|| Vidya Vinayen Shobhate ||

Sarvoday Shikshan Sanstha's

Arts, Commerce and Science College, Umadi.

Tal-Jath, Dist-Sangli (Maharashtra) Pin -416413

Estd:- 15/07/2002 (N.G.C.2002/N.M.V./(01/2002)M.S.-3)

E-mail: acsumadi@rediffmail.com Office ph. (02344)228330,Principal Ph 228340 Fax-02344228330

Email :-umdi315.cl@unishivaji.ac.in web:- www.acscollegeumadi.co.in

out word no:acs. Date:-

Criterion –II
Teaching- Learning and Evaluation

2.5. Evaluation Process and Reforms

2.5.1. Machanism of internal/external assessm ent is transparent and the grievance redressal system is tim e – bound and efficient

Internal Assesment

I/C PRINCIPAL
Arts,Commerce & Science College
Umadi Tal-Jath,Dist-Sangli

।। विद्या विनयेन शोभते ।।
सर्वोदय शिक्षण संस्था, संचलित.

कला, वाणिज्य व विज्ञान महाविद्यालय, उमदी.

ता. जत, जि. सांगली.(महाराष्ट्र) पिन-416413
ता. जत.)उमदी (जि. सांगली.
स्थापना :- १५/०७/२००२ (एन.जी.सी.२००२/न.म.वि./(०१/२००२)म.शि.-३)
Office Ph. (02344)228330, Principal Ph.228340 Fax-02344228330
E-mail:- acsumadi @ rediffmail.com
E-mail:- umdi315.cl @ unishivaji.ac.in
web. :- www.acscollegeumadi.co.in

जावक. क्र. : ए.सी.एस. 25/2023-24 दिनांक : 24/05/2023

प्रति,

प्रा. माळी एस. एस

विषय :- प्रश्नपत्रिका तयार करून देणेबाबत.....

महोदय,

आपणास कळिवण्यात येते की, दि-01/06/2023 पासून सुरू होणाऱ्या शिवाजी विद्यापीठाच्या बी.ए. व बी.एस्सी.I & II वर्षाच्या सत्र-I,II,III & IV च्या विषयांच्या प्रश्न पत्रिका तयार करून दि- 28/05/2023 पुर्वी परीक्षा विभाग प्रमुखाकडे जमा कराव्यात.

कळावे,

विषय.....Botany.-I

विषय.....Botany-V, VII

विषय.....

आपला विश्वासू,

I/C. PRINCIPAL
Arts,Commerce & Science College
Umadi.Tal-Jath,Dist-Sangli.

|| विद्या विनयेन शोभते ||
सर्वोदय शिक्षण संस्था, संचलित.
कला, वाणिज्य व विज्ञान महाविद्यालय उमदी.
ता.जत, जि.सांगली. (महाराष्ट्र) पिन- ४१६४१३
स्थापना:-१५/०७/२००२ (एन.जी.सी २००२/न.म.वि./(०१/२००२) म.शि.-३)
E-mail- acsumadi@rediffmail.com Office Ph.(02344)228330, Principal Ph.228340, Fax-02344228330

जावक. क : ए.सी.एस./681/2022.23 दिनांक: 11/01/2023

नियुक्ती आदेश

प्रति,
प्रा. शिरगट्टी के.एम.
कला,वाणिज्य व विज्ञान महाविद्यालय,उमदी.
ता.जत, जि. सांगली.

विषय :-**अंतर्गत वरिष्ठ परीवेक्षक नेमणूकीबाबत.....**

आपणास या आदेशा व्दारे कळविण्यात येते की, आपण कला, वाणिज्य व विज्ञान महाविद्यालय, उमदी. येथे दिनांक 11/01/2023 ते 19/01/2023 पर्यंत अंतर्गतवरिष्ठ पर्यवेक्षक म्हणून आपणास काम पाहण्यास नेमणूक केली आहे. तरी आपण याची नोंद घ्यावी.

कळावे,

प्राचार्य
कला,वाणिज्य व विज्ञान महाविद्यालय,
उमदी.ता.जत,जि.सांगली.

|| विद्या विनयेन शोभते ||
सर्वोदय शिक्षण संस्था, संचलित.
कला, वाणिज्य व विज्ञान महाविद्यालय उमदी.
ता.जत, जि.सांगली. (महाराष्ट्र) पिन- ४१६४१३
स्थापना:-१५/०७/२००२ (एन.जी.सी २००२/न.म.वि./(०१/२००२) म.शि.-३)
E-mail- acsumadi@rediffmail.com Office Ph.(02344)228330, Principal Ph.228340, Fax-02344228330

जावक. क : ए.सी.एस./682/2022.23 दिनांक: 11/01/2023

नियुक्ती आदेश

प्रति,
सौ.चनगोंड आर.जी.
कला,वाणिज्य व विज्ञान महाविद्यालय,उमदी.
ता.जत, जि. सांगली.

विषय :-**लिपीक म्हणून नेमणूकीबाबत.....**

आपणास या आदेशा व्दारे कळविण्यात येते की, आपण कला, वाणिज्य व विज्ञान महाविद्यालय, उमदी. येथे दिनांक 11/01/2023 ते 19/01/2023 पर्यंत लिपीक म्हणून आपणास काम पाहण्यास नेमणूक केली आहे. तरी आपण याची नोंद घ्यावी.

कळावे,

आपला विश्वासू,
प्राचार्य
कला,वाणिज्य व विज्ञान महाविद्यालय,
उमदी.ता.जत,जि.सांगली.

|| विद्या विनयेन शोभते ||
सर्वोदय शिक्षण संस्था, संचलित.
कला, वाणिज्य व विज्ञान महाविद्यालय उमदी.
ता.जत, जि.सांगली. (महाराष्ट्र) पिन- ४१६४१३
स्थापना:-१५/०७/२००२ (एन.जी.सी २००२/न.म.वि./(०१/२००२) म.शि.-३)
E-mail- acsumadi@rediffmail.com Office Ph.(02344)228330, Principal Ph.228340, Fax-02344228330

जावक. क : ए.सी.एस./683/2022.23 दिनांक: 11/ 01 /2023

नियुक्ती आदेश

आपणास या आदेशा व्दारे कळविण्यात येते की, ऑक्टो/नोंव्हो मध्ये होणाऱ्या परीक्षा दिनांक 11/01/2023 ते 11/01/2023 पर्यंत **महाविद्यालयीन स्थानिक तपासणी पथकामध्ये** खालील प्राध्यापकांना नियुक्त केले असून आपण परीक्षा वेळेमध्ये येवून विद्यार्थ्यांची तपासणी करावी. याची नोंद घ्यावी.

कळावे,

प्राचार्य
कला,वाणिज्य व विज्ञान महाविद्यालय,
उमदी.ता.जत,जि.सांगली.

अ.क.	प्राध्यापकांचे नांव	सही
1	प्रा. मेत्री एस.व्ही.	
2	प्रा. माहाडीक टी.ए.	
4	प्रा.सौ.शिखरे एस.एम.	
3	प्रा.सौ.बिरादार व्ही.सी.	

प्रत माहितीसाठी,
परीक्षा विभाग प्रमुख,
कला,वाणिज्य व विज्ञान महाविद्यालय,उमदी.

|| विद्या विनयेन शोभते ||
सर्वोदय शिक्षण संस्था, संचलित.
कला, वाणिज्य व विज्ञान महाविद्यालय उमदी.
ता.जत, जि.सांगली. (महाराष्ट्र) पिन- ४१६४१३
स्थापना:-१५/०७/२००२ (एन.जी.यी २००२/न.म.वि./(०१/२००२) म.शि.-३)
E-mail- acsumadi@rediffmail.com Office Ph.(02344)228330, Principal Ph.228340, Fax-02344228330

जावक. क : ए.सी.एस./६१८/2022.23 दिनांक: 03/01/2023

नियुक्ती आदेश

प्रति,
सौ.चनगोंड आर.जी.
कला,वाणिज्य व विज्ञान महाविद्यालय,उमदी.
ता.जत, जि. सांगली.

विषय :-**लिपीक म्हणून नेमणूकीबाबत.....**

आपणास या आदेशा व्दारे कळविण्यात येते की, आपण कला, वाणिज्य व विज्ञान महाविद्यालय, उमदी. येथे दिनांक 02/01/2023 ते 10/01/2023 पर्यंत लिपीक म्हणून आपणास काम पाहण्यास नेमणूक केली आहे. तरी आपण याची नॉंद घ्यावी.

कळावे,

आपला विश्वासू,
I/C. PRINCIPAL,
Arts, Commerce & Science College
Umadi, Tal. Jath, Dist. Sangli.

|| विद्या विनयेन शोभते ||
सर्वोदय शिक्षण संस्था, संचलित.
कला, वाणिज्य व विज्ञान महाविद्यालय उमदी.
ता.जत, जि.सांगली. (महाराष्ट्र) पिन– ४१६४१३
स्थापना:–१५/०७/२००२ (एन.जी.सी २००२/न.म.वि./(०१/२००२) म.शि.–३)
E-mail- acsumadi@rediffmail.com Office Ph.(02344)228330, Principal Ph.228340, Fax-02344228330

जावक. क : ए.सी.एस./628/2022.23 दिनांक: 02/ 01 /2023

नियुक्ती आदेश

आपणास या आदेशा व्दारे कळविण्यात येते की, ऑक्टो/नोंव्हो मध्ये होणाऱ्या परीक्षा दिनांक 02/01/2023 ते 10/01/2023 पर्यंत **महाविद्यालयीन स्थानिक तपासणी पथकामध्ये** खालील प्राध्यापकांना नियुक्त केले असून आपण परीक्षा वेळेमध्ये येवून विद्यार्थ्यांची तपासणी करावी. याची नोंद घ्यावी.

कळावे,

आपला विश्वासू,

VC. PRINCIPAL,
Arts, Commerce & Science College
Umadi Tal. Jath, Dist. Sangli

अ.क्र.	प्राध्यापकांचे नांव	सही
1	प्रा. शिरगट्टी के.एम.	
2	प्रा. माळी एम. एस	
4	प्रा.सौ.शिखरे एस.एम.	
3	प्रा.सौ.बिरादार व्ही.सी.	

प्रत माहितीसाठी,
परीक्षा विभाग प्रमुख,
कला,वाणिज्य व विज्ञान महाविद्यालय,उमदी.

Sarvoday Shikashan Sansthas

Arts, Commerce & Science College Umadi Tal -Jath

B.A. -I Sem -II Fresh

College examinations March- 2023(NEP 2020 Pattran)

Exam Time Table - 2023

Sr. No	Day & Date	Subject Code	Subject Name	Time
2	Thursday 01 /06 /2023	88360	Marathi CGE 2	2:00 TO 4:00
3	Thursday 01 /06 /2023	88362	Kannada CGE 14	2:00 TO 4:00
4	Thursday 01 /06 /2023	88359	S.T.D. CGE -20	2:00 TO 4:00
5	Friday 02 /06 /2023	88357	English -B ECC-2	2:00 TO 4:00
6	Saturday 03 /06 /2023	88368	Marathi -II DSC- A13	2:00 TO 4:00
7	Saturday 03 /06 /2023	88370	Kannada-II- DSC-A21	2:00 TO 4:00
8	Monday 05 /06 /2023	88372	English-II DSC -A-15	2:00 TO 4:00
9	Monday 05 /06 /2023	88371	Hindi -II DSC -A14	2:00 TO 4:00
10	Tuesday 06 /06 /2023	88380	History-II DSC -B15	2:00 TO 4:00
11	Tuesday 06 /06 /2023	88382	Economics -II DSC- B17	2:00 TO 4:00
12	Wednesday 07 /06 /2023	88391	Geography-II DSC B-24	2:00 TO 4:00
14	Thursday 08 /06 /2023	88385	Education-II DSC -B17	2:00 TO 4:00
15	Thursday 08 /06 /2023	88387	Phy. Education -II DSC- B28	2:00 TO 4:00
16	Friday 09 /06 /2023	89349	Constitution of India & Local Self Government	2:00 TO 4:00

प्राचार्य

कला, वाणिज्य व

Sarvoday Sakashan Sanstha's

Arts, Commerce & Science College, Umadi. Tal -Jath.

B.A. -II Sem -IV (CBCS Pattran)

University Examinations March/April 2023

Sr. No	Day & Date	Subject Code	Subject Name	Time
1	Monday 05 /06 /2023	73433/78833	Marathi - V DSC-C25	2:00 TO 4:00
2	Monday 05 /06 /2023	73449/78849	Kannada-V DSC C-41	2:00 TO 4:00
3	Tuesday 06/06 /2023	73461/78861	Economics -V DSC D-33	2:00 TO 4:00
4	Wednesday 07 /06 /2023	73475/78875	Geography V DSC -D47	2:00 TO 4:00
5	Thursday 08 /06 /2023	73434/78834	Marathi - VI DSC-C26	2:00 TO 4:00
6	Thursday 08/06 /2023	73450/78850	Kannada-VI DSC C-42	2:00 TO 4:00
7	Friday 09 /06 /2023	73462/78862	Economics -VI DSC D-34	2:00 TO 4:00
8	Saturday 10/06/2023	73410/78810	English (Comp)AECC4	2:00 TO 4:00
9	**Sunday 11/05/2023**		**Envronmental Studies**	**11:00 TO 2:00**
10	Monday 12 /06 /2023	73426/78826	Public Administation -II	2:00 TO 4:00
11	Monday 12 /06 /2023	73420/78820	H.S.R.M. -II	2;00 TO 4;00
12	Tuesday 13 /06 /2023	73476/78876	Geography VI DSC -D48	2:00 TO 4:00
13	Wednesday 14/06 /2023	73435/78835	Hindi -V DSC- C27	2:00 TO 4:00
14	Thursday 15 /06 /2023	73436/78836	Hindi -VI DSC- C38	2:00 TO 4:00
15	Friday 16 /06 /2023	73437/78837	English -V DSC - C29	2:00 TO 4:00
16	Saturday 17/06 /2023	73438/78838	English -VI DSC - C30	2:00 TO 4:00
17	Monday 19/06/2023	73483/78483	Phy. Education V DSC- D55	2:00 TO 4:00
18	Tuesday 20/06/2023	73484/78884	Phy. Education VIDSC- D56	2:00 TO 4:00

प्रभारी प्राचार्य
कला, वाणिज्य व विज्ञान महाविद्या
उमदी.ता.जत, जि.सांगली.

Shivaji University Kholapur

Sarvoday Sakashan Sanstha's

Arts, Commerce & Science College, Umadi. Tal -Jath.

B.Sc. -I Sem -II Fresh (NEP 2020 Pattran)

College Examinations March/April 2023

Sr. No	Day & Date	Subject Code	Subject Name	Time
1	Saturday 10 /06 /2023	88844	Chemistry- III DSC- B3	10:00 TO12:00
2	Monday 12 /06 /2023	88844	Chemistry- IV DSC- B4	10:00 TO 12:00
3	Tuesday 13 /06 /2023	88843	Physics- III DSC- B1	10:00 TO12:00
4	Wednesday 14 /06 /2023	88843	Physics- IV DSC- B2	10:00 TO 12:00
5	Thursday 15/06 /2023	88846	Zoology- III DSC- B15	10:00 TO12:00
6	Friday 16 /06 /2023	88846	Zoology- IV DSC- B16	10:00 TO 12:00
7	Saturday 17 /06 /2023	88845	Botany- III DSC- B13	10:00 TO12:00
8	Monday 19/06 /2023	88845	Botany- IV DSC- B14	10:00 TO 12:00
9	Tuesday20/06/2023	88840	English-II AECC B	10:00 TO12:00
10	Tuesday 20 /06 /2023	-----	Constitution of india& Local	12 : 30 to 1 :30

प्रभारी प्राचार्य

कला,वाणिज्य व विज्ञान महाविद्यालय,

उमदी.ता.जत,जि.सांगली.

Shivaji University Kholapur

Sarvoday Sakashan Sanstha's

Arts, Commerce & Science College, Umadi. Tal -Jath.

B.Sc. -II Sem -IV (CBCS Pattran)

University Examinations March/April 2023

Sr. No	Day & Date	Subject Code	Subject Name	Time
1	Tuesday 20 /06 /2023	78909	Chemistry- VII DSC- D3	10:00 TO12:00
2	Wednesday 21 /06 /2023	78909	Chemistry- VIII DSC- D4	10:00 TO 12:00
3	Thursday 22/06 /2023	78911	Zoology- VII DSC- D15	10:00 TO12:00
4	Friday 23 /06 /2023	78911	Zoology-VIII DSC- D16	10:00 TO 12:00
5	Saturday 24 /06 /2023	78910	Botany- VII DSC- D13	10:00 TO12:00
6	**Sunday 25/06/2023**		**Envronmental Studies (Comp)**	**10:00 To 1:00**
7	Manday 26/06 /2023	78910	Botany- VIII DSC- D14	10:00 TO 12:00

प्रभारी प्राचार्य

कला, वाणिज्य व विज्ञान महाविद्या

उमदी.ता.जत जि.सांगली.

Sarvoday Shikshan Sanstha's Umadi

ARTS,COMMERCE & SCIENCE COLLEGE,UMADI

Tal - jath Dist - Sangli

EXCURSION DISEASE COLLECTION

CERTIFICATE

This is to certify that

Mr./Miss..MALI..SHILPA..ANNAPPA.....

Class B.Sc III Exam No._ _ _ _ _ _,Roll No.352

Has Participated in the excursion disease collection conducted by the Botany dept. During the academic year 2019-20.

The excursion Report submitted by him is a bonafied.

Examined

21/3/20

Dept Of Botany
Arts, Commerce & Science College
Umadi Tal-Jath Dist-Sangli

Teacher in charge Examiner Head of dept.

Tikka disease

Fungal disease

Causal Organism - Cercospora personata

Host - Arachis hypogaea

Citrus canker of Lemon

Bacterial disease

Causal Organism -
Xanthomonas compestris

Host - Citrus species

Yellow vein mosaic of Bendi

Viral disease

Causal Organism -
Hibiscus Visus - I

Host - Abulomonascus esculents

Early blight on Potato

Fungal disease

Causal Organism - Alternaria solani

Host - Solanum tuberosum

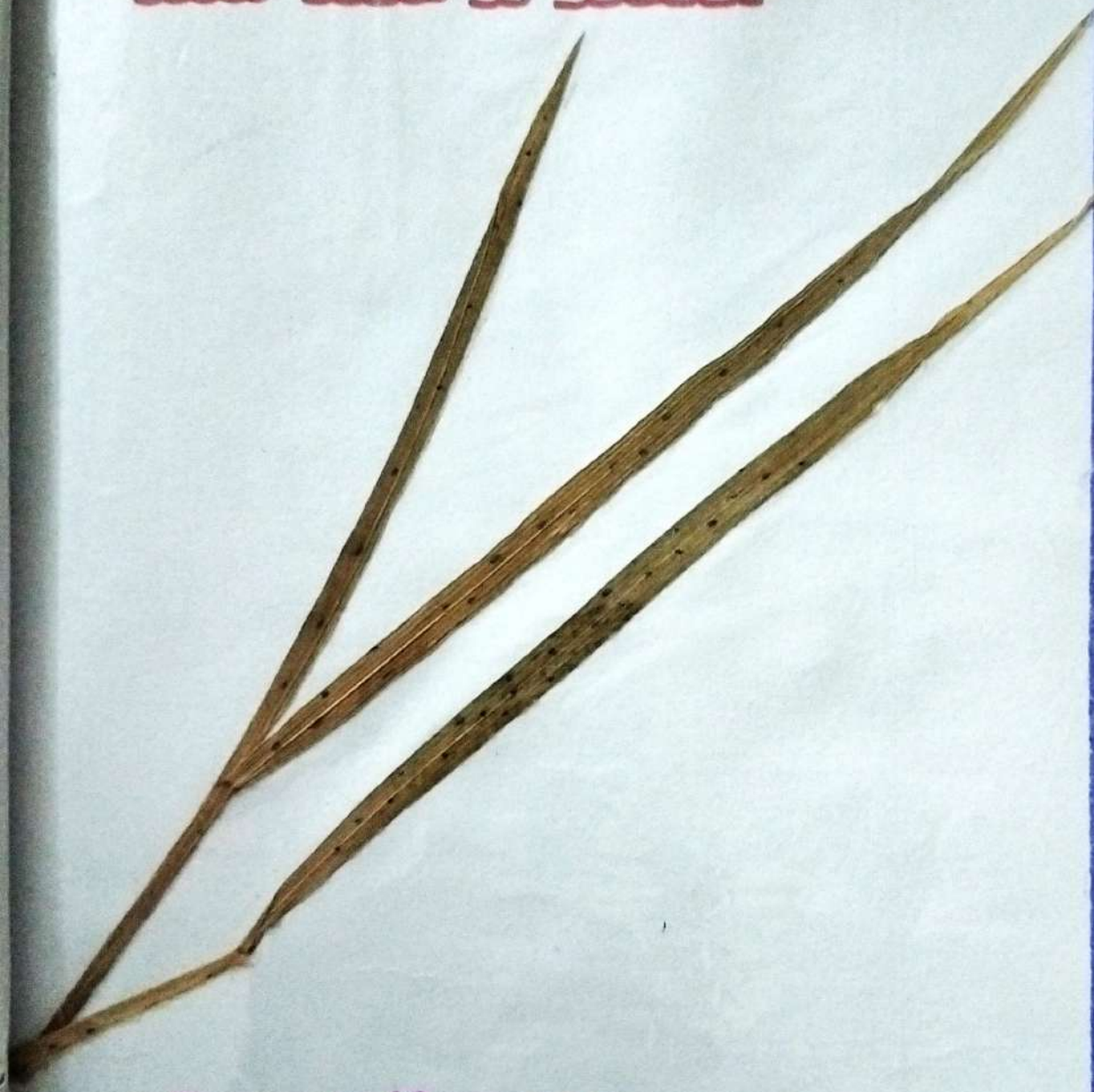
Powdery mildew on mustard

Fungal disease

Causal Organism - Erysiphe cruciferarum (Polygoni)

Host - Brassica juncea

Leaf rust of Wheat



Fungal disease

Causal Organism - Puccinia graministritis

Host - Triticum sativum

Downey mildew of Grapes

Fungal disease

Causal Organism - Plasmopara viticola

Host - Vitis vinifera

Melamspora

Fungal disease

Causal Organism - Euphorbia geniculata

Host - Melamspora lini

STUDENT'S NAME		TOTAL MARKS OBTAINED
CLASS	SUBJECT	
ROLL NO.	DATE	

VIDYA VINAYN SHOBHTE

SARVODYA SHIKSHAN SANSTAS

ARTS COMMERCES & SCIENCE

COLLGE UMADI

NAME - patrut . N.A

SUB NAME - KANNADA - IX

CLASS - BA - III
[Kannda]

SEM - V

ROLL NO -

GUIDE - Prof - Patil . S . P

DATE -

GUIDE Sign

Student Sign.

* ಜನಪದ ಸಾಹಿತ್ಯ ಎಂದರೇನು? ಅದರ ಪ್ರಕಾರಗಳನ್ನು ವಿವರಿಸಿ

* ಪೀಠಿಕೆ:-

ಇಂಗ್ಲೀಷ್ ಭಾಷೆಯ 'folklore' ಪದವನ್ನು ಸೂಚಿಸುವ ಮೊದಲು ಜಾನಪದಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅನೇಕ ಶಬ್ದಗಳು ಬಳಕೆಯಲ್ಲಿದ್ದುವು. ಸ್ಕ್ಯಾಂಡಿನೇವಿಯನ್ ರಾಷ್ಟ್ರಗಳಲ್ಲಿ ಜಾನಪದಕ್ಕೆ ಸಮಾನಾರ್ಥಕವಾಗಿ folk life (ಇಂಗ್ಲೀಷ್) folkliv (ಸ್ವೀಡನ್) ಇತ್ಯಾದಿ ಪದಗಳನ್ನು ಬಳಸುತ್ತಿದ್ದರು. Folklore ಪದವನ್ನು ಕೂಡ ಅನೇಕ ರಾಷ್ಟ್ರಗಳ ವಿದ್ವಾಂಸರು ಬೇರೆಬೇರೆ ಅರ್ಥದಲ್ಲಿ ಅವರವರಿಗೆ ಬೇಕಾದಂತೆ ಬಳಸಿಕೊಂಡು ಬಂದಿದ್ದನ್ನು ಕಾಣಬಹುದು.

* ಜನಪದ ಸಾಹಿತ್ಯ:-

Folklore is a word with a short but turbulent history. ಜಾನಪದ ಪದವು ಇಂದು ಸ್ಥಿರವಾದ ಅರ್ಥ ಪಡೆಯುವ ಮುನ್ನ ಅನೇಕ ವಿಧದ ಬದಲಾವಣೆಗಳನ್ನು ಹೊಂದುತ್ತಾ ಬಂದಿದೆ. ೧೮೪೬ ರ ಆಗಸ್ಟ್ ೨೨ ರಂದು ವಿಲಿಯಂ ಜಾನ್ ಥಾಮ್ಸ್ ಈ ಪದದ ಅರ್ಥ ವ್ಯಾಪ್ತಿಯನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುವಲ್ಲಿ ಶ್ರಮಿಸಿದ ಮೊದಲಿಗ. Folk And Lore ಎಂಬ ಎರಡು ಪದಗಳಿಂದ ಕೂಡಿದ ಸಮಸ್ತ ಪದವೇ 'folklore' ಇದು ಜಾನಪದದ ಅರ್ಥವನ್ನು ಸೂಚಿಸುತ್ತದೆ.

ಈ ಎರಡು ಪದಗಳನ್ನು ಸೇರಿಸಿದಾಗ 'ಜನಪದ' ಎಂದರ್ಥ. ಜನ ಎಂಬ ಪದಗಳಿಗೆ ಪ್ರಧಾನ ಸ್ಥಾನವಿದೆ. ಇದರಿಂದ ಇಂಗ್ಲೀಷ್‌ನ 'Folk' ನಲ್ಲಿ ಸೂಚಿಸುವ ಮೂಲ ಅರ್ಥ 'ಜನಪದ' ದಲ್ಲಿ ಕಂಡುಬರುತ್ತದೆ. ಅಂದರೆ ನಾಗರಿಕ ಜೀವನ ಸಂಪರ್ಕದಿಂದ ದೂರವಾಗಿ ಪ್ರಾಚೀನ ರೀತಿ ಮತ್ತು ಸಂಪ್ರದಾಯಗಳನ್ನು ಉಳಿಸಿಕೊಂಡಿರುವ ಜನರ ಪ್ರಾತಿನಿಧಿಕ ಅರ್ಥ 'ಜನಪದ' ಎಂದರೆ ಜನರ ನಾಡು ಎಂಬ ಅರ್ಥದಲ್ಲಿ ಬಳಕೆಯಾಗುತ್ತಿತ್ತು ಎಂದು ಹೇಳಬಹುದು. ಜನಪದಕ್ಕೆ ಸಮಾನವಾಗಿ ಜಾನಪದ ಪದ ಬಳಕೆಯಾಗುತ್ತಿದೆ ಎನ್ನುವುದು 'Lore' ಎನ್ನುವ ಪದಕ್ಕೆ ಸಂಸ್ಕೃತದ 'ವಿದ್ಯೆ' ಎಂಬ ಸಮಾನಾರ್ಥವನ್ನು ಸೂಚಿಸುತ್ತದೆ. ಜಾನಪದವನ್ನು ಕುರಿತಂತೆ 'ಜಾನಪದ' ಪದವು ಎಂಬ ಅರ್ಥದಲ್ಲಿ ಕೆಲವು ವಿದ್ವಾಂಸರು ಸ್ಪಷ್ಟಪಡಿಸಿದ್ದಾರೆ. ಈ ಜನರ ನಾಗರಿಕತೆ ಮತ್ತು ಸಂಸ್ಕೃತಿ ಎನ್ನುವುದರಲ್ಲಿ ಸಂಬಂಧವಿಲ್ಲ ಎಂಬ ಅರ್ಥವನ್ನು ಹೊಂದಿದೆ.

* ಜನಪದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳು:-

ಜಾನಪದ ಸಾಹಿತ್ಯವನ್ನು ಜಾನಪದ ತಜ್ಞರು [illegible] ಉದಾ: ಜನಪದ ಕಲೆ, ಜನಪದ ನೃತ್ಯ, ಜನಪದ ಕ್ರೀಡೆ, ಜನಪದ ಆಟ-ಗಳು, ಜನಪದ ಸಂಗೀತ ಮೊದಲಾದವು. ಇವೆಲ್ಲ ಪ್ರಕಾರಗಳು ಜನಪದ ಸಾಹಿತ್ಯವನ್ನು [illegible] ಜಾನಪದ ಇದರಲ್ಲಿ ಇತರ ಮುಖ್ಯ ವಿಭಾಗಗಳೆಂದರೆ.

* ಕಥೆಗಳು:-

ಇವು ನಮ್ಮಲ್ಲಿ 'ಅಜ್ಜಿ ಕಥೆಗಳು' ಎಂಬ ಹೆಸರಿನಿಂದ ಪ್ರಸಿದ್ಧವಾಗಿವೆ. ಅಜ್ಜಿ [illegible] ಅಜ್ಜಿಯರು ಕಥಾ ಭಂಡಾರಗಳಿದ್ದ ಹಾಗೆ ಕಥೆಯಾಗಿ [illegible] ಎಲ್ಲೆಡೆಯಲ್ಲಿ ಜನಪದ ವಿದ್ವಾಂಸರಲ್ಲಿ [illegible] ಕಥೆಗಳನ್ನು ಈ ರೀತಿಯಾಗಿ ವಿಂಗಡಿಸಿದ್ದಾರೆ. ಜನಪದ ಕಥೆಗಳು [illegible] ಸ್ವರೂಪ ವರ್ಗೀಕರಣ ಮುಂತಾದ ವಿಭಾಗಗಳಲ್ಲಿ ಮೊದಲಿನಿಂದಲೂ ವಿಶೇಷವಾಗಿ ಚರ್ಚೆ ನಡೆದಿದೆ.

* ಐತಿಹ್ಯಗಳು:-

ಅತಿ ಪ್ರಾಚೀನವಾಗಿ ಸೃಷ್ಟಿ ಹಾಗೂ ಬ್ರಹ್ಮಾಂಡವನ್ನು ಕುರಿತಂ-ತೆ ಬೆಟ್ಟಗಳ ಬಗ್ಗೆ [illegible] ದೇವತೆಗಳನ್ನು ಪ್ರಾಣಿಗಳನ್ನು ಪ್ರಕೃತಿ [illegible] ಸಂಗತಿಗಳನ್ನು ಈ ಕಥೆಗಳು ಸಂಬಂಧಿಸಿರುತ್ತವೆ.

* ಕಿನ್ನರ ಕಥೆಗಳು:-

ಇವುಗಳು [illegible] ಒಂದಾನೊಂದು ಕಾಲದಲ್ಲಿ ಒಂದಾನೊಂದು ಊರಿನಲ್ಲಿ ನಡೆದಂತಹ ಪಾತ್ರಗಳಿಂದ ಕೂಡಿದ [illegible] ಒಬ್ಬ ರಾಜ ಮಂತ್ರಿ [illegible] ಮುಂತಾದವುಗಳು, [illegible] ಜನಪದ ಕಥೆಗಳ ಪ್ರಕಾರ [illegible] ಕಿನ್ನರ ಕಥೆಗಳು ತುಂಬ ಮಹತ್ವವಾಗಿವೆ. ಇವು [illegible] ಜನರಲ್ಲಿ ಸುಲಭವಾಗಿ ಮನೆ ಕಥೆಗಳು [illegible]

* ಪ್ರಾಣಿ ಕಥೆಗಳು:-

ಜಗತ್ತಿನಲ್ಲಿ ಎಲ್ಲ ಭಾಗಗಳಲ್ಲಿಯೂ ಎಲ್ಲ ಸಂಸ್ಕೃತಿಗಳಲ್ಲಿಯೂ ಕಂಡು ಬರುವ ಜನಪದ ಕಥಾ ಪ್ರಕಾರ ಎಂದರೆ ಪ್ರಾಣಿ ಕಥೆಗಳು. ಪ್ರಾಣಿ-ಗಳನ್ನು ಪ್ರಧಾನ ಪಾತ್ರವಾಗಿ ಉಳ್ಳ ಈ ಕಥೆಗಳು

ಇತರೆಂತ ಪ್ರಾಚೀನ ಕಾಲದ ಕಥೆಗಳಿಂದ ಹಿಡಿದು ಇಂದಿನ ಕಥೆಗಳಲ್ಲಿ ಕಾಲದ ಕಾರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಕಥೆಗಳು ನೀತಿ ಪುರಾಣ ಕಥೆಗಳು ಪ್ರಾಣಿ-ಕಥಾ ಚರಿತ್ರೆಗಳು ಮುಂತಾದ ಹಲವು ಬಗೆಯ ವಿಧಗಳಿವೆ.

* ನೀತಿ ಕಥೆಗಳು:-

ಸಾಮಾನ್ಯವಾಗಿ ನೀತಿಯನ್ನೇ ಪ್ರಧಾನ ಗುರಿಯನ್ನಾಗಿ ಇರಿಸಿರುವ ಪ್ರಾಣಿ-ಕಥೆಗಳೇ ಇಲ್ಲಿ ಹೆಚ್ಚು. ಇವುಗಳ ಪ್ರಾಣಿಗಳು ಕೇಳುವ ಸಂಭಾಷಣೆಯ ಮೂಲಕ-ವು ಕೇಳುವ ಹಲವು ಸಂಗತಿಗಳಿಂದ ಮಾನವರಿಗೆ ನೀಡುತ್ತವೆ. ನೀತಿಯನ್ನು ಬೋ-ಧಿಸುವುದು ಇವುಗಳ ಮುಖ್ಯ ಗುರಿ ಪಂಚತಂತ್ರ ಕಥೆಗಳು. ಪಂಚತಂತ್ರ, ಈ ಸಂಬಂಧ-ದ ಕಥೆಗಳು ಮುಂತಾದವು ಇದಕ್ಕೆ ಉದಾಹರಣೆಗಳಾಗಿವೆ.

* ಪುರಾಣ ಕಥೆಗಳು:-

ಇವು ವಿಶ್ವವ್ಯಾಪಿಯಾಗಿ ಜನಪದ ಕಥೆಗಳ ಒಂದು ಪ್ರಮುಖ ಭಾಗವೆಂದು ಪರಿಗಣಿ-ಸಲಾಗಿದೆ. ಇಂದಿನ ಲೋಕದ ಹುಟ್ಟಿನ ಸ್ಥಿತಿಯ ನಂತರ ಈ ಕಥೆಗಳು ಹುಟ್ಟಿದ ಹೊಂದಿರುತ್ತವೆ.

2) ಜನಪದ ಗೀತೆಗಳು:-

ಇವು ನಮ್ಮ ನಾಡಿನ ಜೀವನ ಕ್ರಮಗಳ ಜೊತೆಗೆ ನಿರಂತರವಾಗಿ ಹರಿದು ಮಿಳಿತವಾಗಿರುತ್ತವೆ. ಅವು ಸಮಗ್ರ ಬರಹರೂಪವಾಗಿವೆ. ಇವುಗಳನ್ನು ಹಾಡುಗಳು, ಗೀತೆಗಳು, ಜನಪದ ಹಾಡುಗಳು, ನಾಡಿನ ಗೀತೆಗಳು, ಮಕ್ಕಳ ಹಾಡುಗಳು ಮುಂತಾಗಿ ನಾನಾ ವಿಧವಾಗಿ ವರ್ಗೀಕರಿಸಬಹುದು. ಇವು ಜನಪದರ ಜೀವನದ ಹಾಡಿನ ಮತ್ತು ಸಂಗೀತಗಳ ಸಮಾಗಮವಾಗಿದೆ. ಯಾರ ಸಹಾಯ-ವಿಲ್ಲದೆಯೂ ಬಂದ ಈ ಪ್ರಕಾರದಲ್ಲಿ ಗೀತೆಗಳು ಹಾಡಿ [illegible]-ಲ್ಲಿ ಅನುಭವಿಸುವ [illegible] ಭಾವಗೀತೆಯ ಸ್ವರೂಪವನ್ನು. ಈ ಜನಪದ ಗೀತೆಗಳು ಹಲವು [illegible] ಸ್ಪಷ್ಟವಾಗಿವೆ.

3) ಗಾದೆಗಳು:-

ಗಾದೆಯ ಬಗ್ಗೆ ಇರುವ ಇಂಗ್ಲೀಷ್, ಗಾದೆಯಂತೆ "a the wisdo-m of many & the wit of one" ಎಂಬ ಹೇಳಿಕೆ ಗಾದೆ ವೇದಕ್ಕೆ ಸಮ. ಜನಪದರ ಸಾಮಾನ್ಯ [illegible] ಅನುಭವದ ಗಾದೆಗಳಲ್ಲಿ ಹೇಳಲಾಗುತ್ತದೆ. [illegible] ಗಾದೆಗಳು ಹವಾಮಾನದ ಗಾದೆಗಳು, ಕಾಮ-ನ ಗಾದೆಗಳು. [illegible] ಸಂಬಂಧಗಳನ್ನು.

STUDENT'S NAME		TOTAL MARKS OBTAINED
CLASS	SUBJECT	
ROLL NO.	DATE	

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

4) ~~[illegible]~~ ಒಗಟುಗಳು:-

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

[illegible] ಜನಪದ ಸಾಹಿತ್ಯವು
[illegible] ಲಾವಣಿಗಳು, ಕಥೆಗಳು, ಗಾದೆಗಳು, ಒಗಟುಗಳನ್ನು ಒಳಗೊಂಡಿದೆ.

* ಉಪಸಂಹಾರ:-

ಜನಪದ ಸಾಹಿತ್ಯವು [illegible]! ಜನಪದ ಸಾಹಿತ್ಯವು
[illegible]
[illegible]

STUDENT'S NAME		TOTAL MARKS OBTAINED
CLASS	SUBJECT	
ROLL NO.	DATE	

सर्वोदय शिक्षण संस्था

कला, वाणिज्य एवं विज्ञान महाविद्यालय, उमदी 2020-2021

ता. जत, जि. सांगली

विषय- हिंदी

प्रकल्पाचे नाव- विद्याविद्या विशेष का अध्ययन।

मार्गदर्शक शिक्षक: पाटील सर

विद्यार्थीचे नाव :- सय्यद आय. ए.

हजेरी क्रं. 135 पेपर नं. 07

दि.

वर्ग - B.A. III

विद्यार्थीचे सही

CLASS	SUBJECT	
ROLL NO	DATE	

* पेपर नं. 7 सत्र 5 *

1) हिंदी नाटक परंम्परा का विवेचन किजिए।
→ हिंदी में नाटक के लिखन की परम्परा प्राचीन काल से ही रहा है। भारतमुनी का नाट्यशास्त्र यह ग्रंथ इस बात का प्रणाम है। अर्थात संस्कृत में भी नाटक लिखे जाते है। प्राचीन काल में धार्मिक नाटक एवं सामाजिक समारोह एवं राजकिय समारोह के अवसर पर प्रस्तुत किए जाते थे। हिंदी नाट्य नाट्य परंपरा को निम्नलिखित कालो में विभाजित करके देख सकते हैं।

(1) प्राचीन काल :- प्राचीन कालो में रामायण महाभारत, हरिवंश इत्यादि में नाट्य और नाटक आदि का उल्लेख प्राप्त मिलता है। कतिपय विद्वानो का यह भी मत है कि युनानी भाषा में भी नाटक लखे और पस्तुत किये जाते हैं। पहले इन्होंने पड्दा बाँधा था जिसको बीतर से स्त्रियों ने मधुर स्वर से गाना किया था। शुर नामक यादव बना था। मनीवती नामक स्त्री रम्भा बनी थी।

(2) मध्यकाल :- मध्यकाल में लोकभाषाओ में नाटक प्रस्तुत किए जाने लगे। भारतवर्ष के अलग-अलग क्षेत्रो में अलग-अलग नाट्यमंडलिओ हुआ करती थी। नाटक विविध भाषाओं में खेले जाते थे। रासलीला, रामलीला तथा नोटंकी आदि के रुप में लोकधर्मी, नाट्यमंच बना रहा। नेवाज कृत अभिज्ञान शाकुंतल सोमनाथ कृत मालती-माधव हृदयराम द्वारा रचित हनुमान नाटक समर्पित किया

(2) नीति का चरित्र- चित्रण कीजिए।

डॉ कुसुम कुमार द्वारा लिखित नाटक जिसकी कथा सुनाती है। एक कुलीन परिवार की कहानी है। महोरसिंह नामक रिटायर्ड व्यक्ति के ईर्द-गिर्द इस नाटक की कथावस्तु घूमती है। महोरसिंह की बेटी नीति है। नीति का चरित्र भारतीय परित्यक्ता नारियों का प्रतिनिधित्व करता है। नीति परित्यक्ता नारी है। पति के द्वारा उसका परित्याग किए जाने के कारण वह अपना मानसिक संतुलन खो चुकी है। सामान्य तौर पर परिचय देते हुए नाटककार ने लिखा है। महोरसिंह की बेटी नीति परित्यक्ता है। वह सुंदर है किंतु अधिकांश समय अस्वस्थ उदास रहती है। उसकी अस्वस्थता मनो वैज्ञानिक है मानसिक है।

नीति चरित्रवान लड़की है। वह चंचल कदापि नहीं है वह हमेशा अपने पिता की चिंता करती रहती है। इसका यह कथन इस बात की मैं आपकी चिंता बनी रही। मेरे मेरे शरीर में बहुत सुस्ती है। मैं बिल्कुल अच्छी हूँ। मुझे कुछ नहीं हुआ मेरा इलाज बंद कर दो। इस प्रकार नीति का चरित्र भारतीय नारियों के अनुकूल मर्यादावादी है।

③ → कमला का चरित्र - चित्रण कीजिए।

डॉ कुसुम कुमार द्वारा लिखित नाटक दिल्ली ऊँचा सुनती है की पात्र कमला मधोसिंह की पत्नी है। कमला अपने परिवार को संभालने का काम लगन से करती है। वह आदर्शवान और चरित्रवान नारी है। वह थोड़ी उदास रहती है। उसके उदासी के कारण उसकी बेटी का नीति की शादी और पति की व्यवस्था आदि हैं। सकते हैं। विवाह के पश्चात शहरी वातावरण में दिल गुजारने के कारण अब गाँव में जाकर रहना उसके लिए कठिन कार्य रहा है। परंतु परिस्थितिवश वह वहाँ रहती हैं। नारी सुलभ सभी चेष्टाएँ उसमें विद्यमान हैं।

कमला चाहती है कि उसके पति अपनी हालत चिट्ठी में लिखकर जल्द से जल्द अपनी समस्या सुलझावें। वह अपनी समस्या पति को दिल्ली जाकर पेन्शन दिलाने के कारण इसे को कहती है। वह उन्हें प्रोत्साहित करती है। मधोसिंह को घर की चिंता न करने को कहती है।

कमला अपनी प्यारी बेटी नीति से बहुत प्यार करती है। वह नीति के पास आकर प्यार से उसके बालों पर हाथ फेरती है। कहती है की मेरी बेटी का मन प्यारा है। मेरी बेटी का नाम प्यारा है। अपनी बेटी को भी धीरज बाँधती रहती है। कमला का चरित्र स्वाभिमान से भरा है।

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ROLL NO.	DATE	

Saroday Shikshan Sanstha

Arts Commerce and Science

Cauge Umadi 2022-2023

Name :- Walikar Sweetha. M.

Roll No:-

Class :- B.A. III (English)

Sem :- VI

Sub :- English Novel

project Name:- Satirical and Epistolary Novel

Date:- 05-06-2023

Year :- 2022-23

Teacher Sign

S.M.W

Student Sign

STUDENT'S NAME		TOTAL MARKS OBTAINED
CLASS	SUBJECT	
ROLL NO	DATE	

* Discuss the sailent features of victorian Poetry :-

Poety written during the reign of Queen Victoria from 1837 to 1907 is defined as Victorian Poetry following Romanticism victorian poetry continued many of the previous era's main themes such as religious skepticism and valorization of the artist as genius but victorian poety also develped a distinct sensility while the Romantic period was a time of abstract expression and inward focus essayists poets and novelists during the victorian era began to reflect and comment on realities of the day including criticism of the dangers of factory work the plight of the powerclass and the treatment of women and children Though novel was the most popular literary genre Prominent Poets of the age are Alfred Lord Tennyson, Robert Browning Elizebeth Barrelt Browning Matthew Arnold, Gerard Manley Hopkins and oscar wilde D.G. Rossetti christina Rossetti Thomas Hardy, R.L Stevenson Rudyard Kipling etc.

(ii) Diverse Poetic expansion :-

Another way of saying this is that victorian poetry is diverse and its characteristics are hard to pain down Sonal

There was diverse and its diversity in poetic themes ranging from medieval legends to city life Victorians used various poetic forms like narrative poems, dramatic monologue lyric, idyll comic verse and patriotic poems

(iii) **Realism:**

The victorian poetry was realistic in nature unlike Romantic worship of nature the victorians used nature as hard to scientife observation They portrayed nature as harsh and indifferent to the human suffering caused by it with rapid social cultural and scientific changes victorian poetry focused on the day to-day problems of the common man. Realistic themes were important to victorian poets for instance Elizabeth Barrett Browing frequently wrote of women's in society Her epic Aurora Leigh tells the story of a woman fighting to be accepted as a female poet.

(iii) **common Man :-**

with the develpment of cities and industies cities became the center of industry and art. victorian novels of charles Dickens George Eliot Bronte sisters portrayed middle class life victorian poet like Thomas Hardy oscar wilder wrote about the masses and for the masses.

Sonal

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(iv) Pessimism :—

Victorians were quite realistic and thus were more concerned about reality rather than the ideal world Due to the industral revolution there was a drastic increase in the city population that gave rise to slums poverty unemployment corruption diseases deaths etc which is reflected in the contemporary literature

Victorian pessimism was also the outcome of the spiritual disturbance caused by advancements in science and technology The new theories challenged their beuf in christianity as most of the scientific facts were not in sync with the religious teachings Thus victorian poetry which focused on the pains and sufferings of commoners had a note of pessimism Matthew Arnold Edward Fitzgerald James Thomson Algernon charles Swinburne Ernest Dowson Alfred Edward Housman Thomas Hardy were some of the victorian poets who portrayed pessimism of the age in their poetry.

(v) Science and Technology :—

The advancement in science and intventions in technology were welcomed by the victorian poets It made them believe that man can find solution to his problems and sufferings Sonal

They made their readers believe that they should use science for their betterment However as painted out by comption Bicket the sceptical tendencies evoked by scientific research stirred the pessimism of James Thomson, the melancholy of matthew Arnold and the fatalism of Fitzgerald.

(vi) crisis of Faith:-

development of science and technology and rationalism made the people sceptical about their religious beliefs and faiths The crisis of faith refers to an event in the victorian era in which much of Europe's middle class begins to doubt what is written in book of Genesis as a reliable source in accordance of how the universe was created charles Darwin's origin of species published in 1850 Darwin proposed the theory of natural selection / evolution and questioned the idea everything was created by God.

(vii) Nationalism:-

with the expansion of British empire there was an increase in the national and spirit of Britain many poets wrote poems dedicated to England and British Army. Tenayson's are change of the Ligh Brigland and Rossetti's Goblin market are examples of patriotic poems portrays the life of British

Sonal

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- army men Ballads and other kipling also wrote an imperialistic poem The whiteman's Burden

(viii) Morality :-

Though morality saw a steep decline in the victorian Era, a number of poets tried to retain it by encouraging people to be honest and noble morality is a significant element in literary works throughout history In victorain England it gained unprecedented concern because of the loss of religious belief and materical progress Mathew Arnold the most influental critic of his time attaches great significance to morality in literature

(ix) Facination of Medieval Myths and Folklore

- Victorian poets showed great interest in the medieval literature of England. pre Raphaelite poets wiks Dante Gabriel Rosseti Holman Hunt. John Everett Millais and later william morris found inspiration in late medieval art and literature As most of them were designers painters as well as poets their love of medieval legends was reflected in their paintings as well as poetry Tenn
- yson's Idylls of the king 'retews the legend of king Arthur Robet Browning in his collection men and women has represe
- nted artists and rules from fifteenth centu Italy. A.C Swinburne has produced a sonal

considerable body of medievalist works inching his chronicle of Queen Fredegond Rosamond Tristram of Lyonese marino Faliero. and The Tald of Balen as well as many more minor poems, essays and prose pieces on medieval subjects.

use of sensory devices and Imagery:

many victorian poets used imagery and sensory elements to describe the struggle between religion and science. Tennyson's poems 'change of the Light Brigade In memorian' and Mariana are full of senesory elements and imagery The Brownings also used imagery widely.

Sarvoday Shikshan Sanstha's.

ARTS COMERCE AND SCIENCE COLLEGE UMADI 2022-23

Name : Lakade .k.L

Roll No :- 202

Class - B.A III [Geography]

Subject : Geography.

Guide - Prof. Mendigiri sir

Date :

Year - 2022-23

Teacher Sign

Student Sign.

भौगोलिक विकास

प्र.1ला जर्मन भूगोल विचारवंत - ॲलेक्झांडर हॉन हॅम्बोल्ट

→ अलेक्झांडर हॉन हॅम्बोल्ट यांची जर्मनीमधील ख्यातनाम शास्त्रज्ञांमध्ये गणना केली जाते. हंबोल्ट हे अत्यंत बुद्धीवान व आकर्षक व्यक्तिमत्वाचे गृहस्थ होते. प्रमाणभूत शास्त्रीय भौगोलिक प्रतिपादनातील त्यांचे व्यक्तिमत्व फार महान होते. ते एक प्रतिभाशाली व प्रज्ञावान व्यक्ति ते जर्मन निसर्गशास्त्रज्ञ व प्रवासी होते. दक्षिण अमेरिकेच्या पश्चिम किनाऱ्यावरील समुद्राचा त्यांनी अभ्यास केला. हंबोल्ट यांच्या स्मृतिप्रित्यर्थ या समुद्र-प्रवाहास 'हंबोल्ट प्रवास' या नावाने संबोधले जाऊ लागले. आजदेखील जर्मनीमध्ये हंबोल्ट यांचे नाव चिरस्मरणीय राखण्यासाठी त्यांच्या सन्मानासाठी त्यांच्या नावाने अनेक विज्ञान संस्था स्थापन झाल्या आहेत. त्या संस्थांमधुन भूगोलाबरोबरच अनेक विज्ञान शाखांमधील संशोधन केले जाते. आंतरराष्ट्रीय प्रसिद्धीच्या असुन जगामधील अनेक देशांमधुन विद्वान लोक संशोधनासाठी व उच्च शिक्षणासाठी तेथे येतात व त्यांना काही आंतरराष्ट्रीय शिष्यवृत्त्याही प्रदान केल्या जातात.

अलेक्झांडर व्हॉन हंबोल्ट यांना 'आधुनिक भूगोलशास्त्राचे शिल्पकार' म्हणुन ओळखले जाते.

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प्र.२ रा → अरब भौगोलिक विचारवंताचे योगदान सांगा.

1) इब्न हौकल (Ibn-Hawkal) : इब्न हौकल यांचे मुळ नाव महंमद अब्दुल कासीम होते. तो बगदादचा रहिवासी होता. इ.स. 943 मध्ये त्याने इस्लामी जगाचा पायी प्रवास करुन तेथील प्राकृतिक वैशिष्ट्ये व लोकजीवन यांची माहिती ग्रंथबद्ध केली. त्यांच्या ग्रंथाचे नाव 'बुक ऑफ रुट्स' असे होते. त्याच्या ग्रंथात आफ्रिकेचा दक्षिण भाग, सहारा, इजिप्त, इराक, इराण, तुर्कस्तान, कॅस्पियन समुद्र, काळा समुद्र, तांबडा समुद्र इत्यादींचा वृत्तांत आहे.

2] अल-मसुदी (Al-Masudi) : अल-मसुदी हा इब्न हौकलचा समकालीन विचारवंत इतिहास व भुगोलशास्त्राचा अभ्यासक होता. त्यानेही अरब जगाचा विस्तृत प्रवास केला. भुगोलाशिवाय हवामानशास्त्र सागरशास्त्र भुकंप खगोलशास्त्र, इस्लामी कायदे यांचाही अभ्यास केला. त्याच्या प्रमुख ग्रंथात किताब-मुराज-अल-दहाह, किताब-अल-अलर किताब-अखबार-अल-जमाम, किताब-अल-ओसर यांचा समावेश होतो. यातील किताब-अल-जमामचे 30 खंड आहेत.

प्राकृतिक भुगोलातील अल-मसुदीचे कार्य महत्वाचे आहे. भुआकारांचा अभ्यास त्याने केला. अपक्षयचक्राबद्दल त्याने म्हटले आहे की जगात कोणतेही स्थान कायमचे पाण्यात किंवा जमिनीवर नसते. त्यात बदल घडवून आणणारी प्रक्रिया कार्यरत असते.

3] अल-बिरुनी (Al-Biruni) : इ स अकराव्या शतकातील बिरुनी (परदेशी) हा जगप्रसिद्ध भूगोलशास्त्रज्ञ होऊन गेला या शतकावर त्याचे कार्य व विचार त्यांचा खोल ठसा आजला या कालखंडाला 'अल बिरुनी युग' असेही म्हणतात.

1) किताब अल हिंद, 2) तारिख अल हिंद, 3) अल कानुम अल मसुदि, 4) किताब अल जमाकीर, 5) किताब अल जैयदना. बिरुनी याने एकूण 27 ग्रंथ लिहिले.

4] अल-इद्रिसी (Al-Idrisi) : बाराव्या शतकातील भूगोलज्ञाचे नाव इब्न-अबुल-मोहम्मद असे होते. अल इद्रिसी हे त्याचे आडनाव होते. त्यावरून तो खलिफा इद्रिसी यांच्या कुटुंबियातील असावा. त्याच्या लेखनावरून त्याने युरोपचा विस्तृत प्रवास केल्याचे जाणवते. स्पेन, लिस्बन, फ्रान्स, इंग्लंड, सिसली, मोरोक्को व मध्य आशियाचा प्रवास त्याने केला. स्पेनमधील कार्डोव्हा (Cardova) विद्यापीठातून त्याने आपले शिक्षण घेतले. सिसीलीचा राजा रोगर (Rogar) यांच्या निमंत्रणावरून तो पॅलेस्टाईनला गेला.

5] इब्न बतुता (Ibn-Batuta) : इब्न बतुता हा चौदाव्या शतकातील अरब प्रवासी होता. त्यांचे मुळ नाव अब्दुला महंमद असे होते. इजिप्त सिरीचा हेडग येथे आपले शिक्षण पुर्ण केल्यावर वयाच्या एकविसाव्या वर्षी इ स. 1335 मध्ये तो जगप्रवासाला निघाला त्याने इजिप्त-सिरीचा - इराक - पर्शिचा - अरबस्तान - कैस्पियन समुद्रापलीकडील प्रदेश इस्तबुत बुखारा -

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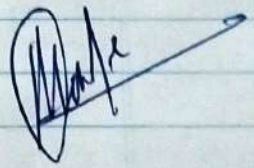
भारत - चीन - श्रीलंका - मालदीव - सुमात्रा - जावा - ओमान येमेन - इथिओपिया - स्पेन - सहारा वाळवंटातुन नायजेर नदीपर्यंत तसाच्या 50 व्या वर्षापर्यंत त्याने प्रवास केला.

6] इब्न - खाल्दुन (Ibn - khaldun) : अरब काळातील हा शेवटचा विचारवंत होय. त्याने भुगोल क्षेत्रात महत्त्वाचे कार्य केले. आफ्रिकेत जन्मलेल्या या शास्त्रज्ञाचे वास्तव्य अल्जेरिया, ट्युनिशिया, स्पेन देशात होते. काही काळ त्याने इजिप्तमध्ये वास्तव्य केले. तसाच्या 45 व्या वर्षी त्याने 'मुकादिमाह' (Muqaddimah) हा ग्रंथ लिहिला. या ग्रंथात त्याने मानवी जीवनाच्या विविध अंगांचा सविस्तर विचार मांडला आहे.

इब्न खाल्दुन हा भुगोलज्ञ व इतिहास-कार होता. त्यामुळे त्याने राजकारण, राजद्युराणी यावर विस्ताराने लिहिले आहे. त्याच्या मते, राज्यांचा विकास होतो, ती प्रौढ बनतात व त्यांचा ऱ्हास होतो. हीच कल्पना पुढे एकोणिसाव्या शतकात फ्रेडरिक रॅटझेलने विस्ताराने मांडली.



Sarvodaya Shikshan Sanstha's Umadi

ARTS, COMMERCE & SCIENCE COLLEGE UMADI

TAL-JATH, DIST-SANGLI

BSC-III : DEPARTMENT OF BOTANY

INTERNAL EXAM PROJECT PAPER NO-XIII

SEM- VI

ENTITLED

NAME OF PROJECT- POLLINATION AND FERTILIZATION

SUBMITTED BY- MR. BIRAJADAR VISHWANATH P.

ROLL NO. 342

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UNDER THE VALUABLE GUIDANCE OF

PROF. MALI M.S.

YEAR : 2019-2020

Teacher in charge

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Pollination and Fertilization

(a) Types and significance of pollination

The pollination is of two types (i) self pollination and (ii) cross pollination.

(i) Self pollination:-

In this type the pollen grains from the anther are transferred to the stigma of same or another flowering present on the same plant eg:- sugercane cammelina. The process in which the pollengrains are transferred to the stigma of same flower is called as pollengrains are transferred to the stigma of different flower on the same plant is Geitonogamy.

(ii) cross pollination:-

In this type the pollengrains are transferred form another to the stigma of the other flower belonging to the same species.

Xenogamy in the process in which pollengrains are transferred to the flower on separate plant of some species.

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* Agencies of pollination:-
The pollengrains are non motile Therefore cross pollination invalves. some agencies which are of two types

[1] Abiotic:-
These agencies are of non living nature and therefore passive eg is wind Thus when plower is pollinated by wind the process in known as anemophily
e.g:- grasses

2) Biotic:- These agencies are living organisms. Thus we have zoophily. The plowers are pollinate the flowers by animals It is further devided into entomophily when insects pollinate the flowers.

contrivances for self pollination
1> Bisexuality:
The flowers with androecium and gynoecium is called bisexual plower presence of male and Female organs facilitates. the transfer of pollen on the stigma of same flower eg: Argemone.

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4) self sterility :- the pollengrains can not germinate when placed on stigma of same flower e.g petunia.

Adaptations for pollination as per the nature of pollinating agents:

A) Adapatations for anemophily :-

1) Large no of pollengrains.
2) The pollengrains are small, light weight. dry smooth walled
3) Flowers are not showy. small in clustra.
4) stigma branched, bushy or feathery capable of catching pollens from air.
5) Flowers are often unisexual and are produced in bunches

B) Adaptations for hydrophily

1) plants are aquatic. submerged.
2) pollination takes place either under water are of on the surface of water.
3) Flowers small not alternative. not generally unisexual.
4) Female flowers with long pedicel to reach to stigma upto surface of water.
5) pollengians small with way and sticky surface.

e.g: vallisherisa. - Hydrilla.

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2) Cleistogamy!- Bisexual flowers of some plants always remain clo sed

3) Homogamy! The two essential whorls i.e stamens and carpels matures at the same time the increases the the chances of self pollination
e.g Mirabilis

* contrivances for cross pollination:-
1) uniseruality!- In plants like process papaya.. flowers are unsexual The male and female flowers are brone on two seprate plants.

2) Dichogamy!- This is a condition in which the stamens and carpels mature at different times. The checks the self pollination due to non availability of pollen when stigma matures and ceversa. hence cross pollination becomes obligatory
e.g!- Michelia. Annona. squa mosa.

3) Heterostayly! In some plants flowers of two different forms are present They show presence of styles of different lengths This is called heterost egi primerose.

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C) Adaptations for entomophilly
1) Flowers brightly coloured.
2) pollengrains with rough surface. sticky to stick easily to limb or insect body
3) small flowers made conspicuous by forming inflorescence like capitulum with bright ray florets.
4) Flowers with distinct odour - foetid smell - sweet scent to attract the insects.

D) Adaptations for ornithophily
1) Flowers are large brightly coloured.
2) corolla cuplum shaped with tube of suitables lenght
3) Flowers with sufficient nector and are handing - vetical horizontally.
e.g: Bignonia. erythrina.

E) Adaptations for chiropterophily
1) Flowers borne singly or in clusters quite away from branches and foliage they are with long stalk.
2) the long stalked flowers open during evening and the anthers dehisce almost at the same time.
3) Flowers emit strong odour
4) Flower with large amount of nectar
5) stamens and stigma project beyond

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beyond corolla lobes
c) pollens are many edible and stic ky

F) Adaptations for Malacophily
some smell aquatic herbs and plants with spadix inflo when visited by snails pollination occurs. the to movement of snails on the surf ace of inflo / flower
e.g:- Arum.
1) Flowers unisexual but on same plant
2) male flowers in the upper region and female in the lower
3) Neuther flowers with male and flowers supply edible materia/ to snails.

* Mechanism of pollination in some flowers
1) pollination in calotropis :-
The flower of calotropis shows a sp ecial struch formed by the union bet ween a part of Gynoecium and Androecium in this flowers the polle ngrains are in the form of pollen containing bags called pollinia. These pollinia remains attached to pentangular structures. whin shows union of pomina (a part of androecium)

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Flower

concept of Flower As A Modified shoot

Flower!-

It is highly specialized modified for the sexual reproduction specially in Angiosperms.

It shows the charaters of shoot as presence of nodes internodes lateral appedages and the floral appendages but generally the flower is highly compressed or condensed and the thalamus bears whorls of nodes with floral of appendages The floral meristem developes the floral appendage in serial way as calyx corolla androcium and gynoecium. Flower in general shows a great diversity in its structure but a typical flower consists above four different whorls of floral leaves arranged on an axis i.e. thalamus. The thalamus is swollen end of the pedical of flower At the base of flower small leaf structures may be present called bract

L.S of typical Flower showing different whorls :-

The floral whorls arranged on the thalamus in a definite order one above the other The typical.

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shows either cyclic or spiral type of arrangement of floral leaves the four whorls of flower can be grouped as a accessory whorls and essential whorls.

The calyx and corolla are two outermost successive whorls As they do not take direct part in the process of reproduction they are known as accessory whorls where as androecium and gynoecium are fertile or reproductive and are essential whorls These two whorls are related with sex in the flower Androecium represents the male and Gynoecium represents the female part in the flower.

As the internodal regions are highly compressed the flower is also called dwarf shoot The development is physiological change in the meristem The hormone florigine is responsible for it due to which the vegetative meristem is converted into floral meristem and the floral buds are developed on the plant Thus in flowering plants (angiosperms reproductive organs are in the form of specialized shoot are known as flower.

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ENVIRONMENTAL PROJECT

NAME OF PROJECT- **Acid rain**

Submitted By:- Hattikar P S.

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Acid Rain-The Major Cause of Pollution: Its Causes, Effects

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Abstract

Acidification of rain-water is identified as one of the most serious environmental problems of transboundary nature. Acid rain is mainly a mixture of sulphuric and nitric acids depending upon the relative quantities of oxides of sulphur and nitrogen emissions. Due to the interaction of these acids with other constituents of the atmosphere, protons are released causing increase in the soil acidity. Lowering of soil pH mobilizes and leaches away nutrient cations and increases availability of toxic heavy metals.

Keyword: Acid rain, sulphuric, Deposition, nitrogen, pollutants Causes, Effects, Control PDF of full length paper is available with author .

INTRODUCTION

Since the beginning of civilization, human beings have used various natural resources for their benefit. To make their life easier, they have produced facilities that use many of the Earth's energy resources. . On one side this kind of development makes our lives easier, but on the other hand it results into pollution by release harmful substance into environment. Acid rain is the most serious environmental problems emerged due to air pollution. Acid rain is particularly damaging to lakes, streams and forests, and the plants and animals that live in these ecosystems. Rain is one of the most essential ingredients for human and animal life. The water provided by rain allows all life on

Earth to survive. Although rain is naturally acidic, it is being increasingly acidified by pollution from homes, factories, power stations and cars. The term used to describe this problem is "acid rain". **Acid rain** hasn't just occurred in the last twenty to thirty years. This was over 100 years ago.For years ever since most of the world has been industrialized, the effects of pollution have plagued nations alike. Acid rain is one of the largest contributors to this industrialized form of pollution.

New Delhi adds 1,500 poorly regulated new cars to its roads every day, so it's no wonder that the city is choking on auto exhaust. Asian air pollution kills 2 million people every year. Tough emissions laws in the U.S. explain why we're breathing better, despite adding cars, population and miles traveled. Acid rain is also called acid deposition because this term includes other forms of acidic precipitation such as snow.It is two types of deposition:

1. Wet deposition
2. Dry deposition

Wet Deposition

Wet deposition refers to acidic rain, fog, and snow. If the acid chemicals in the air are blown into areas where the weather is wet, the acids can fall to the ground in the form of rain, snow, fog, or mist. As this acidic water flows over and through the ground, it affects a variety of plants and animals.

Dry Deposition

In areas where the weather is dry, the acid chemicals may become incorporated into dust or smoke and fall to the ground through **dry deposition**, sticking to the ground, buildings, homes, cars, and trees. Dry deposited gases and particles can be washed from these surfaces by rainstorms, leading to increased runoff.

Causes of acidification:- Sulphur dioxide (SO_2) and oxides of nitrogen and ozone to some extent are the primary causes of acid rain. These constituents interact with reactants present in the atmosphere and result into acid deposition. The natural sources of sulphur pollutants are oceans and to much smaller extent from volcanic eruptions. The man-made sources of SO_2 emissions are the burning of coal and petroleum and various industrial processes (Cullis and Hischler, 1980). Other sources include the smelting of iron and other metallic (Zn and Cu) ores, manufacture of sulphuric acids, and the operation of acid concentrators in the petroleum industry.The levels of NOx are small in comparison to SO_2, but its contribution in the production of acid rain is increasing.

The degree of acidity is measured by pH value, it is shorthand version of potential hydrogen. The pH of normal rainwater is also acidic; the reason is that water reacts to a slight extent with atmospheric carbon dioxide (CO_2) to produce carbonic acid.

$$CO_2 + H_2O \longrightarrow H_2CO_3 \text{ (carbonic acid)}$$

Small amount of nitric acid is also responsible for the acidityof normal rainwater, which is produced by the oxidation of nitrogenin presence of water during lightening storms.

$$2\ N_2 + 5O_2 + 2H_2O\ 4 \longrightarrow HNO_3 \text{ (nitric acid)}$$

Rain that presents a concentration of H^+ ion greater than 2.5 μeq-1 and pHvalue is less than 5.6 is considered acid (Evans,1984). Galloway et al. (1982) proposed a pH of 5.0 as a limit of natural contribution.

Chemical reactions during acid rain formation: The chemical reaction that results in the formation of acid rain involves the interaction of SO_2, NO_x and O_3. When the pollutants are vented into the atmosphere by tall smoke stakes, molecules of SO_2 and NO_x are caught up in the prevailing winds, where they interact in the presence of sunlight with vapours to form sulphuric acid and nitric acid mists. These acids remain in vapour state under the prevalent high temperature conditions. When the temperature falls, condensation takes the form of aerosol droplets, which owing to the presence of unburnt carbon particles will be black, acidic and carbonaceous in nature.

Acid reactions involving O_3:-

$$O_3^- \longrightarrow O_2 + O$$

$$O + H_2O \longrightarrow OH\bullet \text{ (hydroxy radical)}$$

$$OH\bullet + SO_2 \longrightarrow HSO_3$$

$$HSO_3^- + OH \longrightarrow H_2SO_4$$

$$OH + NO_2^- \longrightarrow HNO_3$$

$$HSO_3 + O_2^- \longrightarrow SO_3^{2-} + HO\bullet_2 \text{ (peroxy radical)}$$

Peroxy radicals react with formaldehyde, acetaldehyde and form formic and acetic acids and some other organic acids, contributing to 5-20% acidity in total acid rain load.

Acid reactions involving sulphur:

Coal is especially rich in sulphur. As coal is burned, its component get oxidized

$$S + O_2 \longrightarrow SO_2$$

The oxidation of sulphur to SO_2 occurs directly in the flame; therefore SO_2 is discharged to the atmosphere from the smoke stacks. As SO_2 is swept along by the prevailing wind, it is slowly oxidized at ordinary temperature to SO_3^{2-}

$$2\,SO_2 + O_2 \longrightarrow 2\,SO_3^{2-}$$

$$SO_3^{2-} + H_2O \longrightarrow H_2SO_4$$

$$SO_2 + H \longrightarrow H_2SO_3\ (H^+\ HSO_3)$$

$$HSO_3 + O_3 \longrightarrow SO_4^{2+} + H^+ + O_2$$

Oxidant property of atmosphere plays an important role in conversion of SO3 2- to SO4. Sulphur dioxide oxidation is most common in clouds and especially in heavily polluted air where compounds such as ammonia and O3 are in abundance. These catalysts help to convert more SO2 into sulphuric acid.

$$H_2O_2 + HSO_3 \longrightarrow -\,HSO_4^- + H_2O$$

Acid reactions involving nitrogen:-

$NO_2 + OH^\bullet \longrightarrow HNO_3$ **Nitric Acid**

$NO_2 + O \longrightarrow NO_3$

$NO_2 + NO_3 \longrightarrow N_2O_5$

$N_2O_5 + H_2O \longrightarrow 2HNO_3$ **Nitric Acid**

Effects of Acid Rain

After studying the Hubbard Brook Forest and other areas today, there are several important impacts of acid deposition on both natural and man-made environments. Aquatic settings are the most clearly impacted by acid deposition though because acidic precipitation falls directly into them. Both dry and wet deposition also runs off of forests, fields, and roads and flows into lakes, rivers, and streams.

Effects of acid rain on Health:-

Acid rain looks, feels, and tastes just like clean rain. The harm to people from acid rain is not direct. Walking in acid rain, or even swimming in an acid lake, is no more dangerous than walking or swimming in clean water. However, the pollutants that cause acid rain sulfur dioxide (SO2) and nitrogen oxides (NOx) do damage human health. These gases interact in the atmosphere to form fine sulfate and nitrate particles that can be transported long distances by winds and inhaled deep into people's lungs. Fine particles can also penetrate indoors. Many scientific studies have identified a relationship between elevated levels of fine particles and increased illness and premature death from heart and lung disorders, such as asthma and bronchitis.

Acid rain harms other plants

Acid rain can harm other plants in the same way it harms trees. Although damaged by other air pollutants such as ground level ozone, food crops are not usually seriously affected because farmers frequently add fertilizers to the soil .

Effects in the forest

Over the years, scientists, foresters, and others have noted a slowed growth of some forests. Leaves and needles turn brown and fall off when they should be green and healthy. In extreme cases, individual trees or entire areas of the forest simply die off without an obvious reason.

Effects on Stone Buildings and Monuments in Acid Rain

Marble and limestone have long been preferred materials for constructing durable buildings and monuments. . Marble and limestone both consist of calcium carbonate (CaCO3), and differ only in their crystalline structure. Limestone consists of smaller crystals and is more porous than marble; it is used more extensively in buildings. Marble, with its larger crystals and smaller pores, can attain a high polish and is thus preferred for monuments and statues. Although these are recognized as highly durable materials, buildings and outdoor monuments made of marble and limestone are now being gradually eroded away by acid rain calcium carbonate and sulfuric acid (the primary acid component of acid rain) results in the dissolution of CaCO3 to give aqueous ions, which in turn are washed away in the water flow.

$$CaCO3 + H2SO4 \rightarrow Ca2+(aq) + SO42- + H2O + CO2$$

This process occurs at the surface of the buildings or monuments; thus acid rain can easily destroy the details on relief work (*e.g.*, the faces on a statue), but generally does not affect the structural integrity of the building.

What's Being Done?

Because of these problems and the adverse effects air pollution has on human health, a number of steps are being taken to reduce sulfur and nitrogen emissions. Most notably, many governments are now requiring energy producers to clean smoke stacks by using scrubbers which trap pollutants before they are released into the atmosphere and catalytic converters in cars to reduce their emissions.

Control of acid rain:-

This can be achieved by following ways:

Liming:- The damage to lakes and other water bodies can be eliminated by adding lime. Many chemicals such as caustic soda, sodium carbonate, slacked lime and limestone are most popular for raising pH of acidified water (Khemani et al., 1985).

Liming eliminates some of the symptoms of acidification, it is expensive and not real cure.

Policy Intervention:- In 1970s and 1980s the effects of acid rain on natural resources and ecosystems became an issue of considerable public concern in both northwestern Europe and northeastern United States. Several northeastern States and the Province of Ontario, Canada, sued the US Environment Protection Agency in 1980 to take action to control acid precursor emissions emanating from states in the government. U.S congress formed the national acid precipitation assessment programme (NAPAP) and mandated NAPAP to conduct a 10-year scientific, technological and economic study of the acid rain issue under the acid precipitation act of 1980. The purpose of the study was to inform public policy by providing information on:

1. Specific regions and resources affected by acidic deposition.
2. How and where acid precursor emissions are transformed and distributed?
3. Whether the effects are extensive and require mitigation?
4. What emission control technologies and mitigation options are

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ENVIRONMENT PROJECT 2022-23

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ENVIRONMENTAL PROJECT

NAME OF PROJECT- **Deforestation**

Submitted By:- Shinde S D

Sr. No.	Name of the Student	Rool No.
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2022-23

Deforestation: Causes, Effects and Control Strategies

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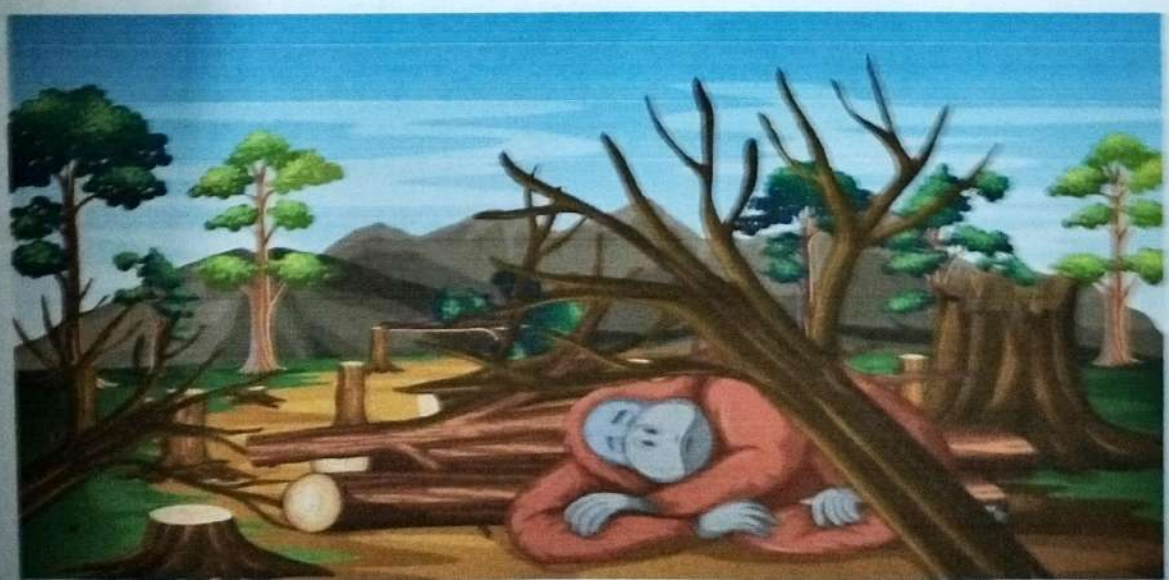

1. Introduction

The year 2011 is 'The International Year of Forests'. This designation has generated momentum bringing greater attention to the forests worldwide. Forests cover almost a third of the earth's land surface providing many environmental benefits including a major role in the hydrologic cycle, soil conservation, prevention of climate change and preservation of biodiversity (Sheram, 1993). Forest resources can provide long-term national economic benefits. For example, at least 145 countries of the world are currently involved in wood production (Anon., 1994_a). Sufficient evidence is available that the whole world is facing an environmental crisis on account of heavy deforestation. For years remorseless destruction of forests has been going on and we have not been able to comprehend the dimension until recently. Nobody knows exactly how much of the world's rainforests have already been destroyed and continue to be razed each year. Data is often imprecise and subject to differing interpretations. However, it is obvious that the area of tropical rainforest is diminishing and the rate of tropical rain forest destruction is escalating worldwide, despite increased environmental activism and awareness.

Deforestation is the conversion of forest to an alternative permanent non-forested land use such as agriculture, grazing or urban development (van Kooten and Bulte, 2000). Deforestation is primarily a concern for the developing countries of the tropics (Myers, 1994) as it is shrinking areas of the tropical forests (Barraclough and Ghimire, 2000) causing loss of biodiversity and enhancing the greenhouse effect (Angelsen *et al.*, 1999). FAO considers a plantation of trees established primarily for timber production to be forest and therefore does not classify natural forest conversion to plantation as deforestation (but still records it as a loss of natural forests). However, FAO does not consider tree plantations that provide non-timber products to be forest although they do classify rubber plantations as forest. Forest degradation occurs when the ecosystem functions of the forest are degraded but where the area remains forested rather cleared (Anon., 2010).

Thirty per cent of the earth's land area or about 3.9 billion hectares is covered by forests. It was estimated that the original forest cover was approximately six billion hectares (Bryant *et*

2. World deforestation

According to Professor Norman Myers, one of the foremost authorities on rates of deforestation in tropical forests, "the annual destruction rates seems set to accelerate further and could well double in another decade" (Myers, 1992). Mostly deforestation has occurred in the temperate and sub-tropical areas. Deforestation is no longer significant in the developed temperate countries now and in fact many temperate countries now are recording increases in forest area (Anon., 1990$_a$; 2010). In most instances developed nations are located in temperate domains and developing nations in tropical domains. However deforestation was significantly less in tropical moist deciduous forest in 1990-2000 than 1980-1990 but using satellite imagery it was found that FAO overestimated deforestation of tropical rainforests by 23 per cent (Anon., 2001$_{a; b}$). However the definition of what is and what is not forest remains controversial. The tropical rainforests capture most attention but 0 per cent of the deforestation that occurred in tropical forests during 1990-2010 was in moist deciduous and dry forests.

However extensive tropical deforestation is a relatively modern event that gained momentum in the 20th century and particularly in the last half of the 20th century. The FAO FRA 2001 and 2010 reports indicate considerable deforestation in the world during 1990-2010 but this was almost entirely confined to tropical regions (Anon., 2001$_a$; 2010). A summary of deforestation during the decades 1990-2010 is given in tables 1 and 2. These tables show there was considerable deforestation in the world during 1990-2010 but this was almost entirely confined to tropical regions. Rowe *et al.* (1992) estimated that 15 per cent of the world's forest was converted to other land uses between 1850 and 1980. Deforestation occurred at the rate of 9.2 million hectares per annum from 1980-1990, 16 million hectares per annum from 1990-2000 and decreased to 13 million hectares per annum from 2000-2010. The net change in forest area during the last decade was estimated at -5.2 million hectares per year, the loss area equivalent to the size of Costa Rica or 140 km^2 of forest per day, was however lesser than that reported during 1990-2000 which was 8.3 million hectares per year equivalent to a loss of 0.20 per cent of the remaining forest area each year. The current annual net loss is 37 per cent lower than that of the 1990s and equals a loss of 0.13 per cent of the remaining forest area each year during this period. By contrast some smaller countries have very high losses per year and they are in risk of virtually losing all their forests within the next decade if current rates of

3.1 Direct causes

3.1.1 Expansion of farming land

About 60 per cent of the clearing of tropical moist forests is for agricultural settlement (Myers, 1994; Anon., 1991) with logging and other reasons like roads, urbanization and Fuelwood accounting for the rest (Anon., 1994$_b$). Tropical forests are one of the last frontiers in the search for subsistence land for the most vulnerable people worldwide (Myers, 1992). Millions of people live on the tropical forest with less than a dollar a day where a third of a billion are estimated to be foreign settlers. However, as the land degrades people are forced to migrate, exploring new forest frontiers increasing deforestation (Wilkie *et al.*, 2000; Amor, 2008; Amor and Pfaff, 2008). Deforestation is proxied by the expansion of agricultural land. This is because agricultural land expansion is generally viewed as the main source of deforestation contributing around 60 per cent of total tropical deforestation.

Shifting agriculture also called slash and burn agriculture is the clearing of forested land for raising or growing the crops until the soil is exhausted of nutrients and/or the site is overtaken by weeds and then moving on to clear more forest. It is been often reported as the main agent of deforestation. Smallholder production in deforestation and the growing number of such producers notably shifting cultivators were the main cause of deforestation (Anon., 1990$_{b, c}$; Dick, 1991; Anon., 1992$_{a, b}$; Barbier *et al.*, 1993; Ascher, 1993; Dove, 1993; 1996; Dauvergne, 1994; Porter, 1994; Thiele, 1994; Anon., 1994$_c$; Angelsen, 1995; Ross, 1996). Mostly all reports indicate shifting agriculture as responsible for about one half of tropical deforestation and some put it up to two-thirds. Shifting agriculture was greatest in Asia (about 30 per cent) but only about 15 per cent over the whole tropical world. It appears that the proportion of direct conversion of forest to agriculture is increasing and the proportion of shifting agriculture is decreasing with time.

3.1.2 Forest and other plantations

Plantations are a positive benefit and should assist in reducing the rate of deforestation. The fact that plantations remove the timber pressure on natural forests does not translate eventually into less, but rather into more deforestation. Indeed, it is feared that agricultural expansion which is the main cause of deforestation in the tropics might replace forestry in the remaining natural forests (Anon., 2002; Cossalter and Pye-Smith, 2003; Anon., 2005). The impact of timber plantations could thus turn out to be quite detrimental to tropical forest ecosystems (Kartodihardjo and Supriono, 2000). Tree crops and rubber in particular plays a more important role in deforestation in Indonesia than subsistence-oriented shifting cultivation (Chomitz and Griffiths, 1996). Unfortunately about one-half of the plantations in the tropics are established on native forest cleared for the purpose. Moreover plantations can promote deforestation by constructing roads that improve access of the shifting cultivators and others to the forest frontier.

3.1.6 Mining

Mining is very intensive and very destructive (Mather, 1991; Sands, 2005). The area of land involved is quite small and it is not seen as a major cause of primary deforestation. Mining is a lucrative activity promoting development booms which may attract population growth with consequent deforestation. The deforestation rate due to mining activities in Guyana from 2000 to 2008 increased 2.77 times according to an assessment by the World Wildlife Fund-Guianas (Staff, 2010). Similarly, in the Philippines, mining, along with logging, has been among the forces behind the country's loss of forest cover: from 17 million hectares in 1934 to just three million in 2003 or an 82 per cent decline (Docena, 2010). Nearly 2,000 hectares of tropical forest in the Municipality of Coahuayana in the State of Michoacán (south-western Mexico) will completely be destroyed by mining iron minerals planned by the Italo-Argentine mining company TERNIUM (Anonymous, 2008). Similarly, Nyamagari hills in Orissa India currently threatened by Vedanta Aluminum Corporation's plan to start bauxite mining will destroy 750 hectares of reserved forest (Griffiths and Hirvelä, 2008). Massive and unchecked mining of coal, iron ore and bauxite in Jharkhand, India has caused large scale deforestation and created a huge water scarcity (Anon., 2011_b). In return for US$3.8 billion of investment, the agreements between the State government of Jharkhand, India and mining companies, there will be a massive land acquisition which will deforest no less than 57,000 hectares of forest and displace 9,615 families, many of them located in legally protected Scheduled Areas set aside for indigenous peoples in the State (Mullick and Griffiths. 2007). Moreover, Roads constructed to support the mining operations will open up the area to shifting agriculturists, permanent farmers, ranchers, land speculators and infrastructure developers. For instance the core of Brazil's Amazon development strategy were infra-structure development projects such as roads providing access to frontier regions, mining area and large hydroelectric reservoirs (Mahar, 1988; Fearnside and Barbosa, 1996; Carvalho *et al.*, 2002, 2004). The construction of roads, railways, bridges, and airports opens up the land to development and brings increasing numbers of peoples to the forest frontier. If wood is used as fuel in mining operations and it is sources from plantations established for the purpose, it can cause serious deforestation in the region. On the other hand, mining can be labour intensive and take labour away from clearing forest.

3.1.7 Urbanization/industrialization and infra-structure

Expanding cities and towns require land to establish the infrastructures necessary to support growing population which is done by clearing the forests (Mather, 1991; Sands, 2005). Tropical forests are a major target of infra-structure developments for oil exploitation, logging concessions or hydropower dam construction which inevitably conveys the expansion of the road network and the construction of roads in pristine areas (Kaimowitz and Angelsen, 1998). The construction of roads, railways, bridges, and airports opens up the land to development and brings increasing numbers of people to the forest frontier. Whether supported or not by the governmental programmes, these settlers have usually colonized the forest by using logging trails or new roads to access

the forest for subsistence land (Wilkie *et al.*, 2000; Amor, 2008; Amor and Pfaff, 2008). (Wilkie *et al.*, 2000; Amor, 2008; Amor and Pfaff, 2008). The development of these infra-structure projects are of worldwide concern, since tropical forest clearing accounts for roughly 20 per cent of anthropogenic carbon emissions destroying globally significant carbon sinks (Anon., 2001$_c$) and around 21 per cent of tropical forests have been lost worldwide since 1980 (Bawa *et al.*, 2004).

3.1.8 Air pollution

Air pollution is associated with degradation of some European and North American forests. The syndrome is called "Waldsterben" or forest death. In 1982, eight per cent of all West German trees exhibited damage that rose to about 52 per cent by 1987 (Raloff, 1989) and half of the trees reported dying of Waldsterben in the Alps (Lean, 1990). High elevation forests show the earliest damage including forests in the north-east and central United States.

3.1.9 Wars and role of the military

It is well established that military operations caused deforestation during the Vietnam War and elsewhere (Mather, 1991; Sands, 2005). More recently, linkages have been documented between the civil war in Myanmar and the timber trade between Myanmar and Thailand. Myanmar regime sells timber to the Thais to finance its civil war against the Karen hill tribe. Forest destruction in El Salvador has resulted from war. Apart from military involvements in wars, the role of military in deforestation has been documented in Southeast Asia and South America (Mather, 1991; Sands, 2005). The authors also observed that role of powerful military in Brazilian politics are a major cause of Amazonian forest destruction.

3.1.10 Tourism

National parks and sanctuaries beyond doubt protect the forests, but uncautioned and improper opening of these areas to the public for tourism is damaging. Unfortunately, the national governments of tropical and sub-tropical countries adopt tourism for easy way of making money sacrificing the stringent management strategies. Further, many companies and resorts who advertise themselves as eco-tourist establishments are in fact exploiting the forests for profit. In Cape Tribulation, Australia, for example, the rain forest is being threatened by excessive tourism (Colchester and Lohmann, 1993). Similarly, in the Terai Duars of eastern India foothill Himalaya, eco-tourism is encouraged and we fear this is being done without developing adequate management plans. For instance, the Chilapatta Reserve Forest in this area is opened for eco-tourism for its ancient ruins deep in the forest and a tree species *Myristica longifolia* that exudes a blood like sap when injured. The site has become a popular eco-tourist destination because of the ruins and for this blood exuding tree. In the whole forest only eight individuals were found but two of the trees in the near vicinity of the ruins completely dried away due to repeated injuries caused to the plants by the curious tourists (Shukla, 2010). In fact, in the name of eco-tourism, infra-structure development is taking place mostly be the private players in these wilderness areas which are further detrimental in terms of attracting peoples other than tourists also, causing deforestation especially deep in the forest.

3.2 Indirect causes

The World Rainforest Movement's 'Emergency Call to Action for the forests and their Peoples' asserts that "deforestation is the inevitable result of the current social and economic policies being carried out in the name of development" (Anon., 1990_d). It is in the name of development that irrational and unscrupulous logging, cash crops, cattle ranching, large dams, colonisation schemes, the dispossession of peasants and indigenous peoples and promotion of tourism is carried out. Harrison Ngau, an indigenous tribesman from Sarawak, Malaysia and winner of the Goldman Environment Award in 1990 puts the cause of tropical deforestation like this, "the roots of the problem of deforestation and waste of resources are located in the industrialized countries where most of our resources such as tropical timber end up. The rich nations with one quarter of the world's population consume four fifth of the world's resources. It is the throw away culture of the industrialized countries now advertised in and forced on to the Third World countries that is leading to the throwing away of the world. Such so-called progress leads to destruction and despair" (Anon., 1990_d)! Such a development leads to overconsumption which is the basic underlying cause of deforestation.

3.2.1 Colonialism

Erstwhile colonies of the colonial powers like Britain, France, Spain or Portugal are now the Third World Countries or the developing nations mostly have the tropical rainforests except Australia and Hawaii were exploited for their natural resources and their indigenous people's rights destroyed by the colonial powers. All these countries have indigenous populations who had their own system of land management and/or ownership in place for thousands of years before the intervention of colonists from rich industrialized nations. Colonialism turned previously self-sufficient economies into zones of agriculture export production. This process continues even today in different form of exploitation and the situation is worsening (Colchester and Lohmann, 1993).

3.2.2 Exploitation by industrialized countries

Wealthy countries or the erstwhile colonial powers having deficit of their own natural resources are mainly sustaining on the resources of the financially poorer countries those are generally natural resource rich. Twenty per cent of the world's population is using 80 per cent of the world's resources. Unfortunately also the governments of these poor resource rich countries had generally adopted the same growth-syndrome as their western neighbours or their erstwhile colonial master giving emphasis on maximizing exports, revenues and exploiting their rich natural resources unsustainably for short-term gains. Moreover, corruption in government, the military and economic powers is well known. The problem is further worsened by the low price of the most Third World exports being realized in the international market (Colchester and Lohmann, 1993).

3.2.3 The debt burden

Pursuing the guided development agenda, the financially poorer countries are on a heavy international debt and now feeling the urgency of repaying these huge debts due to escalating interest rates. Such a situation compels these debt ridden poorer countries to

exploit their rich natural resources including their forests partly to earn foreign exchange for servicing their debts. For instance, construction of roads for logging operations in some south-east Asian countries was funded by Japanese aid which allowed the Japanese timber companies to exploit the forests of these countries. Understandably, these timber companies profitably exploited the forests while the South-east Asian countries were left owing Japan money for construction of their roads (Colchester and Lohmann, 1993).

3.2.4 Overpopulation and poverty

The role of population in deforestation is a contentious issue (Mather, 1991; Colchester and Lohmann, 1993; Cropper and Griffiths, 1994; Ehrhardt-Martinez, 1998; Sands, 2005). The impact of population density on deforestation has been a subject of controversy. Poverty and overpopulation are believed to be the main causes of forest loss according to the international agencies such as FAO and intergovernmental bodies. It is generally believed by these organizations that they can solve the problem by encouraging development and trying to reduce population growth. Conversely, the World Rainforest Movement and many other NGOs hold unrestrained development and the excessive consumption habits of rich industrialized countries directly responsible for most forest loss. However there is good evidence that rapid population growth is a major indirect and over-arching cause of deforestation. More people require more food and space which requires more land for agriculture and habitation. This in turn results in more clearing of forests. Arguably increasing population is the biggest challenge of all to achieve sustainable management of human life support systems and controlling population growth is perhaps the best single thing that can be done to promote sustainability. Overpopulation is not a problem exclusive to Third World countries. An individual in an industrialized country is likely to consume in the order of sixty times as much of the world's resources as a person in a poor country. The growing population in rich industrialized nations are therefore responsible for much of the exploitation of the earth and there is a clear link between the overconsumption in rich countries and deforestation in the tropics (Colchester and Lohmann, 1993).

Poverty and overpopulation are inextricably linked. Poverty, while undeniably responsible for much of the damage to rainforests, has to a large extent been brought about by the greed of the rich industrialized nations and the Third World elites who seek to emulate them. Development is often regarded as the solution to world poverty, seldom helps those whose need is greatest. Thus, it is often the cause rather than the cure for poverty. The claim that overpopulation is the cause of deforestation is used by many governments and aid agencies as an excuse for inaction. In tropical countries, pressure from human settlement comes about more from inequitable land distribution than from population pressure. Generally, most of the land is owned by small but powerful elite which displaces poor farmers into rainforest areas. So long as these elites maintain their grip on power, lasting land reform will be difficult to achieve (Colchester and Lohmann, 1993) and deforestation continues unabated. Therefore poverty is well considered to be an important underlying cause of forest conversion by small-scale farmers and naturally forest-dense areas are frequently associated with high levels of poverty (Chomitz *et al.*, 2007). The population also often lacks the finance necessary for investments to maintain the quality of soil or increase yields on the existing cleared land (Purnamasari, 2010). Deforestation is affected mainly by the uneven distribution of wealth. Shifting cultivators at the forest frontier are among the poorest and most marginalized sections of the population. They usually own no land and have little

orld deforestation

ding to Professor Norman Myers, one of the foremost authorities on rates of estation in tropical forests, "the annual destruction rates seems set to accelerate further ould well double in another decade" (Myers, 1992). Mostly deforestation has occurred temperate and sub-tropical areas. Deforestation is no longer significant in the oped temperate countries now and in fact many temperate countries now are ing increases in forest area (Anon., 1990a; 2010). In most instances developed nations ated in temperate domains and developing nations in tropical domains. However estation was significantly less in tropical moist deciduous forest in 1990-2000 than 990 but using satellite imagery it was found that FAO overestimated deforestation of al rainforests by 23 per cent (Anon., 2001a, b). However the definition of what is and is not forest remains controversial. The tropical rainforests capture most attention but r cent of the deforestation that occurred in tropical forests during 1990-2010 was in deciduous and dry forests.

ever extensive tropical deforestation is a relatively modern event that gained entum in the 20th century and particularly in the last half of the 20th century. The FRA 2001 and 2010 reports indicate considerable deforestation in the world during 0-2010 but this was almost entirely confined to tropical regions (Anon., 2001a; 2010). A mary of deforestation during the decades 1990-2010 is given in tables 1 and 2. These s show there was considerable deforestation in the world during 1990-2010 but this almost entirely confined to tropical regions. Rowe *et al.* (1992) estimated that 15 per of the world's forest was converted to other land uses between 1850 and 1980. restation occurred at the rate of 9.2 million hectares per annum from 1980-1990, 16 lion hectares per annum from 1990-2000 and decreased to 13 million hectares per num from 2000-2010. The net change in forest area during the last decade was mated at -5.2 million hectares per year, the loss area equivalent to the size of Costa a or 140 km² of forest per day, was however lesser than that reported during 1990-2000 ich was 8.3 million hectares per year equivalent to a loss of 0.20 per cent of the aining forest area each year. The current annual net loss is 37 per cent lower than that the 1990s and equals a loss of 0.13 per cent of the remaining forest area each year ing this period. By contrast some smaller countries have very high losses per year and y are in risk of virtually losing all their forests within the next decade if current rates of