coagulation
4. Respiration: mechanism and control of breathing

UNIT-V

1. Excretion: Physiology of excretion, osmoregulation
2. Physiology of muscle contraction
3. Physiology of nerve impulse, Synaptic transmission

B.Sc. Part-II
ZOOLOGY
PAPER-I
ANATOMY AND PHYSIOLOGY

Comparative Anatomy of various organ systems of vertebrates:

UNIT-I

1. Integument and its derivatives: structure of scales, hair and feathers
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UNIT-V

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2. Physiology of muscle contraction
3. Physiology of nerve impulse: Synaptic transmission

B.Sc. Part-II

ZOOLOGY

PAPER-II

VERTEBRATE ENDOCRINOLOGY, REPRODUCTIVE BIOLOGY BEHAVIOUR, EVOLUTION AND APPLIED ZOOLOGY

UNIT-I

1. Structure and function of Endocrine glands
2. Hormone receptor
3. Biosynthesis and secretion of pituitary, thyroid, parathyroid, adrenal, ovarian and testicular hormones
4. Endocrine disorder of pituitary, thyroid, parathyroid, adrenal and gonadal

UNIT-II

1. Reproductive cycle in vertebrates
2. Menstruation, lactation and pregnancy
3. Mechanism of parturition
4. Hormonal regulation of gametogenesis

UNIT -III

1. Evidences of organic evolution.
2. Theories of organic evolution.
3. Variation, Mutation, Isolation and Natural selection
4. Evolution of Horse

UNIT-IV

1. Introduction to Ethology, Barriers and concept of ethology.
2. Patterns of Behaviour, Taxes, Reflexes, Drives and Stereotyped behaviour
3. Reproductive behavioural patterns.
4. Drugs and behavior, Hormones and behaviour

UNIT-V

1. Prawn Culture
2. Sericulture
3. Apiculture
4. Pisciculture
5. Poultry keeping
6. Elements of Pest Control, Chemical & Biological Control

B.Sc. Part-II

ZOOLOGY
PRACTICAL

The practical work in general shall be based on the syllabus prescribed and the students will [illegible] to show the knowledge of the following;

- Study of the representative examples of the different chordates (Classified characters).
- Dissection of various systems of scoliodon-Afferent and Efferent bronchial cranial nerve [illegible] ear.

Alternative methods: By Clay/Thermacol/ Drawing/ Model etc.)

- Simple microscopic technique through unstained or stained permanent mount.
- Study of prepared slides histological, as per theory papers.
- Study of limb girdles and vertebrae of Frog, Varanus, Fowl and Rabbit.
- Identification of species and individual of honey bee.
- Life cycle of honey bee and silkworm.
- Exercise based on Evolution and Animal behavior.

Scheme of Practical Exam **Time: 3:30hrs**

- Major dissection (Cranial nerves/efferent branchial vessel) 10
- Exercise based on evolution 05
- Exercise based on applied zoology 05
- Exercise based on animal behavior 04
- Spotting-8 (slides-4,bones-2,specimen-2) 16
- Viva 0[illegible]
- Sessional marks. 05

Teaching Plan

Academic Year: 2022-23

Name of the Department: ZOOLOGY

Teacher's Name: Dr. Abhishek Kumar Mishra

Class: B.Sc.-II

Course Type: Theory

Course Title: **Anatomy & Physiology**

Month	Unit/Title	Topics to be taught	No. of lectures	Methods/Mode of delivery
JULY	UNIT 1:	Integument and its derivatives: structure of scales, hairs and feathers. Alimentary canal and digestive glands in vertebrates	10	1. Chalk & Talk 2. Group discussion 3. Problem solving
AUGUST	UNIT 1 & 2:	Respiratory organs: Gills and lungs, air-sac in birds Endoskeleton: axial and appendicular skeleton Circulatory system: evolution of heart and aortic arches Urinogenital system: kidney and excretory ducts	12	1. Chalk & Talk 2. Group discussion 3. Problem solving
SEPTEMBER	UNIT 3:	Nervous system: General plan of brain and spinal cord Structure and function of eyes	06	4. Chalk & Talk 1. Group discussion 2. Problem solving
OCTOBER	UNIT 3:	Structure and function of ear Gonads and genital ducts	06	1. Chalk & Talk 2. Group discussion 3. Problem solving
NOVEMBER	UNIT 4:	Digestion and absorption of dietary components	05	4. Chalk & Talk

		Physiology of heart. cardiac cycle and ECG		1. Group discussion 2. Problem solving
DECEMBER	UNIT 4:	Blood coagulation Respiration: mechanism and control of breathing	10	1. Chalk & Talk 2. Group discussion 3. Problem solving
JANUARY	UNIT 5:	Excretion: physiology of excretion and osmoregulation Physiology of muscle contraction	08	1. Chalk & Talk 2. Group discussion 3. Problem solving
FEBRARY	UNIT 5:	Physiology of nerve impulse and synaptic transmission	04	1. Chalk & Talk 2. Group discussion 3. Problem solving

Signature of Teacher

Signature of the Head

Principal
Govt.College Charama
Distt. U.S.Kanker (C.G.)

Signature of the Principal

Teaching Plan

Academic Year: 2022-23

Name of the Department: ZOOLOGY

Teacher's Name: Dr. Abhishek Kumar Mishra

Class: B.Sc.-II

Course Type: Theory

Course Title: **Vertebrate Endocrinology, Reproductive Biology, Behaviour, Evolution & Applied Zoology**

Month	Unit/Title	Topics to be taught	No. of lectures	Methods/Mode of delivery
JULY	UNIT 1: Vertebrate Endocrinology	Structure and function of endocrine glands Hormone receptors Biosynthesis and secretion of thyroid, adrenal, ovarian. and testicular hormone Endocrine disorders of pituitary. thyroid, adrenal and pancreas	10	1. Chalk & Talk 2. Group discussion 3. Problem solving
AUGUST	UNIT 2: Reproductive Biology	Reproductive cycle in vertebrates Menstruation. lactation and pregnancy Mechanism of parturition Hormonal regulation of gametogenesis	10	1. Chalk & Talk 2. Group discussion 3. Problem solving
SEPTEMBER	UNIT 3: Evolution	Evidences of organic evolution Theories of organic evolution	08	1. Chalk & Talk 2. Group discussion 3. Problem solving
OCTOBER	UNIT 3:	Variation. Mutation. Isolation and Natural Selection	07	1. Chalk & Talk

	Evolution	Evolution of Horse		2. Group discussion 3. Problem solving
NOVEMBER	UNIT 4: Behaviour	Introduction to ethology: branches and concepts of ethology Patterns of behaviour: Taxes, reflexes, drives and stereotyped behaviour	07	1. Chalk & Talk 2. Group discussion 3. Problem solving
DECEMBER	UNIT 4: Behaviour	Reproductive behaviour patterns Drugs and behaviour, Hormones and behaviour	06	1. Chalk & Talk 2. Group discussion 3. Problem solving
JANUARY	UNIT 5: Applied Zoology	Prawn culture Sericulture Apiculture Pisciculture	12	1. Chalk & Talk 2. Group discussion 3. Problem solving
FEBRARY	UNIT 5: Applied Zoology	Poultry Keeping Elements of pest control: chemicals and biological control	08	1. Chalk & Talk 2. Group discussion 3. Problem solving

Signature of Teacher

Signature of the Head

DATE	B.Sc. - I st Year	B.Sc. - II nd Year	B.Sc. - III rd Year	Practical
01/07/23	P-II, U-I : Cell & its types.	P-I, U-I : Basic str. of Integument	P-II, U-I : Gen. intro to genetics.	
03/07/23	Introduction to Prokaryotic cell.	Integuments of Amphibians.	Linkage	
04/07/23	Eukaryotic cell	Integuments of Reptiles.	Linkage map.	B.Sc-I : Museum Specimen of Phylum : Porifera, Coelenterata, Platyhelminthes.
05/07/23	Organization of cell	Avean Integument	Recombination & Crossing over	
06/07/23	Ultrastr. & function of Plasma mem.	Epidermal & dermal Integument	Co-dominance	
07/07/23	Mitochondria : Str. & function.	Scales in Vertebrates.	Incomplete dominance	
08/07/23	Golgi Complex : Str. & function.	Feathers in Birds.	Multiple alleles	
10/07/23	Endoplasmic reticulum.	Mammalian Skin.	Lethal genes	
11/07/23	Ribosomes and lysosomes.	Basic str. of alimentary canal	Epistasis	
12/07/23	Structure & function of Nucleus	Alimentary Canal of anamniotes	Supplimentary and Complementary genes	B.Sc.-I : Museum Specimen of Class : Pices, Amphibian & Reptiles.
13/07/23	Composition of Chromosomes.	Alimentary Canal of amniotes.	Sex-linked genes	
14/07/23	DNA : Structure & function.	Digestive glands in vertebrates	Inheritance of hemophilia & C.B.	
15/07/23	Membrane receptors.	Respiratory organs in vertebrates	Chromosomal aberration	
18/07/23	Microvilli, desmosomes & Plasmodesmata.	Accessory resp. organs.	Mutation & its types.	
19/07/23	P-II, U-II : Cell cycle.	Gills : Str. & fun.	Chromosomal disorder.	
20/07/23	Mitosis	Lungs in Tetrapodes.	Single gene mutation.	B.Sc.-III : Slides of Protozoa, Platyhelminthes, & Nematodes.
21/07/23	Meiosis.	Air-sacs in Birds.	Sex determination.	
22/07/23	Cell cycle regulation & checkpoints	P-I, U-IV : Dietary component	Sex Chromosome System	
24/07/23	Growth factors.	Digestion of Carbohydrates	Gene interaction	
25/07/23	Programme Cell death (Apoptosis)	Digestion of Protein	Somatic cell genetics.	
26/07/23	Signalling molecules & receptors.	Digestion of Lipid	P-II, U-II : Brief idea of pH	
27/07/23	Cell Surface receptors.	Absorption of dict. component.	Buffer and its biological significance	
28/07/23	Function of Cell surface receptors.	Structure of heart	Diffusion and Passive transport.	
31/07/23	Regulation of Signalling Pathways.	Physiology of heart	Active transportation.	

Sundays : 02, 09, 16, 23, 30
Hareli : 17
Moharram : 29

Abhishek
Asstt. Prof. (Zoology)

Principal
Govt. College Charama
Distt.- U.B.Kanker (C.G.)

B.Sc. – I yr

DATE		
01/08/23	P-II, U-II: Monolayer cell culture	P-I, U-IV: Cardiac
02/08/23	Suspension cell culture.	ECG
03/08/23	Types of culture media.	Blood Coagulation
04/08/23	Basic nature of culture media	Mechanism of Res
05/08/23	Tissue Culture & Engineering.	Regulation of respi
07/08/23	P-I, U-I Zoological nomenclature	P-II, U-III: Organic
08/08/23	International code.	Evidence of Evolut
10/08/23	Classification of Animal Kingdom.	Evidence of evolution
11/08/23	Parker & Haswell classification.	Principle of Lamarc
12/08/23	Acoelomates & Coelomates.	Principle of Darwinis
14/08/23	General character of Phy - Protozoa	Limitation of Lamarc
16/08/23	Classification of Phy - Protozoa.	Limitation of Darwin
17/08/23	Str. of Trophozoites & Sporozoites.	Mutation Theory.
18/08/23	Lifecycle of Plasmodium.	Modern Synthetic
19/08/23	Pathogenecity of Plasmodium.	Variation.
21/08/23	Protozoa and diseases.	Mutation types.
22/08/23	General chacters of Phy - Porifera.	Significance of muta
23/08/23	Classification of Phy - Porifera.	Isolation.
24/08/23	Structure of Sycon.	Natural Selection
25/08/23	Canal System of Sycon.	Evolution of Horse.
26/08/23	Respiration, Excreation & digestion	P-II, U-IV: Intro to
28/08/23	Reproduction and Early develop.	Patterns & Behaviour
29/08/23	Lifecycle of Sycon.	Reflexes.
31/08/23	Development of Sycon.	Drives.

Sundays : 06, 13, 20, 27
Aadiwasi Diwas : 09
Independance Day : 15
Rakshabandhan : 30

B.Sc. – III rd

cycle.
P-V, U-II: A.T across Plasma mem.
Active transport across Mitochondria
Types of transportation across ER.
Hydrolytic enzymes.
P-II, U-V: Principle of pH
pH meter
Working principle of Colorimetry (I)
Simple microscope (II)
Compound microscope.
Phase – Contrast microscope.
Electron microscope
Electrophoresis.
PAGE
Centrifuge : working principle
Paper Chromatography
Gel electrophoresis.
Gel chromatography.
P-I, U-I : Ecology : Aims & Scope
Major ecosystem
Population.
Regulation of population
Community.
Ecosystem
Bio-geo chemical cycles

Practical

B.Sc. I : Museum Specimen of Phylum: Nematoda, Annelida, Arthropoda, Mollusca & Echinodermata.

B.Sc. II : Bones: Limb girdles of Frog, Varanus, Fowl, & Rabbit.

B.Sc. III : Instrumentation : Chromatography, pH meter,

Abhishek
Asstt. Prof. (Zoology)

Principal
Govt. College Charama
Distt.- U.B.Kanker (C.G.)

DATE	B.Sc. – I st	B.Sc. – II nd	B.Sc. – III rd	Practical.
01/09/23	P-I, U-II General characters of Coelenterata	P-II, U-IV : Stereotype behaviour	P-I, U-I : Air pollution	
02/09/23	classification of phylum Coelenterata.	Courtship behaviour.	Water pollution	
04/09/23	Structure of Obelia colony	Reproductive behaviour.	Ecological Succession.	B.Sc. I : Slides of Frog & Chick embryology.
05/09/23	Structure of polyp & gonangium.	Drug and behaviour	P-I, U-II : Laws of limiting factors	
06/09/23	Structure of medusa.	Hormones and behaviour.	Food chain in freshwater ecosystem	
08/09/23	Digestion & Respiration in Obelia	P-II, U-I : Structure of Endocrine	Trophic levels.	
09/09/23	Reproduction in Obelia.	Function of endocrine gland	Energy flow in ecosystem.	
11/09/23	Lifecycle of Obelia.	G-protein Coupled receptor	Conservation of natural resources.	B.Sc. – II : Histology
12/09/23	Development of Obelia colony	Tyrosine Kinase receptor	Environmental impact Assessment	of thyroid,
13/09/23	General characters of Platyhelminthes	Structure of thyroid gland	P-I, U-III : Defination & classification	Testis, Ovary,
14/09/23	classification of Platyhelminthes	Biosynthesis & secretion of thyroid hormone	of toxicants.	Pituitary and
15/09/23	Morphology of Fasciola	Function of thyroid hormones	Basic Concept of Toxicology	Adrenal gland.
20/09/23	Digestion, excretion & Respiration	Structure of adrenal gland.	Principal of Systematic toxicology	
21/09/23	Reproductive System of Fasciola	Biosynthesis & Secretion of Adrenal	Dose-response relationship.	
23/09/23	Fertilization & development.	Function of Adrenal gland.	Factors & types of toxicity.	
25/09/23	Miracidium and Sporocyst larva.	Structure of testicular gland.	Heavy metal toxicity	
26/09/23	Redia, Cercaria & metacercaria larva	Biosynthesis & position.	Snake venom	
27/09/23	Lifecycle of Fasciola.	Function of Testis	Scorpion and bee poisoning	
29/09/23	Pathogenesity of Fasciola.	Structure of Ovary	Food poisoning – I	B.Sc. II : Simple & Compound
30/09/23	Characters, classification & Pathogenesity	Harmones of ovary	Food poisoning – II	Microscope and
	of Nematodes.			Centrifuge.

Sundays : 03, 10, 17, 24
Janamasthmi : 07
C.L. : 16
Teeja : 18
Ganesh Chaturthi : 19
Nawa Khaei : 22

Abhishek
Asstt. Prof. (Zoology)

Principal
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Distt.- U.B.Kanker (C.G.)

OCT-

Date	B.Sc. – I st	B.Sc. II nd	B.Sc. – III rd	Practical
04/10/23	P-I U-II Classification of Annelida.	P-II U-I Disorders of Pituitary	P-I, U-III : Basic ptr. of Amino acids.	
05/10/23	General characters of Annelida.	Disorders of Thyroid.	Function of Amino acids.	B.Sc. I : Cytological Preparation & Excercise on adaptation.
06/10/23	Morphology of Pheretima	Disorders of Adrenal	Structure of Peptides and Significance.	
07/10/23	Digestive System of Pheretima.	Disorders of Pancreas.	Glycolysis.	
09/10/23	Excretion in Pheretima	P-II U-II : Esterous cycle in ver.	Glycogenolysis.	
10/10/23	Nervous System of Pheretima	Menustruation in Primates.	Glycogenesis	
11/10/23	Circulatory System – I	Lactation in human.	Glyconeogenesis.	
12/10/23	Circulatory System – II	Pregnancy.	Cori – Cycle.	B.Sc. II : Excercise on evolution and applied Zoology.
13/10/23	Reproductive System of Pheretima	Mechanism of Parturition.	Oxidation of glycerol.	
14/10/23	Development of Pheretima	Hormonal reg. of spermatogenesis	β - oxidation of fatty acids.	
16/10/23	General characters of Arthropoda.	Hormal reg. of Oogenesis.	Deamination	
17/10/23	Classification of Arthropoda.	P-I, U-II : Bones of skull	Transamination	
18/10/23	Insects as a vector of human disease	Bones of vertebrae.	Transmethylation	
19/10/23	Morphology of Prawn	Bones of fore limb	P-I U-IV : General Microbiology	B.Sc. – III :
20/10/23	Digestive System of Prawn.	Bones of hind limb	Applied Microbiology	
21/10/23	Respiration in Prawn.	Bones of Pectoral girdle.	Microbiology of domestic water	Ecological Experiment and Bacterial Staining.
26/10/23	Circulatory System in Prawn.	Bones of Pelvic girdle	Microbiology of Sewage	
27/10/23	Excreatory System in Prawn	Evolution of heart in Verte.	Microbiology of milk	
28/10/23	Reproductive System in Prawn	Evolution of aortic arches.	Microbiology of milk products	
30/10/23	Development in Prawn.	Comp. anatomy of Kidney	Fermentation process	
31/10/23	Question paper discussion.	Comp. anatomy of Vere. duct.	Production of Penicillin	

Sundays : 01, 08, 15, 22, 29
Gandhi Jayanti : 02
C.L : 03
Dizhera : 23, 24, 25

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Date	B.Sc.-Ist	B.Sc.-IInd	B.Sc.-IIIrd	Practical
02/11/23	P-I, U-III: Gen character: Mollusca	P-I, U-III: Gen. Plan of brain	P-I, U-IV: Alcoholic beverages	
03/11/23	classification of mollusca.	General plan of Spinal Cord.	Bioleaching.	
04/11/23	Digestive System of Pila	Str. & function of Eyes.	P-I, U-V: Intro. of Pathogenic	B.Sc.-I:
06/11/23	Respiratory System of Pila	Str. & function of Ear	Rickettsia	Microbial, Terrestal,
07/11/23	Circulatory System of Pila.	Comp. anatomy of Gonads	Spirochets	Aquatic and
08/11/23	Excreatory System of Pila	Comp. anatomy of genital ducts	AIDS	dessert adaptation.
09/11/23	Reproduction & Development.	Genital ducts - II	Typhoid	
15/11/23	P-I, U-IV: Gen characters: Echinoderm	P-I, U-V: Physiology of excretion	Prophylaxis & treatment.	
16/11/23	Classification of Echinodermata	Osmoregulation in fresh water	Entamoeba	B.Sc.-II: Behavi-
17/11/23	Morphology of Asterias	Osmo. in Marine animals	Trypanosoma	oural experiments
18/11/23	Digestive System of Asterias	Osmo. in terrestial animals	Plasmodium	
20/11/23	Water Vascular Sys. of Asterias	Structure of Muscle fiber	Schistoma	
21/11/23	Structrue of Pedicellaria	Physiology of Mus. Contraction.	Pathogenic Nemotodes	
22/11/23	Reproductive System of Asterias	Physiology of nerve impluse	Pathogenic Protozoans	
23/11/23	Development of Asterias	Physiology of Syn. transmission.	Vector insects.	
24/11/23	General Characters of Hemichordata	P-II, U-V: Ext. Chr. of Praun	P-II, U-IV: Brief introduction of Biotech.	B.Sc.-III
28/11/23	Classification of Hemichordata	Species of Praun	in Culture. Application of Biotechnology.	Haematin Crystal,
29/11/23	Affinity with chordata & Non-chordata	Lifecycle of Praun.	Recombinant DNA.	Blood group
30/11/23	External Morphology of Balanoglossus	Tools & Techniques of Praun cult.	Gene cloning technique	detection, RBC &
				WBC Counts.

Rajya Sthapana : 01
Sundays : 05, 12, 19, 26
Diwali : 10 - 14
Duty leave : 25
Guru Nanak Jayanti : 27

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Date	B.Sc. - Ist	B.Sc. - IInd	B.Sc. - IIIrd	Practical
01/12/23	P-I, U-IV: Digestion; Haemoglobin	Diseases of Prawn	cloned genes & gene library.	B.Sc.-I: Blood group & Blood pressure detection.
02/12/23	Reproduction & Development.	Enemies of Prawn	Plant tissue culture.	
04/12/23	classification of Chordata.	Prawn culture Management.	Animal tissue culture.	
05/12/23	Introduction of Urochordata	Sericulture; Ext. Mor. of silkworm	Hybridoma	
06/12/23	Introduction to Cephalochordata	Species of Silkworm	Transgenic Plants	
08/12/23	Introduction to vertebrata.	Lifecycle of Silkworm.	Transgenic Animals.	
09/12/23	P-II, U-III: Tissues & their types	Tools & Tegniques of sericulture.	Application of Transgenics	B.Sc-II: Aerial, Terrestrial; Aquatic & desert Adaptation.
11/12/23	Str. & characters of Epithelial tissue	Diseases of Silkworm	Application of Biotechnology in Pet.	
12/12/23	Exocrine & Endocrine glands	Enemies of Silkworm	App. of Biotechnology in Medicine.	
13/12/23	Str. & Func. of loose, dense & adipose	Sericulture Management.	P-II, U-I: Brief idea of pH	
14/12/23	Ultrastructure of Skeleton Muscles	Apiculture: Ext. mor. of Honeybee.	Introduction to Buffer.	
15/12/23	Ultrastructure of Smooth & Cardiac Mus.	Species of Apis.	Biological significance of Buffer.	
16/12/23	Physiology of mus. contraction.	Lifecycle of Apis	Transportation by diffusion.	B.Sc-III: Biochemistry of Carbohydrate, Protein, lipid and nucleic Acid.
20/12/23	Mem. of brain & spinal cord.	Tools & Tegniques of Apiculture	Passive Transportation	
21/12/23	P-II, U-IV: Str. of fish integuments	Diseases of Apis	Active Transportation.	
22/12/23	Amphibian & Reptile integuments	Enemies of Apis.	Osmosis.	
23/12/23	Aves & mammal integuments.	Economic importance of Apiculture.	A.T. across Plasma membrane.	

Sundays = 03, 10, 17, 24, 31
C.L. = 07,
D.L. = 19th & 25 - 31st (NSS-Camp)
Guru Ghasi Das Jayanti = 18
Christmas = 25
Winter Vacation = 25-27

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JAN - 24

Date	B.Sc. - I st	B.Sc. - II nd	B.Sc. - III rd	Practical
01/01/24	Integument derivatives & functions.	Pisciculture: Types of fishes in culture	Active Transport across mitochondria	B.Sc. I: Pectoral & Pelvic girdle of Amphibian, Reptile, Aves and Mammal.
02/01/24	Integument derivatives & functions	Ext. morphology of fishes	Active Transport across lysosome	
17/01/24	Pelvic & pectoral girdle of fishes	Species of fishes in Pisciculture	Active Transport significance	
19/01/24	Pelvic & pectoral girdle of Amphibian	Lifecycle of fishes	Hydrolytic enzymes.	
20/01/24	Pelvic & Pectoral girdle of Reptile	Tools & Techniques of Pisciculture	Role of hydrolytic enzymes in cells.	
22/01/24	Pelvic & Pectoral girdle of Aves	Diseases in fishes.	P-II, U-I: Linkage & Linkage map	
23/01/24	Pelvic & Pectoral girdle of mammals	Enemies of fishes.	Incomplete & Co-dominance	B.Sc. II: Project work.
24/01/24	Basic str. of Digestive System	Pisciculture management	Supplementary genes	
27/01/24	Comp. study of Digestive System	Economic importance of Pisciculture	Complementary genes.	B.Sc. III: cytological experiments.

Sundays :- 07, 14, 21, 28
Refresher Course :- 03 - 16
C.L :- 18, 29, 30, 31
Cheer-Chera = 25
Republic Day = 26

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FEB-

Date	B.Sc. - Ist	B.Sc. IInd	B.Sc. - IIIrd	Practical
01/02/24	P-II, U-IV: Evolution of aortic arches	P-II, U-V: Poultary keeping	Revision & Question Paper Solving	
02/02/24	Evolution of heart.	Tools and techniques.		
03/02/24	Cardiac cycle	Diseases in poultry		
05/02/24	Blood: Composition & function.	Enemies in Poultry		
12/02/24	P-II, U-V: Aquatic & terrestrial Resp.	Chemicals element in Pest Control		
14/02/24	Comp. study of lungs in land verte.	chemical elements in Pest control		
15/02/24	Physiology of urine formation.	Biological elements		
16/02/24	Comp. study of testis.	Biological elements.		
17/02/24	Comp. Study of ovaries.	Revision.		
19/02/24	Menstrual cycle	Revision.		
22/02/24	Esterous cycle.	Question Paper solving		
27/02/24	Str. & function of endocrine glands	Question Paper solving		
28/02/24	Harmones.	Question Paper solving		
29/02/24	Significance of endocrine gland.	Question Paper solving.		

Sudays : 04, 11, 18, 25
NSS Exam : 06
B.Sc. I, II & III Practical Exam = 07, 07
D.L. = 03, 10, 13, 20, 21, 23, 24, 26

Abhishek
Asstt. Prof. (Zoology)

Principal
Govt.College Charama
Distt.- U.B.Kanker (C.G.)

Date

Daily Diary

Session - 2023-24

Name K.P. Sahu
(Assist. Prof. Physics)

Office — Govt. Shaheed Gendsingh College Charama

Class - B.Sc. I / B.Sc. II / B.Sc. III

Part A: Introduction

Program: **Certificate Course** | Class: **B.Sc** | Year: **First** | Session: 2022-2023

1	Course Code	**PHY – 1T**
2	Course Title	**MECHANICS**
3	Course Type	**Theory**
4	Pre-requisite (if any)	No
5	Course Learning Outcomes (CLO)	**After completion of the course students will be able to:** • Get knowledge about the vectors and differential equations used in physics. • Get an idea of different types of motions and conservation laws. • Get an idea about rotational motion and various properties of matter like elasticity and viscosity. • Understand various types of oscillatory motion and GPS system. • Get an idea about Frame of reference and special theory of relativity. • Solve numerical problems based on entire syllabus.
6	**Credit Value**	**Theory : 4**
7	**Total Marks**	**Max. Marks: 50** **Min Passing Marks : 17**

Part B: Content of the Course

Total Periods: 60

Unit	Topic	Number of Periods
I	**Vectors:** Vector algebra. Derivatives of a vector with respect to a parameter, Scalar and vector products of two, three and four vectors. Gradient, divergence and curl of vectors fields. Polar and Axial vectors. **Ordinary Differential Equations:** 1st order homogeneous differential equations, exact and non-exact differential equations, 2nd order homogeneous and nonhomogeneous differential equations with constant coefficients (Operator Method Only).	12
II	**Laws of Motion:** Review of Newton's Laws of motion. Dynamics of a system of particles. Concept of Centre of Mass, determination of center of mass for discrete and continuous systems having cylindrical and spherical symmetry. **Work and Energy:** Motion of rocket, Work-Energy theorem for conservative forces, Force as a gradient of Potential Energy, Conservation of momentum	12

	and energy, Elastic and in-elastic Collisions.	
III	**Rotational Dynamics:** Angular velocity. Angular momentum, Torque, Conservation of angular momentum, Moment of Inertia. Theorem of parallel and perpendicular axes (statements only), Calculation of Moment of Inertia of discrete and continuous objects (rod, disc, cylinder, solid sphere). **Elasticity:** Hooke's Law – Stress – strain diagram – Elastic moduli – Relation between elastic constants – Poisson's Ratio – Expression for Poisson's Ratio in terms of Elastic Constants – Work done in stretching and work done in twisting a wire – Twisting couple on a cylinder – Determination of Rigidity modules. Elementary idea of Surface tension and Viscosity, flow of fluids, coefficient of viscosity. Stoke's law, expression for terminal velocity, wetting.	12
IV	**Gravitation:** Newton's Law of Gravitation. Motion of a particle in a central force field (motion is in a plane, angular momentum is conserved, areal velocity is constant). Kepler's Laws (statements only). Satellite in circular orbit and applications. Geosynchronous orbits. **Oscillations:** Simple harmonic motion. Differential equation of SHM and its solutions, Kinetic and Potential Energy. Total Energy and their time averages, Compound pendulum. Differential equations of damped oscillations and forced oscillations (Conceptual only)	12
V	**Special Theory of Relativity:** Frame of reference, Galilean Transformations, Inertial and Non-inertial frames. Outcomes of Michelson Morley's Experiment, Postulates of Special Theory of Relativity, Length contraction, Time dilation, Relativistic transformation of velocity, Relativistic variation of mass, Mass-energy equivalence, Transformation of Energy and Momentum.	12

Part C - Learning Resource

Text Books, Reference Books, Other Resources

Reference Books:

1. University Physics. FW Sears, MW Zemansky & HD Young 13/e, 1986. Addison Wesley
2. Mechanics Berkeley Physics course, v.1: Charles Kittel, et.al. 2007, Tata McGrawHill
3. Physics – Resnick, Halliday & Walker 9/e, 2010, Wiley
4. Engineering Mechanics, Basudeb Bhattacharya, 2nd edn., 2015, Oxford University Press
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.

Link for e-Books for Physics:

1. *All e-books of physics* https://www.e-booksdirectory.com/listing.php?category=2
2. *Free physics text book in PDF* https://www.motionmountain.net/?gclid=CjwKCAiwmq3BRB_EiwAjkNDp5nSJ56xK1s0

Part A: Introduction

Program: **Certificate Course** Class: **B.Sc.** Year: **First** Session: 2022-2023

1	Course Code	**PHY – 2T**
2	Course Title	**ELECTRICITY AND MAGNETISM**
3	Course Type	**Theory**
4	Pre-requisite (if any)	No
5	Course Learning Outcomes (CLO)	**After completion of the course students will be able to –** • Get knowledge about the vectors analysis and able to apply in electrostatic and Magnetostatics. • Get idea about electric fields, force and potential. • Get idea about Dielectric and Electric currents and also the application in A.C circuits. • Get idea about Magnetic properties of material. • To get idea about Electromagnetic Induction and Maxwell's equation and Electromagnetic wave propagation. • Solve numerical problems based on entire syllabus.
6	**Credit Value**	**Theory : 4**
7	**Total Marks**	**Max. Marks: 50** **Min Passing Marks : 17**

Part B: Content of the Course

Total Periods: 60

Unit	Topic	Number of Periods
I	**Vector Analysis**: Vector Integration, Line, surface and volume integrals of Vector fields. Gauss-divergence theorem and Stoke's theorem of vectors and its application in electrostatics and magnetostatics.	12
II	**Electrostatics:** Electrostatic Field, electric flux, Gauss's theorem of electrostatics, Applications of Gauss theorem- Electric field due to point charge, infinite line of charge, uniformly charged spherical shell and solid sphere, plane charged sheet, charged conductor. Electric potential as line integral of electric field, potential due to a point charge, electric dipole, uniformly charged spherical shell and solid sphere. Calculation of electric field from potential, Capacitance of an isolated spherical conductor, Parallel plate, spherical and cylindrical condenser. Energy per unit volume in electrostatic field.	12

III	**Dielectric & Electric Currents:** Dielectric medium, Polarisation, Displacement vector, Gauss's theorem in dielectrics, Parallel plate capacitor completely filled with dielectric. Steady current, current density J, non – steady current and continuity equation, Kirchoff's law (statement only), Ideal constant – voltage and constant – current sources, Thevenin theorem, Norton theorem, Superposition theorem, Reciprocity theorem and maximum power transfer theorem, Rise and decay of current in LR, CR, LCR circuits.	12
IV	**Magnetism:** Magnetostatics: Biot-Savart's law and its applications- straight conductor, circular coil, solenoid carrying current, Divergence and curl of magnetic field, Magnetic vector potential, Ampere's circuital law. Magnetic properties of materials: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, Brief introduction of dia, para and ferro-magnetic materials.	12
V	**Electromagnetic Induction:** Faraday's laws of electromagnetic induction, Lenz's law, self and mutual inductance, L of single coil, M of two coils, Energy stored in magnetic field. **Maxwell's equations and Electromagnetic wave propagation:** Equation of continuity of current, Displacement current, Maxwell's equations, Wave equation in free space.	12

Part C - Learning Resource

Text Books, Reference Books, Other Resources

Reference Books:

1. Vector analysis – Schaum's Outline, M.R. Spiegel, S. Lipschutz, D. Spellman, 2nd Edn., 2009, McGraw- Hill Education.
2. Electricity and Magnetism, Edward M. Purcell, 1986, McGraw-Hill Education.
3. Electricity & Magnetism, J.H. Fewkes & J.Yarwood. Vol. I, 1991, Oxford Univ. Press
4. Electricity and Magnetism, D C Tayal, 1988, Himalaya Publishing House.
5. University Physics, Ronald Lane Reese, 2003, Thomson Brooks/Cole.
6. D.J.Griffiths, Introduction to Electrodynamics, 3rd Edn, 1998, Benjamin Cummings.

Link for e-Books for Physics:

1. *All e-books of physics* https://www.e-booksdirectory.com/listing.php?category=2
2. *Free physics text book in PDF* https://www.motionmountain.net/?gclid=CjwKCAjwmq3kBRB_EiwAjkNDp5v8Yv6xK1s0Kma0YR0AWGlichRwFfCC0-vpZK1irPoEOAnBq8fcaRoCjLsOAvD_BwE
3. *Cambridge University Books for Physics* https://www.cambridgeindia.org/
4. *Books for solving physics problems* https://bookboon.com/en/physics-ebooks

B.Sc. Part-II
PHYSICS
PAPER-I
THERMODYNAMICS, KINETIC THEORY AND STATISTICAL PHYSICS

UNIT-1 The laws of thermodynamics : The Zeroth law, first law of thermodynamics, internal energy as a state function, reversible and irreversible change, Carnot's cycle, carnot theorem, second law of thermodynamics. Claussius theorem inequality. Entropy, Change of entropy in simple cases (i) Isothermal expansion of an ideal gas (ii) Reversible isochoric process (iii) Free adiabatic expansion of an ideal gas. Concept of entropy, Entropy of the universe. Entropy change in reversible and irreversible processes, Entropy of Ideal gas, Entropy as a thermodynamic variable, S-T diagram, Principle of increase of entropy. The thermodynamic scale of temperature, Third law of thermodynamics, Concept of negative temperature.

UNIT-2 Thermodynamic functions, Internal energy, Enthalpy, Helmholtz function and Gibb's free energy, Maxwell's thermo dynamical equations and their applications, TdS equations, Energy and heat capacity equations Application of Maxwell's equation in Joule-Thomson cooling, adiabatic cooling of a system, Van der Waals gas, Clausius-Clapeyron heat equation. Blackbody spectrum, Stefan-Boltzmann law, Wien's displacement law, Rayleigh-Jean's law, Planck's quantum theory of radiation.

UNIT-3 Maxwellian distribution of speeds in an ideal gas: Distribution of speeds and velocities, experimental verification, distinction between mean, rms and most probable speed values. Doppler broadening of spectral lines. 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.
Behaviour of Real Gases: Deviations from the Ideal Gas Equation. The Viral Equation. Andrew's Experiments on CO2 Gas. Critical Constants.

UNIT-4 The statistical basis of thermodynamics: Probability and thermodynamic probability, principle of equal a priori probabilities, statistical postulates. Concept of Gibb's ensemble, accessible and inaccessible states. Concept of phase space, γ phase space and μ phase space. Equilibrium before two systems in thermal contact, probability and entropy, Boltzmann entropy relation. Boltzmann canonical distribution law and its applications, law of equipartition of energy.
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.

UNIT-5 Indistinguishability of particles and its consequences, Bose-Einstein & Fermi-Dirac conditions, Concept of partition function, Derivation of Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac Statistics, Limits of B-E and F-D statistics to M-B statistics. Application of B-E statistics to black body radiation, Application of F-D statistics to free electrons in a metal.

B.Sc. Part-II
PHYSICS
PAPER-II
WAVES, ACOUSTICS AND OPTICS

UNIT-1 Waves in media: Speed of transverse waves on uniform string, speed of longitudinal waves in a fluid, energy density and energy transmission in waves. Waves over liquid surface: gravity waves and ripples. Group velocity and phase velocity and relationship between them. Production and detection of ultrasonic and infrasonic waves and applications.

Reflection, refraction and diffraction of sound : Acoustic impedance of a medium, percentage reflection & refraction at a boundary, impedance matching for transducers, diffraction of sound, principle of a sonar system, sound ranging.

UNIT-2 Fermat's Principle of Extremum path, the aplanatic points of a sphere and other applications. Cardinal points of an optical system, thick lens and lens combinations. Lagrange equation of magnification, telescopic combinations, telephoto lenses. Monochromatic aberrations and their reductions; aspherical mirrors and Schmidt corrector plates, aplanatic points, oil immersion objectives, meniscus lens.

Optical instruments: Entrance and exit pupils, need for a multiple lens eyepiece, common types of eyepieces. (Ramsdon and Hygen's eyepieces).

UNIT-3 Interference of light: The principle of superposition's, two slit interference, coherence requirement for the sources, optical path retardations, Conditions for sustained interference, Theory of interference, Thin films. Newton's rings and Michelson interferometer and their applications its application for precision determinations of wavelength, wavelength difference and the width of spectral lines. Multiple beam interference in parallel film and Fabry-Perot interferometer. Rayleigh refract meter, Twyaman-Green interferometer and its uses.

UNIT-4 Diffraction, Types of Diffraction, Fresnel's diffraction, half-period zones, phasor diagram and integral calculus methods, the intensity distribution, Zone plates, diffraction due to straight edge, Fraunhofer diffraction due to a single slit and double slit, Diffraction at N-Parallel slit, Plane Diffraction grating, Rayleigh criterion, resolving power of grating , Prism, telescope.

Polarized light and its mathematical representation, Production of polarized light by reflection, refraction and scattering. Polarization by double refraction and Huygens's theory, Nicoll prism, Retardation plates, Production and analysis of circularly and elliptically polarized light. Optical activity and Fresnel's theory, Biquartz polarimeter.

UNIT-5 Laser system: Basic properties of Lasers, 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, Types of Laser : Ruby and, He-Ne laser and. Applications of laser : Application in communication, Holography and Basics of non linear optics and Generation of Harmonic.

PHYSICS
PAPER-I
RELATIVITY, QUANTUM MECHANICS, ATOMIC MOLECULAR AND NUCLEAR PHYSICS

UNIT-I Reference systems, inertial frames, Galilean invariance propagation of light, Michelson-Morley experiment, search for ether. Postulates for the special theory of relativity, Lorentz transformations, length contraction, time dilation, velocity addition, variation of mass with velocity, mass-energy equivalence, particle with zero rest mass.

UNIT-II Origin of the quantum theory : Failure of classical physics to explain the phenomena such as black-body spectrum, photoelectric effect, Compton effect, Wave-particle duality, uncertainty principle, de Broglie's hypothesis for matter waves, the concept of Phase and group velocities, experimental demonstration of mater waves, Davisson and Garner's experiment. Consequence of de Broglie's concepts, Bohr's complementary Principle, Bohr's correspondence principle, Bohr's atomic model, energies of a particle in a box, wave packets. Consequence of the uncertainty relation, gamma ray microscope, diffraction at a slit.

UNIT-III Quantum Mechanics: Schrodinger's equation, Statistical interpretation of wave function, Orthogonality and normalization of wave function, Probability current density, Postulates, basis of quantum mechanics, operators, expectation values, Ehrenfest's theorem, transition probabilities, applications to particle in a one and three dimensional boxes, harmonic oscillator in one dimension, reflection at a step potential, transmission across a potential barrier.

UNIT-IV 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. Discrete set of electronic energies of molecules, quantization of vibration and rotational energies, determination of inter-nuclear distance, pure rotational and rotation vibration spectra. Dissociation limit for the ground and other electronic states, transition rules for pure vibration and electronic vibration spectra. Raman effect. Stokes and anti-Stokes lines, complimentary character of Raman and infrared spectra, experimental arrangements for Raman spectroscopy.

UNIT-5 Structure of nuclei:- Basic Properties of Nuclei: (1) Mass, (2) Radii, (3) Charge, (4) Angular Momentum, (5) Spin, (5) Magnetic Moment (μ), (6) Stability and (7) Binding Energy, Nuclear Models:- Liquid Drop Model. Mass formula. Shell Model. Types of Nuclear reactions, laws of conservation, Q-value of reactions. Interaction of Energetic particles with matter, Ionization chamber, GM Counter. Cloud Chambers. Fundamental Interactions, Classification of Elementary Particles. Particles and Antiparticles. Baryons. Hyperons, Leptons, and Mesons. Elementary Particle Quantum Numbers: Baryon Number, Lepton Number, Strangeness, Electric Charge, Hypercharge and Isospin, introductory idea of discovery of Higg's Boson.

TEXT AND REFERENCE BOOKS:

1. H.S. Mani and G.K. Mehta: "Introduction to Modern Physics"" (Affiliated East-West Press, 1989)

B.Sc. Part-III
PHYSICS
PAPER-II
SOLID STATE PHYSICS, SOLID STATE DEVICES AND ELECTRONICS

UNIT-I Amorphous and crystalline solids. Elements of symmetry, seven crystal system. Cubic lattices, Crystal planes, Miller indices. Laue's equation for X-ray diffraction, Bragg's Law. Bonding in solids, classification. Cohesive energy of solid, Made lung constant, evaluation of Parameters. Specific heat of solids, classical theory (Dulong-Petit's law), Einstein and Debye theories. Vibration modes of one dimensional monatomic lattice. Dispersion relation. Brillion Zone.(Brillouin zone)

UNIT-II Free electron model of a metal. Solution of one dimensional Schrödinger equation in a constant potential. Density of states. Fermi Energy. Energy bands in a solid (Kronig-Penny model without mathematical details). Difference between Metals, Insulator and Semiconductors, Hall effect. Dia, Para and Ferromagnetism. Langevin's theory of dia and para-magnetism. Curie- Weiss's Law. Qualitative description of Ferromagnetism (Magnetic domains). B-H curve and Hysteresis loss.

UNIT-III Intrinsic and extrinsic semi conductors. Concept of Fermi level. Generation and recombination of electron hole pairs in semiconductors. Mobility of electrons and holes, drift and diffusion currents, p-n junction diode, depletion width and potential barrier, junction capacitance. I-V characteristics. Tunnel diode. Zinger diode. Light emitting diode. solar cell. Bipolar transistors. pnp and npn transistors. characteristics of transistors, different configurations. current amplification factor. FET and MOSFET Characteristics.

UNIT-IV Half and full wave rectifier. rectifier efficiency ripple factor. Bridge rectifier. Filters. Inductor filter. L and π section filters. Zinger diode, regulated power supply using zinger diode. Applications of transistors. Bipolar Transistor as amplifier. h-parameter. h-parameter equivalent circuit. Transistor as power amplifier. Transistor as oscillator, principle of an oscillator and Bark House's condition. requirements of an oscillator. Wein-Bridge oscillator and Hartley oscillator.

UNIT-V Digital Circuits: Difference between Analog and Digital Circuits. Binary Numbers. Decimal to Binary and Binary to Decimal Conversion. AND. OR and NOT Gates (Realization using Diodes and Transistor). NAND and NOR Gates as Universal Gates. XOR and XNOR Gate. De Morgan's Theorems. Boolean Laws. Simplification of Logic Circuit using Boolean Algebra. Digital to Analog Converter. Analog to Digital Converter.

TEXT AND REFERENCE BOOKS:

1. Introduction to solid state physics: C. Kittle.
2. Solid State Physics: A.J. Dekkar.
3. Electronic Circuits: Mottershead.
4. Electronic Circuits: Millman and Halkias.
5. Semiconductor Devices: S.M. Size.
6. Electronic devices: T.L. Floyd.
7. Device and Circuits: J. Millman and C. Halkias.
8. Electronic Fundamental and Applications: D. Chatopadhyay and P.C. Rakshit.
9. Electricity and Magnetism: K.K. Tiwari.

objects (rod, disc, cylinder, solid sphere).

Month - Sep. 2023

Unit-III

Elasticity :- Hooke's law, stress - strain diagram, elastic modulii - relation bet^n elastic constants, Poisson's ratio, expression for Poisson's ratio in terms of elastic constants - work done in stretching wire and work done in twisting a wire, twisting couple on a cylinder, determination of rigidity modulus, elementary idea of surface tension and viscosity, flow of fluids, coefficient of viscosity, Stoke's law, expression for terminal velocity, wetting.

Unit-IV

Gravitation :- Newton's law of gravitation, motion of a particle in a central force field (motion in a plane, angular momentum is conserved, areal velocity is constant). Kepler's laws (statement only). Satellite in circular orbit and applications, Geosynchronous orbits. Oscillations :- Simple harmonic motion, differential eq^n of SHM and its solutions, kinetic and potential energy, total energy and their time averages, compound pendulum, differential eqns of damped oscillations and forced oscillations (conceptual only).

Month - Oct. 2023

Unit-V

Special Theory of Relativity :- frame of reference, Galilean transformations, inertial and non-inertial frames, discovery of Michelson Morley's experiment, postulates of special theory of relativity, length contraction, time dilation, relativistic transformation of velocity, relativistic variation of mass, Mass-energy equivalence, transformation of energy and momentum.

Month - Nov. 2023

Paper II / Unit-I

Vector Analysis :- Vector integration, line, surface and volume integrals of vector fields, Gauss's divergence theorem and Stoke's theorem of vectors and its applications in electrostatics and magnetostatics.

Unit-II

Electrostatics :- Electrostatic field, electric flux, Gauss's theorem of electrostatics, applications of Gauss's theorem - Electric field due to point charge, infinite line of charge, uniformly charged spherical shell and solid sphere, plane charged sheet, charged conductor.

Month - Dec. 2023

Unit-II

Electric potential as line integral of electric field, potential due to a point charge, electric dipole, uniformly charged spherical shell and solid sphere, calculation of electric field from potential, capacitance of an isolated spherical conductor, parallel plate, spherical and cylindrical condenser, energy per unit volume in electrostatic field.

Unit-III

Dielectric & Electric currents :- Dielectric medium, polarisation, Displacement vector, Gauss's theorem in dielectrics, parallel plate capacitor completely filled with dielectric, steady current, current density $\vec{J}$, non-steady current and continuity equation, Kirchoff's law (statement only), ideal constant voltage and constant-current sources, Thevenin theorem, Norton theorem, superposition theorem, reciprocity theorem and maximum power transfer theorem, rise and decay of current in LR, CR, LCR circuits.

Month - Jan 2024

Unit-IV

Magnetism: Magnetostatics: - Biot-Savart's law and its applications - straight conductor, circular coil, solenoid carrying current, divergence and curl of magnetic field, magnetic vector potential. Amperes circutal law. Magnetic properties of materials: Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, brief introduction of dia, para and ferro-magnetic materials.

Month - Feb 2024

Unit-V

Electromagnetic Induction: - Faraday's laws of electromagnetic induction, Lenz's law, self and mutual inductance, L of single coil, M of two coils, energy stored in magnetic field. Maxwell's equations and Electromagnetic wave propagation: Equation of continuity of current, displacement current, Maxwell's equations, wave equation in free space.

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Proposed Syllabus

class - B.Sc. IInd

Subject - Physics

Month - July 2023

Paper I / Unit-I

The law of thermodynamics :- The zeroth law, first law of thermodynamics, internal energy as a state function, reversible and irreversible change, Carnot's cycle, Carnot theorem, second law of thermodynamics. Clausius inequality theorem. Entropy, change of entropy in simple cases - (i) Isothermal expansion of an ideal gas (ii) Reversible isochoric process (iii) Free adiabatic expansion of an ideal gas. Concept of entropy, entropy of the universe, entropy change in reversible and irreversible processes, entropy of ideal gas. Entropy as a thermodynamic variable, S-T diagram, principle of increase of entropy. The thermodynamic scale of temperature, third law of thermodynamics, Concept of negative temperature.

Month - Aug. 2023

Unit-II

Thermodynamic functions, internal energy, enthalpy, Helmholtz function, Gibbs free energy, Maxwell's thermodynamical equations and their applications, Tds equations, energy and heat capacity equation, application of Maxwell's equation in Joule-Thomson cooling, adiabatic cooling of a system, Vander Waals gas, Clausius clapeyron heat equation. Black body spectrum, Stefan-Boltzmann law, Wien's displacement law, Rayleigh-Jeans law, Planck's quantum theory of radiation.

Unit-III

Maxwellian distribution of speeds in an ideal gas :- Distribution of speeds and velocities, experimental verification, distinction betⁿ mean, rms and most probable speed values, Doppler broadening of spectral lines. Transport phenomena in gases: Molecular collisions, mean free path and collision cross sections, estimates of molecular dismeter and mean free path, transport of mass, momentum and energy and interrelationship, dependence on temperature and pressure.

Behaviour of real gases : Deviations from the ideal gas equation. The viral equation, Andrew's experiments on CO_2 gas, critical constants.

Month - Sep. 2023

Unit-IV

The statistical basis of thermodynamics : Probability and thermodynamic probability, principle of equal a priori probabilities, statistical postulates. Concept of Gibbs ensemble, accessible and inaccessible states. Concept of phase space, γ phase space and μ-phase space. Equilibrium before two systems in thermal contact, probability and entropy, Boltzmann entropy relation, Boltzmann canonical distribution law and its applications, law of equipartition of energy.

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.

Month - Oct. 2023

Unit-V

Indistinguishability of particles and its consequences, Bose-Einstein and Fermi-Dirac conditions, Concept of partition function, derivation of Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics, limits of B-E and F-D statistics to M-B statistics. Application of B-E statistics to black body radiation, application of F-D statistics to free electrons in a metal.

Paper II / Unit-I

Waves in media : Speed of transverse wave on uniform string, speed of longitudinal waves in a fluid, energy density and energy transmission in waves. Waves over liquid surface : gravity waves and ripples, group and phase velocity and relationship betⁿ them. Production and detection of ultrasonic and infrasonic waves and applications.

Reflection, refraction and diffraction of sound : Acoustic impedance of a medium, percentage reflection and refraction at a boundary, impedance matching for transducers, diffraction of sound, principle of a sonar system, sound ranging.

Month - Nov. 2023

Unit-II

Fermat's principle of extremum path, the aplanatic points of a sphere and other applications. Cardinal points of an optical system, thick lens and lens combinations, Lagrange equation of magnification, telescopic combinations, telephoto lenses, monochromatic aberrations and their reductions, aspherical mirrors and Schmidt corrector plates, aplanatic points, oil immersion objectives, meniscus lens.

Optical Instruments : Entrance and exit pupils, need for a multiple lens eyepiece, common types of eyepieces (Ramsden and Huygen's eyepieces).

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Month – Dec. 2023

Unit-III

Interference of light : The principle of superposition, two slit interference, coherence requirement for the sources, optical path retardations, conditions for sustained interference, theory of interference, thin film, Newton's rings and Michelson interferometer and their applications – for precision determinations of wavelength, wavelength difference and the width of spectral lines, multiple beam interference in parallel film and Fabry-Perot interferometer, Rayleigh refractometer, Twyman-Green interferometer and its uses.

Month – Jan 2024

Unit- IV

Diffraction, types of diffraction, Fresnel's diffraction, half period zones, phasor diagram and integral calculus method, the intensity distribution, method zone plates, diffraction due to straight edge, Fraunhofer diffraction due to a single slit and double slit, diffraction at N-parallel slit, plane diffraction grating, Rayleigh criterion, resolving power of grating, prism, telescope. Polarized light and its mathematical representation, production of polarized light by reflection, refraction and scattering. Polarization by double refraction and Huygens's theory, Nicoll prism, retardation plates, production and analysis of circularly and elliptically polarized light, optical activity and fresnel's theory, biquartz polarimeter.

Month – Feb. 2024

Unit - V

Laser System : Basic properties of laser, 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, types of laser : Ruby and He-Ne laser, application's of laser : In communication, Holography and basics of non linear optics and generation of harmonics.

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Teaching Plan Session – 2023-24

Page No.
Date

Proposed Syllabus

class – B.Sc III[rd]

Subject – physics

Month – July 2023

Paper I / Unit- I

Reference systems, inertial frames, Galilean invariance, 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 zero rest mass.

Unit- II

Origin of the quantum theory :- failure of classical physics to explain the phenomena such as black body spectrum, photoelectric effect, Compton effect, wave particle duality, uncertainty principle, de-Broglie's hypothesis for matter waves, the concept of phase and group velocities, experimental demonstration of matter waves - Davisson and Germers experiment. Consequence of de-Broglie's concepts, Bohr's complementary principle, Bohr's correspondence principle, Bohr's atomic model, energies of particle in a box, wave packets. Consequence of the uncertainty relation, gamma ray microscope, diffraction at a slit.

Month – Aug. 2023

Unit- III

Quantum Mechanics : Schrodinger's equation, Statistical interpretation of wave function, orthogonality and normalization of wave function, Probability current density, postulatory basis of quantum mechanics, operators, expectation values, Ehrenfest's theorem, transition probabilities, applications to particle in a one and three dimensional boxes, harmonic oscillator in one dimension, reflection at a step potential, transmission across a potential barrier.

Month – Sep 2023

Unit- IV

Spectra of hydrogen, deuterium and alkali atoms, spectral terms, doublet fine structure, screening constants for alkali spectra for s, p, d and f states - selection rules, discrete set of electronic energies of molecules, quantization of vibrational and rotational energies, determination of inter-nuclear distance, pure rotational and rotation vibration spectra - Dissociation limit for the ground and other electronic states, transition rules for pure ~~and~~ vibration and electronic vibration spectra - Raman effect, Stokes and anti-Stokes lines, complementary character of Raman and infrared spectra, experimental arrangements for Raman spectroscopy.

Month – Oct. 2023

Unit- V

Structure of nuclei :- Basic properties of nuclei - (i) mass, (ii) Radii (iii) charge (iv) Angular momentum (v) Spin, (vi) Magnetic moment (vii) Stability and (viii) Binding energy - Nuclear Models :- Liquid drop model, mass formula, shell model, types of nuclear reactions, laws of conservation, Q-Value of reactions, interaction of energetic particles with matter, ionization chamber, GM counter, cloud chambers, fundamental interactions, classification of elementary particles, particles and

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antiparticles, Baryons, Hyperons, Leptons, Mesons. Elementary particle quantum Numbers: Baryon number, lepton number, strangeness, electric charge, hypercharge and isospin, introductory idea of discovery of Higgs Boson.

Month - Nov. 2023

Paper II / Unit-I

Amorphous and crystalline solids, elements of symmetry, seven crystal system, cubic lattices, crystal planes, Miller indices, Laue's equation for x-ray diffraction, Bragg's law, bonding in solids, classification - Cohesive energy of solid, Madelung constant, evaluation of parameters, specific heat of solids, classical theory (Dulong Petit's law), Enstein and Debye theories, vibration modes of one dimensional monoatomic lattice, dispersion relation, Brillouin zone.

Month - Dec. 2023

Unit-II

Free electron model of a metal, solution of one dimensional Schrodinger equation in a constant potential, density of states, fermi energy, energy bands in a solid (Kronig-Penny model (without mathematical details)). Difference between metal, insulator and semiconductor, Hall effect, Dia, para and ferromagnetism, Langevin's theory of dia and para-magnetism, Curie-Weiss's law, qualitative description of ferromagnetism (magnetic domains), B-H curve and Hysteresis loss.

Unit-III

Intrinsic and extrinsic semiconductors, concept of fermi level, generation and recombination of electron-hole pairs in semiconductors, mobility of electrons and holes, drift and diffusion currents, p-n junction diode, depletion width and potential barrier, junction capacitance, I-V characteristics, Tunnel diode, zener diode, LED, solar cell, bipolar transistor, npn and pnp transistors, characteristics of transistors, different configurations, current amplification factor, FET and MOSFET characteristics.

Month - Jan 2024

Unit-IV

Half and full wave rectifier, rectifier efficiency, ripple factor, Bridge rectifier, filters, inductor filter, L and π section filters, regulated power supply using zener diode. Applications of transistor - Bipolar transistor as amplifier, h-parameter, h-parameter equivalent circuit, transistor as power amplifier, transistor as oscillator, principle of an oscillator and Bark Hausen's condition, requirements of an oscillator, Wein-Bridge oscillator and Hartley oscillator.

Month- Feb. 2024

Unit-V

Digital Circuits:- Difference between analog and digital circuits, binary number, decimal to binary and binary to decimal conversion. AND, OR and NOT gates (Realization using diodes and transistor), NAND and NOR gates as universal gates, XOR and XNOR gates, De-Morgan's theorems, Boolean laws, simplification of logic circuit using Boolean algebra, digital to analog converter, analog to digital converter.

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Completed Syllabus

		B.Sc. I	B.Sc. II	B.Sc. III	Practical
2.	25.07.23	Vector algebra	Zeroth law of thermodynamics	Reference systems	Inertia table
3.	26.07.23	Derivatives of a vector	I^st law of thermodynamics	Inertial frames	Inertia table
4.	27.07.23	Scalar and vector products	Internal energy as a state function	Galileo's invariance	Wavelength of laser light
5.	28.07.23	of two, three & four vectors	Reversible & irreversible change	Propagation of light	Wavelength of laser light
6.	29.07.23	Gradient of a scalar field	Carnot's cycle	Michelson-Morley experiment	Zener diode
7.	30.07.23	Divergence of a vector field	Carnot theorem	Search for ether	Zener diode
8.	31.07.23	Curl of a vector field	Second law of thermodynamics	Postulates of special theory of relativity	Inertia table
9.	01.08.23	Polar and axial vectors	Clausius inequality theorem	Lorentz transformations	Refractive index of prism's material
10.	02.08.23	I^st order homogeneous diff. eq^n	Entropy	Length contraction	Refractive index of prism's material
11.	03.08.23	Exact differential eq^n	Change of entropy in irreversible cycle	Time dilation	Zener diode
12.	04.08.23	Non-exact differential eq^n	Reversible isothermal process	Velocity addition theorem	PN junction diode
13.	05.08.23	2^nd order homogeneous diff. eq^n	Free adiabatic expansion of ideal gas	Variation of mass with velocity	Compound pendulum
14.	06.08.23	Non-homogeneous diff. eq^n	Entropy of the universe	Mass-energy equivalence	Compound pendulum
15.	07.08.23	Newtons laws of motion	Entropy change in reversible process	Particle with zero rest mass	Refractive index of prism's material
16.	08.08.23	Dynamics of a system of particles	Entropy of ideal gas	failure of classical physics to explain the	Refractive index of prism's material
17.	09.08.23	Plane polar co-ordinate system	Entropy as a thermodynamic variable	phenomena such as black body spectrum, PN junction diode	
18.	10.08.23	Spherical co-ordinate system	ST-diagram	photoelectric effect, Compton effect	Compound pendulum

Note:- July 2, 9, 16, 23, 30 - Sunday
July 17 - Hartali
July 29 - Muharram

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Month – Aug. 2023 | Subject – physics

Completed Syllabus

S.N.	Date	B.Sc.I	B.Sc.II	B.Sc.III	Practical	Remark
1.	01.08.23	Center of mass (cm)	Principle of increase of entropy	Wave particle duality	Compound pendulum	
2.	02.08.23	cm for discrete systems	Thermodynamic scale of temperature	Uncertainty principle	Joule calorimeter	
3.	03.08.23	cm for continuous systems	Thermodynamic function, Internal energy	de-Broglie's hypothesis	Joule calorimeter	
4.	04.08.23	Motion of Rocket	Enthalpy, Helmholtz function.	Phase & group velocities	PN junction diode	
5.	05.08.23	Work energy theorem	Gibbs free energy	Davisson & Germers exp.	PN junction diode	
6.	07.08.23	force as a gradient of pot. energy	Maxwell's equations	Consequence of de-Broglie concepts	Torsion pendulum	
7.	08.08.23	Conservation of momentum	Applications of Maxwell's equations	Bohr's complementary principle	Torsion pendulum	
8.	10.08.23	Conservation of energy	Tds equation	Bohr's correspondence principle	Joule calorimeter	
9.	11.08.23	Elastic collision	Energy & heat capacity equations	Bohr's atomic model	Forbidden energy gap	
10.	12.08.23	In-elastic collision	Joule-Thomson cooling	Energies of a particle in a box	Forbidden energy gap	
11.	14.08.23	Angular velocity, ang. momentum	Adiabatic cooling of a system	Wave packets	Torsion pendulum	
12.	16.08.23	Torque, cons. of ang. momentum	Vander Waals gas	Consequence of the uncertainty relation	Joule calorimeter	
13.	17.08.23	Moment of inertia	clausius-clapeyron heat equation	Gamma ray microscope	Grating experiment	
14.	18.08.23	Theorem of perp. & para. axes	Black-body spectrum	Diffraction at a slit.	Forbidden energy gap	
15.	19.08.23	Moment of inertia of rod, disc	Stefan-Boltzmann law	Schrodinger's time dependent wave eq.	Forbidden energy gap	
16.	21.08.23	Moment of inertia of cylinder solid sp.	Wien's displacement law	Schrodinger's time independent wave eq.	Maxwell's needle	
17.	22.08.23	Hook's law, stress, strain	Rayleigh-Jean's law	statistical int. of wave function	Maxwell's needle	
18.	23.08.23	Elastic moduli	Planck's quantum theory of radiation	Orthogonality & normalization of wave fun.	Grating experiment	
19.	24.08.23	Poisson's ratio	Maxwellian distri. of speeds & velocities	Probability current density	Grating experiment	
20.	25.08.23	Relation bet' elastic constant	Experimental verification.	Postulates basis of quantum mech.	Transistor	
21.	26.08.23	Relation bet' elastic constant	Mean, rms & most probable speed values	Operators	Transistor	
22.	28.08.23	Work done in stretching wire	Doppler broadening of spectral lines	Expectation values	Maxwell's needle	
23.	29.08.23	Work done in twisting a wire	Transport phenomenon in gases:	Ehrenfest's theorem	Maxwell's needle	
24.	31.08.23	Twisting couple on a cylinder	Molecular collisions	Transition probabilities	Grating experiment	

Note:- Aug 6, 13, 20, 27 – Sunday
Aug-9 – World Indigenous Day
Aug-15 – Independence Day

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Month - Sep. 2023

Page No.
Date

Subject - physics

Completed Syllabus

S.No.	Date	B.Sc I	B.Sc II	B.Sc III	Practical	Remark
1.	01.09.23	Determination of rigidity modulus	Mean free path	Particle in a one dimensional box	Transistor	
2.	02.09.23	Determination of rigidity modulus	Collision cross sections	Particle in a three dimensional box	Transistor	
3.	04.09.23	Surface tension	Estimates of molecular diam. & mef path	Harmonic oscillator in one dimension	Stokes law	
4.	05.09.23	Viscosity, flow of fluids	Transport of mass	Harmonic oscillator in one dim.	Stokes law	
5.	06.09.23	Coefficient of viscosity	Transport of momentum	Reflection at a step potential	Resolving power of telescope	
6.	08.09.23	Stoke's law	Transport of energy and	Reflection at a step potential	Resolving power of telescope	
7.	09.09.23	Terminal velocity	Interrelationship.	Transmission across a potential	Transistor	
8.	11.09.23	Wetting.	Behaviour of real gases: Deviations	barrier.	Stokes law	
9.	12.09.23	Newton's law of gravitation	from the ideal gas equation	Spectra of Hydrogen	Stokes law	
10.	13.09.23	motion of particle in a cent. forefield	Viral equation.	Deutron & alkali atoms	Resolving power of telescope	
11.	14.09.23	Angular mom. is conserved.	Andrews exp. on CO_2 gas. Critical const.	spectral terms	Resolving power of telescope	
12.	15.09.23	Velocity is constant, Keplers laws	Probability and thermodynamic prob.	Screening constant for alkali sp.	e/m Thomson method	
13.	16.09.23	satellite in cir. orbit & applications	Principle of equal a priori probabilities	Selection rules	e/m Thomson method	
14.	20.09.23	Geosynchronous orbit.	statistical postulates.	Discrete set of elec. energies	Resolving power of telescope	
15.	21.09.23	Simple harmonic motion	Concept of Gibbs ensemble	Quantisation of vibrational and	Resolving power of telescope	
16.	22.09.23	Differential eq of SHM	Accessible & inaccessible states	rotational energies	e/m thomson method	
17.	23.09.23	Solution of diff. eqn	phase space, γ & μ - phase space	Inter nuclear distance	e/m thomson method	
18.	25.09.23	Kinetic energy	Equilibrium before two systems Thermal const.	Pure rotational spectra	Barton experiment	
19.	26.09.23	Potential energy	Probability & entropy	Rotation vibration spectra	Barton experiment	
20.	27.09.23	Total energy	Boltzmann entropy relation	Dissociation limit	Resolving power of telescope	
21.	29.09.23	Time averages of total energy	Boltzmann canonical distribution law &	Transition rules for pure vibration	e/m Thomson method	
22.	30.09.23	Compound Pendulum	its applications.	& electronic vibration spectra	e/m thomson method	

Note: Sep. 3, 10, 17, 24 - Sunday
Sep. 7 - Shri Krishna Janmashtami
Sep. 18 - Teej, Sep-19 - Shri Ganesh Chaturthi
Sep. 28 - Ed-Milad-Unnabi

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Month – Oct-2023

Page No.
Date

Completed Syllabus

S.N.	Date	B.Sc.I	B.Sc.II	B.Sc.III	Practical	Remark
1.	07.10.23	Compound pendulum	Law of equipartition of energy	Raman effect	Barter experiment	
2.	04.10.23	Damped oscillations	'h' as a natural constant & its implic.	Stokes and anti-stokes lines	Barter experiment	
3.	05.10.23	Diff. eqn of damped oscillation	Particle in a one-dimensional box	Complimentary character of Raman and infrared spectra	Resolving power of grating	
4.	06.10.23	Different cases of S.H.O.	One dimensional harmonic oscillator		Resolving power of grating	
5.	07.10.23	Forced oscillations	Indistinguishability of particles	Exp. arrang. for Raman spectroscopy	LED	
6.	09.10.23	Differential eqn of forced oscill.	B-E & F-D conditions	Structure of nuclei	Jagers exp.	
7.	10.10.23	Different cases of F.H.O.	partition function	Basic properties of nuclei	Jagers exp.	
8.	11.10.23	Frame of reference	M-B statistics	Binding energy	Resolving power of grating	
9.	12.10.23	Galilean transformations	B-E statistics	Liquid drop model	Resolving power of grating	
10.	13.10.23	Inertial frames	F-D statistics	Shell model	LED	
11.	14.10.23	Non-inertial frames	Limits of BE & FD to M statistics	Types of nuclear reactions	LED	
12.	16.10.23	Michelson Morley's experiment	Application of B-E st. to black body radiation	Laws of conservation	Jagers exp.	
13.	17.10.23	Michelson-Morley's exp.	Appl. of F-D st. to free electrons in metal	Mass formula	Jagers exp.	
14.	18.10.23	Postulates of special theory of R.	Speed of transverse waves on uniform string	Q- value of reactions	Resolving power of grating	
15.	19.10.23	Length contraction	Speed of longi. waves in a fluid	Interaction of energetic particles with matter	Resolving power of grating	
16.	20.10.23	Time dilation	Energy density & energy flow in waves		Laser beam exp. PN junction diode	
17.	21.10.23	Relativistic transformation of velocity	Gravity waves & ripples	Ionization chamber	Laser beam exp. PN junction.	
18.	26.10.23		Group & phase velocity & Relationship	GM counter	Laser beam exp.	
19.	27.10.23	Relativistic variation of mass	Production & detection of ultrasonic &	cloud chambers	Forbidden energy gap	
20.	28.10.23	Mass-energy equivalence	infrasonic waves & applications	Fundamental interactions & classification of elementary particles	Forbidden energy gap	
21.	30.10.23	Transformation of energy and momentum.	Reflection, refraction & diffraction of sound	Particles & anti-particles.	Jagers exp.	
22.	31.10.23				Jagers exp.	

Note:- Oct. 1, 8, 15, 22, 29 – Sunday
Oct. 2 – Mahatma Gandhi Jayanti
Oct. 23 to 25 – Dussehra Vacation

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Month- Nov. 2023 | Page No. | Date | Subject — Physics | Page No. | Date

Completed syllabus

S.N.	Date	B.Sc.I	B.Sc.II	B.Sc.III	Practical	Remark
1.	02.11.23	Vector integration	Acoustic impedance of a medium	Baryons, Hyperons	Laserbeam exp.	
2.	03.11.23	Line integrals of vector fields	Percentage reflection & refraction at a boundary	Leptons and mesons	Forbidden energy gap	
3.	04.11.23	Surface integrals of V. fields	Impedance matching for transducers	Baryon number	Forbidden energy gap	
4.	06.11.23	Volume integrals of V. fields	Diffraction of sound	Lepton number	Torsion pendulum	
5.	08.11.23	Gauss's divergence theorem	Principle of a sonar system, sound ranging	Strengeness, electric charge	Laser beam exp.	
6.	09.11.23	Gauss's div. theorem.	Fermates principle of extremum path	Hypercharge, isospin	Laser beam exp.	
7.	20.11.23	Stoke's theorem of vectors	Aplanatic points of a sphere & other applic.	Higgs Boson.	Torsion pendulum	
8.	21.11.23	and its applic. in electrostat.	Cardinal points of an optical system	Amorphous & crystalline solids	Torsion pendulum	
9.	22.11.23	Application in magnetostatics	Thick lens & lens combinations	Elements of symmetry	Determination of wavelength by Newton's ring	
10.	23.11.23	Electrostatic field	Lagrange eqn of magnification	Seven crystal system	Determi. of wavel. by grating	
11.	24.11.23	Electric flux	Telescopic combinations, telephotolenses	Cubic lattices	Forbidden energy gap	
12.	25.11.23	Gauss's theorem of electrost.	Monochromatic aberrations & their reductions	Crystal planes	Forbidden energy gap	
13.	28.11.23	App. of Gauss's theorem.	Aspherical mirror & Schmidt corrector plates	Miller indices	Compound pendulum	
14.	29.11.23	Electric field due to point charge	Oil immersion objectives,	Laue's eqn. for x-ray diffraction	Det. of wavel. by grating	
15.	30.11.23	Infinite line of charge.	Meniscus lens.	Bragg's law	Det. of wavel. by grating	

Note:— Nov. 5, 12, 19, 26 — Sunday
Nov. 1 — Local Holiday
Nov. 7 — Assembly Election
Nov. 10 to 14 — Diwali Vacation
Nov. 15 — O.L.
Nov. 16, 18 — C.L.
Nov. 17 — Assembly Election voting
Nov. 27 Guru Nanak Jayanti

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Month — Dec. 2023 | Subject — Physics

Completed Syllabus

S.No	Date	B.Sc.I	B.Sc.II	B.Sc.III	Practical	Remark
1.	01.12.23	Uniformly charged spherical shell	Entrance & exit pupils	Bonding in solids	e/m by Thomson method	
2.	02.12.23	Unif. charged solid sphere	Multiple lens eyepiece	Cohesive energy of solid	e/m by thomson method	
3.	04.12.23	plane charged sheet	Ramsden eyepiece	Madelung constant	Barton Exp.	
4.	05.12.23	charged conductor	Huygen's eyepiece	Evaluation of parameters	Barton exp.	
5.	06.12.23	Electric pot. as line int. of e.f.	Interference of light	Specific heat of solids	Det. of wavel. by grating	
6.	07.12.23	Potential due to a point charge	Principle of superposition	Dulong-Petit's law	Det. of wavel. by grating	
7.	08.12.23	Electric dipole	Two slit interference	Einstein theory	e/m by Thomson method	
8.	09.12.23	Unif. charged spherical shell &	coherence requirement for the sources	Debye theory	e/m by thomson method	
9.	11.12.23	solid sphere	Optical path redordations	Vibration modes of one-	Barton exp.	
10.	12.12.23	Electric field from potential	condition for sustained interference	dimensional monatomic lattice	Jagers exp.	
11.	13.12.23	capacitance of an isola. sph. cond.	Theory of interference	Dispersion relation	Resolving power of telescope	
12.	14.12.23	parallel plate	Thin films	Brillouin zone	Resolving power of telescope	
13.	15.12.23	spherical condenser	Newton rings	Free electron model of a metal	Zener diode	
14.	16.12.23	cylindrical condenser	Michelson mor interferometer & its applic.	One dimensional Schrodinger eq.	Zener diode	
15.	19.12.23	Energy per unit volume in ele. field	Precision determinations of wavelength	Density of states, Fermi energy	Jagers exp.	
16.	20.12.23	Dielectric medium	wavelength difference	Energy bands in a solid	Resolving power of telescope	
17.	21.12.23	Polarisation	Width of spectral lines	Metal, insulator semiconductor	Resolving power of telescope	
18.	22.12.23	Displacement vector	Multiple beam interference in parallel film	Hall effect	Zener diode	
19.	23.12.23	Gaussis theorem in dielectrics	Fabry-Perot interferometer	Dia, Para & Ferromagnetism	Zener diode	
20.	29.12.23	Parallel plate capacitor -	Rayleigh refractometer	Langevins theory of diamagnetism	Energy band gap	
21.	30.12.23	completely filled with dielectric	Twyman-Green interferometer & its uses	Langevins theory of paramagnetism	Energy band gap	

Note:- Dec. 3, 10, 17, 24, 31 — Sunday
Dec. 18 - Guru Ghashi Das Jayanti
Dec. 25 to 27 — Winter Vacation
Dec. 28 — C.L.

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Month - Jan 2024

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Subject - Physics

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Completed Syllabus

S.N	Date	B.Sc I	B.Sc II	B.Sc III	Practical	Remark
1.	02.01.24	Steady current	Diffraction, types of diffraction	Curie Weiss law	Jagar's exp.	
2.	02.01.24	Current density $\vec{J}$	Fresnel's diffraction	Ferromagnetism (Magnetic Domain)	Jagar's exp.	
3.	03.01.24	Non-Steady current and	Half period zones, phasor diagram	B-H Curve, Hysteresis loss	Determination of refractive index	
4.	04.01.24	continuity equation.	Integral calculus methods	Intrinsic & Extrinsic semiconductors	Det. of refractive index	
5.	05.01.24	Kirchhoff's law	Intensity distribution, zone plates	Concept of Fermi level	Energy band gap	
6.	06.01.24	Ideal constant-voltage and	Diffraction due to straight edge.	Generation & recombination of charge	Energy band gap	
7.	08.01.24	constant current sources.	Fraunhofer diffraction due to single slit	Mobility, drift & diffusion currents.	Stokes law	
8.	09.01.24	Thevenin theorem	& due to double slit	P-N junction diode.	Stokes law	
9.	10.01.24	Norton theorem	Diffraction at N-parallel slit	Depletion width, Potential barrier	Det. of refractive index	
10.	11.01.24	Superposition theorem	plane diffraction grating	Junction capacitance, I-V charact.	Det. of refractive index	
11.	12.01.24	Reciprocity theorem	Rayleigh criterion	Tunnel diode, zener diode	Energy band gap	
12.	13.01.24	Maximum power transfer theorem	Resolving power of grating, prism	LED, solar cell, bipolar transistor	Energy band gap	
13.	15.01.24	Rise and decay of current in	& telescope.	PNP Transistor	Compound pendulum	
14.	16.01.24	LR & CR circuits	Polarized light & its mathematical repres.	NPN transistor	compound pendulum	
15.	17.01.24	LCR circuit	Production of polarized light by reflection	characteristics of transistors	Divergence of laser beam exp.	
16.	18.01.24	Magnetostatics: Biot-Savarth la.	refraction and grating.	Different configurations	Div. of laser beam exp.	
17.	19.01.24	Straight conductor	~~Rayleigh criterion~~ Polarization by double refra.	current amplification factor	P-N junction diode	
18.	20.01.24	Circular coil	Huygens theory	FET, MOSFET characteristics	P-N junction diode	
19.	23.01.24	Solenoid carrying current	Nicoll prism	Half wave rectifier	compound pendulum	
20.	24.01.24	Divergence & curl of mag. field	Retardation plates	Full wave rectifier, efficiency	Div. of laser beam exp.	
21.	29.01.24	Magnetic vector potential	Production and analysis of circularly	Ripple factor, Bridge rectifier	Div. of laser beam exp.	
22.	30.01.24	Ampere's circuital law	and elliptically polarized light	Filters	Compound pendulum	
23.	31.01.24	Magnetic intensity.	Optical activity	Regulated power supply	Compound pendulum.	
					Div. of laser beam.	

Note:- Jan. 7, 14, 21, 28 - Sunday
Jan. 22 - Holiday, Jan. 25 - Local Holiday
Jan. 26 - Republic Day, Jan. 27 - C.L.

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Month – Feb. 2024

Subject – Physics

Completed Syllabus

S.N.	Date	B.Sc I	B.Sc II	B.Sc III	Practical	Remark
1.	02.02.24	Magnetic induction	Fresnel's theory	Bipolar transistor	Wavelength of laser light	
2.	02.02.24	Permeability	Biquartz polarimeter	h- parameter, equivalent circuit	PN junction diode	
3.	03.02.24	Magnetic susceptibility	Laser	Transistor as power amplifier	PN junction diode	
4.	05.02.24	Diamagnetic & paramagnetic mat.	Basic properties of lasers	Transistor as oscillator	Maxwell's needle	
5.	06.02.24	Ferromagnetic materials	coherence length	Principle of an oscill. & Bark Hausen condi.	Maxwell's needle	
6.	07.02.24	Faraday's law of ele.mag.ind.	Coherence time	Wein-Bridge oscillator	Wavelength of laser light	
7.	09.02.24	Lenz's law	Spatial coherence of a source	Hartley oscilator	NPN transistor	
8.	10.02.24	Self and mutual inductance	Einstein's A & B coefficients	Analog & digital circuits	NPN transistor	
9.	12.02.24	L of single coil	Spontaneous emission	Binary numbers, decimal no.	Maxwell's needle	
10.	14.02.24	M of two coils	Induced emission	Deci. to bin. & bin. to deci. conversion	Wavelength of laser light	
11.	15.02.24	Energy stored in mag. field	Condition for Laser action	AND, OR, NOT Gates	Wavelength of laser light	
12.	16.02.24	Equation of continuity of cur.	Population inversion	NAND & NOR Gates as univ. Gates	NPN transistor	
13.	19.02.24	Displacement current	Ruby laser	XOR & XNOR Gate	Torsion Pendulum	
14.	24.02.24	Maxwell's eqts	He-Ne laser	De-Morgan's theorems	NPN transistor	
15.	27.02.24	Maxwell's eqts	Appl. of laser in communication	Boolean laws, simplification of	Torsion pendulum	
16.	28.02.24	Wave eqn in free space	Holography	logic circuit using Boolean Algebra	Resolving power of grating	
17.	29.02.24	Wave eqn in free space.	Basics of non-linear optics & generation of harmonics	Digital to Analog & Analog to Digital converter.	Resolving power of grating	

Note :– Feb. 4, 11, 18, 25 – Sunday
Feb. 8, 13, 17, 20, 21, 22, 23, 26 – D.L.

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