To,

The Principal

K. K. Wagh College of Agriculture,

Nashik

Subject: Regarding permission for Certificate Course....

Respected Sir,

On behalf of the Department of Agricultural Engineering, we humbly request permission to initiate a certificate course titled **'Application of Remote Sensing and GIS in Water Resource Management'**. This course is scheduled from 14/11/2022 to 18/11/2022 and will involve approximately 20 final-year students. It is anticipated that this course will greatly benefit our students in getting deeper knowledge of application of RS and GIS in management of water resources.

. We kindly ask for your approval for the implementation of this course.

Thanking You,

Yours faithfully,

(Prof. D. R. Patil)

Course Coordinator

Permission granted

7/11

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College Code;11135   **AISHE Code: C-50690**

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Certificate course in

'Application of Remote Sensing and GIS in Water Resource Management'

Academic Year 2022-23

Syllabus Committee

Sr No.	Name of teacher	Designation	Department	Role in course
1	Prof. D. R. Patil	Assistant Professor	Agricultural Engineering	Course coordinator
2	Prof. P. V. Shinde	Assistant Professor	Soil Science	Committee member
2	Prof. S. V. Sonawane	Assistant Professor	Agronomy	Committee member
3	Prof. S. A. Hulgunde	Assistant Professor	Agricultural Metereology	Committee member

Course Coordinator

(D. R. patil)

Principal
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NASHIK-3

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Date:02/03/2023

Academic Year 2022-23
Department of Agricultural Engineering
Minutes of the Board of Studies Meeting for the Short-Term Certificate Course

A meeting of the Board of Studies for the Short-term Certificate Course in **Application of Remote Sensing and GIS in Water Resource Management** ' was convened on 1 March 2023, at 12:00 PM in the Department of Agricultural Engineering. The meeting was attended by the following Syllabus Design Committee members:

Sr no	Name of the expert	Designation	Sign
1	Dr. S. M. Hadole	Principal	
2	Prof. D. R.Patil	Course Coordinator	
3	Prof. P. V. Shinde	Member	
3	Prof. S. V. Sonawane	Member	
4	Prof. S. A. Hulgunde	Member	

Minutes of Meeting

The Board of Studies convened a meeting on 10 November 2022, at 10:30 AM in the Department of Agricultural Engineering to address various aspects concerning the Short-Term Certificate Course in 'Application of Remote Sensing and GIS in Water Resource Management'. The meeting focused on the following key points:

1. Syllabus Formation: Members deliberated on developing a syllabus that emphasizes on relevant knowledge and skills in remote sensing.
2. Dissemination of Work: Strategies for effectively teaching remote sensing techniques were discussed to aid students in the course.
3. Encouragement of Students: The meeting stressed the importance of offering guidance and motivation to students.
4. Examination of Short-Term Course: The examination structure and assessment methods for the short-term course were reviewed. The board explored ways to ensure fair and comprehensive evaluations that accurately assess students'

The meeting concluded with a commitment to refine the course and its delivery methods to better meet the needs of students enrolled in the Certificate Course in 'Application of Remote Sensing and GIS in Water Resource Management'

Course coordinator

(D.R.patil)

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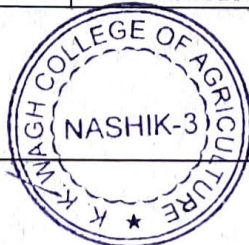
Certificate course on

"Application of Remote Sensing and GIS in Water Resource Management"

Academic Year 2022-23

Syllabus outcomes:

1. Acquire hands-on skills in using GIS software for data collection, processing, and analysis
2. Participants will get deeper knowledge of application of RS and GIS in management of water resources
3. The program will enhance the practical applicability of this scientific area for varied applications.
4. Participant will visualize and communicate water resource information effectively through maps and geospatial visualizations.

Sr. No.	Topic	Description	No. of lectures
1.	Introduction of RS and GIS	• Fundamentals of RS and GIS • Installation of QGIS software	6 hours
2.	Geo-processing tools	• Georeferencing • DEM • Image classification • Land use land cover classification (Supervised and unsupervised classification)	6 hours
3.	Water Resource Monitoring and Visualization	• Utilizing remote sensing data for water resource monitoring • Mapping and visualizing water quality parameters • Real-time monitoring and sensor integration in GIS	6 hours
4.	Groundwater management	• Assessing and monitoring groundwater resources using GIS • Modelling groundwater flow and	6 hours

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		contaminant transport • Managing and visualizing well data in GIS	
5.	Climate Change and Water Resource Management	• Understanding the impact of climate change on water resources • Using GIS for climate change adaptation and resilience planning • Integrating climate data and models into water resource management	6 hours

Course Coordinator

(Ð·R·पाजि)

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Date: 09/11/2022

Student Notice

All the students of B. Sc. (Hons.) Agriculture final year are informed that for the academic year 2022-23 the Certificate Course on **'Application of Remote Sensing and GIS in Water Resource Management'** is starting from 14/11/2022 to 18/11/2022. For this certificate course students should submit their names to the Certificate Course Coordinator Assistant Prof. D. R. Patil up to 12/11/2022.

Duration: 30 Hrs. 14/11/2022 to 18/11/2022
Time: Morning Session: 10.00 am to 1.00 pm
      Afternoon session: 2.00pm to 5.00 pm

Note: This course is free of cost to all students.

Course Coordinator
(D. R. Patil)

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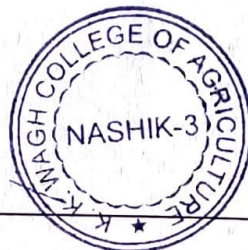Saraswatinagar, Panchavati, Nashik

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Department of Agricultural Engineering
Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23
Enrolled Student List

SR NO	REGISTRATION NO	NAME OF STUDENT
1	AKN-2019/005	Arote Shruti Shekhar
2	AKN-2019/014	Bhosale Omkar Shriram
3	AKN-2019/021	Chinchole Tejas Dattatray
4	AKN-2019/023	Darkunde Aditi Anil
5	AKN-2019/043	Gangurde Parnika Ashok
6	AKN-2019/048	Gavande Ruturaj Bharat
7	AKN-2019/057	Jagtap Sakshi Santosh
8	AKN-2019/059	Jawale Preeti Ashok
9	AKN-2019/064	Kalhapure Suyog Sanjay
10	AKN-2019/071	Labhade Pradip Sanjay
11	AKN-2019/077	More Rutuja Dipak
12	AKN-2019/092	Patil Rachana Sanjay
13	AKN-2019/099	Pingle Ravi Chandrabhan
14	AKN-2019/108	Shisav Amol Satish
15	AKN-2019/110	Solunke Kalpesh Gangadhar
16	AKN-2019/121	Bankar Krishnakant Narayan
17	AKN-2019/122	Chaudhari Amegha Madhav
18	AKN-2019/124	Shelar Samruddhi Mahendra
19	AKN-2019/125	Suryawanshi Divya Dnyaneshwar
20	AKN-2019/126	Khairnar Lalit Kailas

Course Coordinator

(D ·R·pati)

PR **Principal**
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Department of Agricultural Engineering
Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23
Schedule of the course

Sr no	Topic	Description	Name of the teacher	Department
1.	Introduction of RS and GIS	Fundamentals of RS and GIS, Installation of QGIS software	Prof. D. R. Patil	Agril. Engg
2.	Geo-processing tools	Georeferencing, DEM, Image classification, Land use land cover classification (Supervised and unsupervised classification)	Prof. D. R. Patil	Agril. Engg
3.	Water Resource Monitoring and Visualization	Utilizing remote sensing data for water resource monitoring, Mapping and visualizing water quality parameters, Real-time monitoring and sensor integration in GIS	Prof. S. A. Hulgunde	Agricultural Metereology
4.	Groundwater management	Assessing and monitoring groundwater resources using GIS, Modelling groundwater flow and contaminant transport, Managing and visualizing well data in GIS	Prof. P. V. Shinde	Soil Science
5.	Climate Change and Water Resource Management	Understanding the impact of climate change on water resources, Using GIS for climate change adaptation and resilience planning, Integrating climate data and models into water resource management	Prof. S. V.Sonawane Prof. D. R. Patil	Agronomy Agril. Engg.

Course Coordinator

(D.R.patil)

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Department of Agricultural Engineering

Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23

Time Table

Sr no	Date	Time		Topic
1	14/11/2022	10.00 am- 01.00 pm	02.00 pm 05.00 pm	Introduction of RS and GIS
2	15/11/2022	10.00 am- 01.00 pm	02.00 pm 05.00 pm	Geo-processing tools
3	16/11/2022	10.00 am- 01.00 pm	02.00 pm 05.00 pm	Water Resource Monitoring and Visualization
4	17/11/2022	10.00 am- 01.00 pm	02.00 pm 05.00 pm	Groundwater management
5	18/11/2022	10.00 am- 01.00 pm	02.00 pm 05.00 pm	Climate Change and Water Resource Management

Course Coordinator

(D.R.pati)

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K K WAGH COLLEGE OF AGRICULTURE, NASHIK

Department of Agricultural Engineering

Certificate course in 'Application of Remote Sensing and GIS in Water Resource Management'

Sr no	Registration no	Name of students	14/11/2022		15/11/2022		16/11/2022		17/11/2022		18/11/2022	
		Date: Time:	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00	10.00-1.00	2.00-5.00
1	AKN-2019/005	Arote Shruti Shekhar	Arote	Arote	Arote	Arote	Arote	Arote	Arote	Arote	Arote	Arote
2	AKN-2019/014	Bhosale Omkar Shriram	Gulbar	Barbar	Omkar	Barbar	Ombar	Ombar	Ombar	Ombar	Ombar	Ombar
3	AKN-2019/021	Chinchole Tejas Dattatray	Cajics	Cgjes	Cajics	Cajics	Cajics	Cajics	Cajics	Cajics	Cajics	Cajics
4	AKN-2019/023	Darkunde Aditi Anil	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi	Aditi
5	AKN-2019/043	Gangurde Parnika Ashok	Parnik	Parnik	Parnik	Parnik	Parnik	Parnik	Parnik	Parnik	Parnik	Parnik
6	AKN-2019/048	Gavande Ruturaj Bharat	Gavand	Gavand	Gavand	Gavand	Gavand	Gavand	Gavand	Gavand	Gavand	Gavand
7	AKN-2019/057	Jagtap Sakshi Santosh	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps	Jagtaps
8	AKN-2019/059	Jawale Preeti Ashok	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti	Preeti
9	AKN-2019/064	Kalhapure Suyog Sanjay	Suyog	Suyog	Suyog	Suyog	Suyog	Suyog	Suyog	Suyog	Suyog	Suyog
10	AKN-2019/071	Labhade Pradip Sanjay	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade	Pabhade
11	AKN-2019/077	More Rutuja Dipak	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja	Rutuja
12	AKN-2019/092	Patil Rachana Sanjay	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil	RPatil
13	AKN-2019/099	Pingle Ravi Chandrabhan										
14	AKN-2019/108	Shisav Amol Satish	Amol	Amol	Amol	Amol	Amol	Amol	Amol	Amol	Amol	Amol
15	AKN-2019/110	Solunke Kalpesh Gangadhar										
16	AKN-2019/121	Bankar Krishnakant Narayan	Barbar	Barbar	Barbar	Barbar	Barbar	Barbar	Barbar	Barbar	Barbar	Barbar
17	AKN-2019/122	Chaudhari Amegha Madhav	Amegha	Amegha	Amegha	Amegha	Amegha	Amegha	Amegha	Amegha	Amegha	Amegha
18	AKN-2019/124	Shelar Samruddhi Mahendra	Shru	Shru	Shru	Shru	Shru	Shru	Shru	Shru	Shru	Shru
19	AKN-2019/125	Suryawanshi Divya Dnyaneshwar	Divya	Divya	Divya	Divya	Divya	Divya	Divya	Divya	Divya	Divya
20	AKN-2019/126	Khairnar Lalit Kailas	Lalit	Lalit	Lalit	Lalit	Lalit	Lalit	Lalit	Lalit	Lalit	Lalit

Course Coordinator
(D R Patil)

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Department of Agricultural Engineering

Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23

Exam Time Table

All enrolled students of the Certificate Course are hereby informed that for the academic year 2022-23, the Certificate Course on 'Application of Remote Sensing and GIS in Water Resource Management' has been completed. The examination for this certificate course is scheduled to be conducted on 19/11/2022. Therefore, all students are required to be present without exception.

Note: Time Table is as follow

Sr no	Date	Time	Certificate course subject
1	19/11/2022	11:00 to 12:00 pm	Theory exam: Application of Remote Sensing and GIS in Water Resource Management
2		02:00 to 03:00 pm	Practical Exam: Application of Remote Sensing and GIS in Water Resource Management

Course Coordinator
(A.R.Patil)

Exam Incharge

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K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23

Examination Methodology

Sr no	Nature of exam	Marks
1	Written	30
2	Practical	20
3	Total	50

Reference:

1. Anji Reddy, Remote Sensing and Geographical Information Systems, BS Publications 2001.
2. M.G. Srinivas, Remote Sensing Applications, Narosa Publishing House, 2001.
3. Lillesand T.M. and Kiefer R.W. Remote Sensing and Image Interpretation, John Wiley and Sons, Inc, New York.
4. Janza.F.J., Blue, H.M., and Johnston, J.E., Manual of Remote Sensing Vol.I, American Society of Photogrammetry, Virginia, U.S.A, 1975.
5. Barrow., G. M., 1962, Introduction to Molecular Spectroscopy, New York, McGraw-Hill.
6. Mather, P. M., 1987, Computer Processing of Remotely Sensed Images: An Introduction, John Wiley & Son.
7. Fisher., J., 1989, The pixel, a snare and a delusion, International Journal of Remote Sensing, 18, pp. 679-685
8. Hunt., G. R, Salisbury, J. W., and Lenyoff, C. J., 1973, Visible and Near Infrared Spectra of Minerals and Rocks. V11. Acidic Igneous Rocks, Modern Geology, Vol. 4, pp 217-224.
9. Curran., P., 1989, Principles of Remote Sensing, Longman, London.

Course Coordinator

(D.R.Patil)

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STUDENT REGISTRATION FORM

Academic Year: 2022-23

(Department of Agricultural Engineering)

CERTIFICATE COURSE

'Application of Remote Sensing and GIS in Water Resource Management'

For Department Use Only

Registration No.: AKN-2019/064

Name of the Student: Kalhapure Suyog Sanjay

Mother's Name: Manisha

Father's Name: Kalhapure Sanjay Kecu   Year: 1st /2nd /3rd/4th

E-Mail ID: Suyogkalhapure@gmail.com

Address: At. post Khadambe Khurd. Tal. Rahuri Dist. A'Nagar,

State: Maharashtra   PIN Code: 413704.

Mobile No: 8888440705   Alternate contact number:

Gender: Male [✓]   Female [ ]   Other [ ]   Religion: Hindu.

Date of Birth: 1/06/1973.

Educational Qualification (at the time of admission):

HSC ...✓...   Other ....

Signature of Student

Place: Nashik

Date: 10/11/22.

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STUDENT REGISTRATION FORM

Academic Year: 2022-23
(Department of Agricultural Engineering)

CERTIFICATE COURSE
'Application of Remote Sensing and GIS in Water Resource Management'

For Department Use Only

Registration No.:......AKN - 2019/043...........

Name of the Student: ...GANGURDE...PARNIKA....ASHOK........................

Mother's Name: ....GANGURDE.....PORNIMA.....ASHOK.........................

Father's Name: ...GANGURDE.....ASHOK...RUNJAJI....Year:1st /2nd /3rd/4th

E-Mail ID: ..gparnika.12.@.gmail.com...................................

Address: ...RH..No.:01., ANIKA.PARK...,OPP...S.I.WORKSHOP..PETH.ROAD , NASHIK

State:..MAHARASHTRA.......   PIN Code:...422003...........................

Mobile No: .9326859203... Alternate contact number:.8766956071........

Gender: Male [ ]   Female [✓]   Other [ ]   Religion: BUDDHISM

Date of Birth:.....18.l11.2000.....................

Educational Qualification (at the time of admission):

HSC ....✓............. Other ....

Signature of Student

Place: NASHIK

Date: 10|11| 2022

K. K. Wagh College of Agriculture, Nashik

Department of Agricultural Engineering

Certificate course in

'Application of Remote Sensing and GIS in Water Resource Management'

Academic Year 2022-23

Theory Examination

Class:		Semester	
Day and Date		Time	
Subject		Marks	
Name of Student		Registration Number	

Multiple Choice Questions

Q1. In _____ type of remote sensing, the Sun is primary source of energy.	
1. Active	2. Passive
3. Both A and B	4. None of the above

Q2. GIS stands for _____.	
1. Geographic Information system	2. Geographic internal system
3. Global Information System	4. None of the above

Q3. A process where a survey plan or hard copy is a map and is represented digital medium using geo-referencing capabilities and CAD tool is called _____ technique.	
1. Digitization	2. Modulation
3. Demodulation	4. None of the abov

Q4. What is the function of geoprocessing?	
1 Manipulates global data	2 Manipulates spatial data
3 Manipulates local data	4 None of the above

Q5. Remote sensing uses which of the following waves in its procedure?	
1. Electric field	2. Sonar waves
3. Gamma- rays	4. Electro-magnetic waves

Q6. _____ represented the first unmanned satellite designed to acquire data about the earth resources on a systematic, repetitive, medium resolution, multispectral basis.	
1. IRS	2. Meteorological satellite
3. SPOT satellite	4. Landsat Satellite

Q7. Which plays an important role in resolving various earth's surface features from the interpretation of satellite imagery?	
1. Spectral Scanning	2. Radiometric resolution
3. Spatial resolution	4. Land satellite

Q8. Among the available formats, which are most commonly used in case of GIS?	
1. GIF	2. TIFF
3. JPEG	4. DXF

Q9. Which of the following can be used for representing a real world feature on two dimensional surfaces?	
5. Plan	6. Drawing
7. Scale	8. Map

Q10. Which of the following is not one of the software's of GIS?	
1. Arc GIS	2. RS GIS
3. Q GIS	4. Super GIS

Q11. _____ imaging systems use conventional type cameras	
1. multispectral	2. thermal
3. infra-red	4. microwave

Q12. The refractive index of the ocean water:	
1. increases with salinity	2. increases with temperature
3. decreases with salinity	4. decreases with temperature

Q13. The arrangement of terrain features which provides attributes: the shape, size and texture of objects, is called	
1. spectral variation	2. spatial variation
3. temporal variation	4. None of these

Q14. Which one of the following errors is produced by platform characteristics of the sensor ?	
1. altitude variation	2. altitude
3. orbit drift	4. All of these

Q15. A perfectly black body :	
1. is a diffuse emitter	2. absorbs radiations wave lengths
3. emits power of every wave length	4. All the above

Q16. The most widely used antenna in GPS is	
1. Parabolid antenna	2. Microstrip antenna
3. Horn antenna	4. Slotted antenna

Q17. Which one of the following parameters is considered to determine the reflectance of a vegetation canopy	
1. Solar zenith angle	2. Azimuth angle
3. Look angle	4. All of these

Q18. A reduction of nitrogen nutrient in plants :	
1. affects leaf colour	2. reduces pigment concentration
3. increase the visible reflectivity	4. All of these

Q19. The altitudinal distance of a geostationary satellite from the earth is about:	
1. 26, 000 km	2. 30, 000 km

3. 36, 000 km	4. 44, 000 km
Q20. The infrared portion of EMR lies between	
1. 0.4 – 0.7 µm	2. 0.5 mm to 1m
3. 0.7 – 1.3 µm	4. 0.7 to 14 µm
Q21. Which one of the following attributes is not associated with digital maps	
1. colour	2. symbology
3. legends	4. south arrow
Q22. The changes in the reflectivity/emis-sivity with time, is called :	
1. spectral variation	2. spatial variation
3. temporal variation	4. None of these
Q23. Scale used for mapping multispectral satellite data is_____	
1. 1:20000	2. 1:500
3. 1:50,000	4. 1:5000
Q24. The co-ordinate reference system used by GPS is known as	
1. WGS 45	2. WGS 84
3. WGS 89	4. WGS 88
Q25. The zero-degree longitude is termed as_____	
1. Anti meridian	2. Prime meridian
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Q26. GIS represents a location in _____ dimensional coordinates.	
1. 2	2. 3
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Q27. UAV stands for _____.	
1. Unmanned aerial vehicle	2. Uni aerial vehicle
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Q28. Oblique photographs are taken in an _____ direction.	
1. Horizontal	2. Vertical
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Q29. Which of the following process are included in photogrammetry?	
1. Recording	2. Measuring
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1. Plane matrix	2. Dot-matrix
3. Continuous matrix	4. None of the above

Answers Sheet

1. Active
2. Geographic Information system
3. Digitization
4. Manipulates spatial data
5. Electro-magnetic waves
6. Landsat Satellite
7. Spatial resolution
8. TIFF
9. Map
10. RS GIS
11. Multispectral
12. increases with salinity
13. spatial variation
14. All of these
15. All the above
16. Microstrip antenna
17. All of these
18. All of these
19. 36, 000 km
20. 0.7 to 14 μm
21. south arrow
22. temporal variation
23. 1:50,000
24. WGS 84
25. Prime meridian
26. 3
27. Unmanned aerial vehicle
28. Angled
29. All the above
30. Dot-matrix

K. K. Wagh Education Society's
K. K. Wagh College of Agriculture,
(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)
Saraswati Nagar, Panchavati, Nashik- 422 003. Maharashtra
College Code;11135   AISHE Code: C-50690

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Department of Agricultural Engineering
Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23
Exam Block Report

Class- Final Year

Date- 19/11/2022

Subject: Theory exam: Application of Remote Sensing and GIS in Water Resource Management

Block no: 01

SR NO	REGISTRATION NO	NAME OF STUDENT	SIGN
1	AKN-2019/005	Arote Shruti Shekhar	Arote
2	AKN-2019/014	Bhosale Omkar Shriram	Omkar
3	AKN-2019/021	Chinchole Tejas Dattatray	Tejas
4	AKN-2019/023	Darkunde Aditi Anil	Aditi
5	AKN-2019/043	Gangurde Parnika Ashok	Parni
6	AKN-2019/048	Gavande Ruturaj Bharat	Gavande
7	AKN-2019/057	Jagtap Sakshi Santosh	Jagtaps
8	AKN-2019/059	Jawale Preeti Ashok	Preeti
9	AKN-2019/064	Kalhapure Suyog Sanjay	Suyog
10	AKN-2019/071	Labhade Pradip Sanjay	Pabhade
11	AKN-2019/077	More Rutuja Dipak	Rutuja
12	AKN-2019/092	Patil Rachana Sanjay	Rachu
13	AKN-2019/099	Pingle Ravi Chandrabhan	
14	AKN-2019/108	Shisav Amol Satish	Aml
15	AKN-2019/110	Solunke Kalpesh Gangadhar	
16	AKN-2019/121	Bankar Krishnakant Narayan	Bankar
17	AKN-2019/122	Chaudhari Amegha Madhav	Amegha
18	AKN-2019/124	Shelar Samruddhi Mahendra	Shru
19	AKN-2019/125	Suryawanshi Divya Dnyaneshwar	Divya
20	AKN-2019/126	Khairnar Lalit Kailas	Lalit

Total no of student: 2 0
No of student present: 2 0
No of students absent: 0 0

Name and Sign of Jr. Supervisor

(O R.Patil)

(Jadhav A C)
Name and Sign of Sr. Supervisor

K. K. Wagh College of Agriculture, Nashik

Department of Agricultural Engineering
Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23

Theory Examination

30/30

Class:	FINAL YEAR	Semester	VII
Day and Date	19/11/2022	Time	10:00 – 11:00 AM
Subject	AGRICULTURAL ENGINEERING	Marks	30
Name of Student	GANGURDE PARNIKA ASHOK	Registration Number	AKN -2019/043

Multiple Choice Questions

Q1. In _____ type of remote sensing, the Sun is primary source of energy.

1. Active ✓	2. Passive
3. Both A and B	4. None of the above

Q2. GIS stands for _____.

1. Geographic Information system ✓	2. Geographic internal system
3. Global Information System	4. None of the above

Q3. A process where a survey plan or hard copy is a map and is represented digital medium using geo-referencing capabilities and CAD tool is called _____ technique.

1. Digitization ✓	2. Modulation
3. Demodulation	4. None of the abov

Q4. What is the function of geoprocessing?

1 Manipulates global data	2 Manipulates spatial data ✓
3 Manipulates local data	4 None of the above

Q5. Remote sensing uses which of the following waves in its procedure?

1. Electric field	2. Sonar waves
3. Gamma- rays	4. Electro-magnetic waves ✓

Q6. _____ represented the first unmanned satellite designed to acquire data about the earth resources on a systematic, repetitive, medium resolution, multispectral basis.

1. IRS	2. Meteorological satellite
3. SPOT satellite	4. Landsat Satellite ✓

Q7. Which plays an important role in resolving various earth's surface features from the interpretation of satellite imagery?

1. Spectral Scanning	2. Radiometric resolution
3. Spatial resolution ✓	4. Land satellite

Q8. Among the available formats, which are most commonly used in case of GIS?

1. GIF	2. TIFF
3. JPEG	4. DXF

Q9. Which of the following can be used for representing a real world feature on two dimensional surfaces?

5. Plan	6. Drawing
7. Scale	8. Map

Q10. Which of the following is not one of the software's of GIS?

1. Arc GIS	2. RS GIS
3. Q GIS	4. Super GIS

Q11. _____ imaging systems use conventional type cameras

1. multispectral	2. thermal
3. infra-red	4. microwave

Q12. The refractive index of the ocean water:

1. increases with salinity	2. increases with temperature
3. decreases with salinity	4. decreases with temperature

Q13. The arrangement of terrain features which provides attributes: the shape, size and texture of objects, is called

1. spectral variation	2. spatial variation
3. temporal variation	4. None of these

Q14. Which one of the following errors is produced by platform characteristics of the sensor ?

1. altitude variation	2. altitude
3. orbit drift	4. All of these

Q15. A perfectly black body :

1. is a diffuse emitter	2. absorbs radiations wave lengths
3. emits power of every wave length	4. All the above

Q16. The most widely used antenna in GPS is

1. Parabolid antenna	2. Microstrip antenna
3. Horn antenna	4. Slotted antenna

Q17. Which one of the following parameters is considered to determine the reflectance of a vegetation canopy

1. Solar zenith angle	2. Azimuth angle
3. Look angle	4. All of these

Q18. A reduction of nitrogen nutrient in plants :

1. affects leaf colour	2. reduces pigment concentration
3. increase the visible reflectivity	4. All of these

Q19. The altitudinal distance of a geostationary satellite from the earth is about:

1. 26, 000 km	2. 30, 000 km

3. 36, 000 km	4. 44, 000 km

Q20. The infrared portion of EMR lies between

1. 0.4 – 0.7 μm	2. 0.5 mm to lm
3. 0.7 – 1.3 μm	4. 0.7 to 14 μm

Q21. Which one of the following attributes is not associated with digital maps

1. colour	2. symbology
3. legends	4. south arrow

Q22. The changes in the reflectivity/emis-sivity with time, is called :

1. spectral variation	2. spatial variation
3. temporal variation	4. None of these

Q23. Scale used for mapping multispectral satellite data is_____

1. 1:20000	2. 1:500
3. 1:50,000	4. 1:5000

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Department of Agricultural Engineering
Certificate course in
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Academic Year 2022-23

Student Result

Sr. No.	Registration no	Name of the students	Theory marks (30)	Practical Marks (20)	Mark Out of Total 50
1	AKN-2019/005	Arote Shruti Shekhar	28	19	47
2	AKN-2019/014	Bhosale Omkar Shriram	28	18	46
3	AKN-2019/021	Chinchole Tejas Dattatray	25	17	42
4	AKN-2019/023	Darkunde Aditi Anil	26	18	44
5	AKN-2019/043	Gangurde Parnika Ashok	30	19	49
6	AKN-2019/048	Gavande Ruturaj Bharat	27	18	45
7	AKN-2019/057	Jagtap Sakshi Santosh	23	17	40
8	AKN-2019/059	Jawale Preeti Ashok	27	18	45
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15	AKN-2019/110	Solunke Kalpesh Gangadhar	28	19	47
16	AKN-2019/121	Bankar Krishnakant Narayan	27	17	44
17	AKN-2019/122	Chaudhari Amegha Madhav	25	16	41
18	AKN-2019/124	Shelar Samruddhi Mahendra	25	17	42
19	AKN-2019/125	Suryawanshi Divya Dnyaneshwar	25	18	43
20	AKN-2019/126	Khairnar Lalit Kailas	26	18	44

Course Coordinator

(D.R.Patil)

PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

Department of Agricultural Engineering
Certificate course in
'Application of Remote Sensing and GIS in Water Resource Management'
Academic Year 2022-23

Report

K. K. Wagh Education Society's K. K. Wagh College of Agriculture, Saraswati-Nagar, Nashik which provide education in agriculture at U.G. level students. College has to decide introduce new Certificate Course in 'Application of Remote Sensing and GIS in Water Resource Management'. Total 20 students are enrolled from department of Agricultural Engineering. Due to this certificate course in 'Application of Remote Sensing and GIS in Water Resource Management' Students get deeper knowledge of application of RS and GIS in management of water resources and students visualize and communicate water resource information effectively through maps and geospatial visualizations.

Course outcome
1. Acquired hands-on skills in using GIS software for data collection, processing, and analysis
2. Participants gets deeper knowledge of application of RS and GIS in management of water resources
3. The program enhanced the practical applicability of this scientific area for varied applications.
4. Participant visualized and communicate water resource information effectively through maps and geospatial visualizations.

In academic year 2022-23 twenty students are enrolled for this certificate course. Course structure had been divided into theory and theory practical. Theory has 30 marks while theory practical has 20 marks weightage examination has been conducted for total 50 marks. Duration for this certificate course is 14/11/2022 to 18/11/2022 (Total 28 hrs.). The students who successfully completed the certificate course were given a certificate as appreciation by the college.

Course coordinator is Prof. D. R. Patil and member for this certificate course are, Prof. P. V. Shinde, Prof. S. V. Sonawane and Prof. S. A. Hulgunde.

Course Coordinator
(D. R. Patil)

PRINCIPAL
K.K.Wagh College of Agriculture
Saraswatinagar, Panchavati, Nashik

K K Wagh Education Society's

K K WAGH COLLEGE OF AGRICULTURE

(Affiliated to Mahatma Phule Krishi Vidyapeeth, Rahuri)

Saraswatinagar, Panchavati, Nashik - 422 003

Certificate

This is to certify that Mr. / Ms. ....Gangurde.. Parnika.. Ashok..............

Class..Final.Year..has completed Certificate Course on Application.. of. .R&.d..G.I.S..in

.Wake..Resource..Manage... from ...14.11.1.2022.. to ...18.1.11.12022.. organized by

....ment...

Department of ...Agricultural...Engineering..in academic year ...2022-23........

Date : 21 / 11 / 2022

Place : Nashik

Course Coordinator

Principal
K K Wagh College of Agriculture
Nashik