

# Memorandum of Understanding (MoU)

between



*Mantra*  
Geosolutions

**Mantra Geosolutions**

&

**Vivekanand College, Kolhapur (Autonomous),  
Maharashtra, India**



**KOLHAPUR  
(AUTONOMOUS)**

In accordance with a mutual desire to promote activities between Mantra Geosolutions, Kolhapur and Vivekanand College, Kolhapur (Autonomous), Maharashtra, India, the two institutions (organizations) agree to the following statement of intent on knowledge transfer by cultural, educational, technical, ethical and research cooperation.

Cooperation and development of activities may extend to any fields and subjects in which the two institutions may identify shared interests. The initial area of cooperation is academic and research collaborations.

The two institutions agree to cooperate in the following general areas;

1. Technical consultancy services in Hardware and software domain
2. To provide training in various areas to the employees
3. To support internship facility to students
4. Invitations extended to experts to participate in conferences and symposia.
5. Exchange of intellectual property, consultancy, corporate training, along with knowledge transfer, academic materials, and publications in fields of mutual interest.

Both parties agree that all financial arrangements necessary to implement this General Agreement or any subsequent agreements must be negotiated according to the regulations of each institution, dependent upon the availability of funds. Both parties recognize that this General Agreement establishes a foundation of mutual understanding and interest, and does not in itself entail any financial obligations to either organization.

This agreement for partnership, cooperation and scientific exchange shall remain in effect for a period of five (05) years from the date of the last signature, with the understanding that it may be terminated by either party given three (03) months written notice to the partner institute.

This agreement may be amended with the consent of both institutions through a written addendum executed by authorized individuals from both institutions.

**Dr. Nilesh K. Susware**

**Chairman**

Mantra Geosolutions, Kolhapur



**Dr. R. R. Kumbhar**

**Principal**

Vivekanand College, Kolhapur (Autonomous)

**Witness 1**

Mantra Geosolutions, Pune & Kolhapur  
Ambika Classic, Panchavati Colony,  
Talegaon Dabhade,  
Pune- Maharashtra 410506,  
Phone: +91 – 7798447199  
Email: [mantrageosolutions@gmail.com](mailto:mantrageosolutions@gmail.com)  
Date: 29/09/2022

**Witness 2**



**Dr. Shruti Joshi**  
IQAC Coordinator,  
Vivekanand College, Kolhapur (Autonomous)  
**Vivekanand College,**  
**Kolhapur**

Vivekanand College, Kolhapur (Autonomous)  
C.S. No 2130 "E" ward,  
Tarabai Park, Kolhapur – 416 003, India.  
Phone: +91 – 0231 – 2658612  
Email: [info@vivekanandcollege.org](mailto:info@vivekanandcollege.org)  
Date: 29/09/2022



# Mantra Geosolutions

05, Ambika Classic, Panchavati Colony, Talegaon Dabhade, Pune – 410506  
Contact: +91 87880 66055, Email- [mantrageosolutions@gmail.com](mailto:mantrageosolutions@gmail.com)

Ref No. MGS/LET/36/2022

Date: 12 Oct. 2022

To,  
The principal,  
Vivekanand College,  
Kolhapur. (Autonomous).

**Subject: Request for Software Training to Company Employees from college Staff.**

Respected Sir,

My name is Dr. Nilesh Susware, and I am writing on behalf of Mantra Solutions, Kolhapur to express our interest for software training program facilitated by your esteemed faculty. We are keen on providing our employees with an opportunity to enhance their skills in QGIS, Arc GIS, Erdas Imagine and Python Language and we believe that the expertise and guidance of your college teachers would greatly contribute to update their learning experience. The proposed training would ideally cover key aspects, and we are open to customizing the content based on the recommendations of your teachers. Having reviewed your College's reputation for fostering talent and providing comprehensive educational prospects, I believe this training course would greatly enhance our employee's skills and contribute to our professional growth.

We appreciate your consideration of this request and would be delighted to discuss the details further at your earliest convenience. We look forward to the possibility of working together to make this training initiative a success.

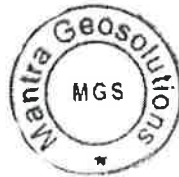
Thank you for your time and cooperation.

Thanks & Regards

*N. Susware*

Dr. Nilesh Kamalakar Susware  
Mantra Geosolutions  
Mob: +91 7798447199  
+91 8788066055

[mantrageosolutions@gmail.com](mailto:mantrageosolutions@gmail.com)  
[info@mantrageosolutions.com](mailto:info@mantrageosolutions.com)  
GST No.27AAXFM8967B1ZJ



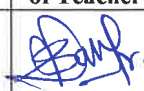






HOD  
Geo.  
*[Signature]*  
12.2.2022

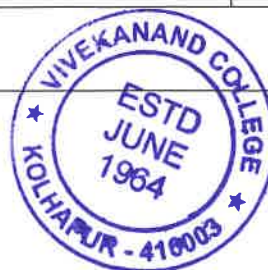
**A Corporate training program on  
"Advanced Geospatial Technologies Training: QGIS, ArcGIS,  
ERDAS, and Python Integration"**












**Organized by  
Department of Geography,  
Vivekanand College, Kolhapur (Autonomous)  
For Mantra Geosolutions**

**Program Schedule**

**Date: 1 November 2022 to 30 November, 2022**

Sr.	Day	Topics	Time	Signature of Teacher
1.	Tuesday	<ul style="list-style-type: none"> <li>• Introduction to computer language</li> <li>• Applications of computer language</li> </ul>	11m to 1pm	
2.	Wednesday	<ul style="list-style-type: none"> <li>• Applications of python language</li> <li>• Syntax of python and basic information about programming</li> </ul>	11am to 1.30pm	
3.	Thursday	<ul style="list-style-type: none"> <li>• Python data types</li> <li>• Python casting</li> <li>• Python strings</li> <li>• Python Booleans</li> <li>• Python operators</li> </ul>	11am to 4pm	
4.	Friday	<ul style="list-style-type: none"> <li>• Python lists</li> <li>• Python tuples</li> <li>• Python sets</li> <li>• Python dictionaries</li> <li>• Python if.....else</li> </ul>	11am to 4pm	
5.	Saturday	<ul style="list-style-type: none"> <li>• Python loops</li> <li>• Python function</li> <li>• Python lambda</li> <li>• Python arrays</li> <li>• Python</li> </ul>	11am to 5pm	
6.	<b>Sunday</b>	<b>Holiday</b>		
7.	Monday	<ul style="list-style-type: none"> <li>• Introduction of QGIS</li> <li>• How to Download Topo sheet from Survey of India</li> <li>• Georeferencing</li> <li>• How to create Shapefile</li> <li>• Digitization (Point, Line, Polygon)</li> <li>• Symbology and labeling</li> </ul>	11am to 5pm	
8.	Tuesday	<ul style="list-style-type: none"> <li>• Installation of ArcGIS</li> <li>• Introduction of ArcGIS</li> <li>• Georeferencing</li> <li>• How to create Shapefile</li> <li>• Digitization (Point, Line, Polygon)</li> <li>• Symbology and labeling</li> </ul>	11am to 5pm	
9.	Wednesday	<ul style="list-style-type: none"> <li>• QGIS And ArcGIS</li> </ul>	11am to	



		<ul style="list-style-type: none"> <li>• Introduction of Map layout</li> <li>• How to Download Shpfiles of India from DIVA GIS</li> <li>• How to Add shape file</li> <li>• Map layout</li> </ul>	5pm	
10.	Thursday	<ul style="list-style-type: none"> <li>• QGIS and ArcGIS</li> <li>• Analysis Tools</li> <li>• How to download DEM from USGS and Bhuvan</li> <li>• Add DEM</li> <li>• Merge DEM</li> <li>• Clip DEM</li> </ul>	11am to 5pm	
11.	Friday	<ul style="list-style-type: none"> <li>• Geometry Calculation</li> <li>• Projection Change (UTM EPSG: 32626/43N)(WGS 84)</li> <li>• 3D mapping</li> <li>• Buffer</li> <li>• Multibuffer ring</li> </ul>	11am to 5pm	
12.	Saturday	<ul style="list-style-type: none"> <li>• High Resolution Satellites information</li> <li>• How to download satellite images from USGS AND BHUVAN</li> <li>• Hydrology Tools</li> <li>• Conversion Tools</li> <li>• Watershed Delineation</li> </ul>	11am to 5pm	
13.	<b>Sunday</b>	<b>Holiday</b>		
14.	Monday	<ul style="list-style-type: none"> <li>• ARC SWAT Analysis</li> <li>• Composite Band</li> <li>• Landsat series</li> <li>• Remote sensing process</li> </ul>	11am to 5pm	
15.	Tuesday	(QGIS and ArcGIS) <ul style="list-style-type: none"> <li>• Layer stacking</li> <li>• Mosaic</li> </ul>	10am to 12pm	
16.	Wednesday	<ul style="list-style-type: none"> <li>• How to export attribute in xl and how to join excel in attribute in Arc and QGIS</li> </ul>	10am to 12pm	
17.	Thursday	<ul style="list-style-type: none"> <li>• Installation of ERDAS Software</li> <li>• Interface of ERDAS Software</li> </ul>	10am to 1pm	
18.	Friday	<ul style="list-style-type: none"> <li>• DIP lecture</li> </ul>	10am to 12pm	
19.	Saturday	<ul style="list-style-type: none"> <li>• Import image (tiff to image)</li> <li>• Layer stacking in ERDAS</li> </ul>	10am to 12pm	
20.	<b>Sunday</b>	<b>Holiday</b>		
21.	Monday	<ul style="list-style-type: none"> <li>• Mosaic in ERDAS</li> </ul>	10am to 12pm	
22.	Tuesday	<ul style="list-style-type: none"> <li>• Image Interpretation</li> </ul>	10am to	





		<ul style="list-style-type: none"> <li>Image interpretation by using mag at field work</li> </ul>	12pm	<i>Nisha</i>
23.	Wednesday	<ul style="list-style-type: none"> <li>Georeferencing in ERDAS software</li> </ul>	10am to 12pm	<i>Nisha</i>
24.	Thursday	<ul style="list-style-type: none"> <li>Image Enhancing</li> <li>Remove undefined value</li> </ul>	10am to 12pm	<i>Nisha</i>
25.	Friday	<ul style="list-style-type: none"> <li>Quick map Services in QGIS and ArcGIS</li> </ul>	10am to 12pm	<i>Nisha</i>
26.	Saturday	<ul style="list-style-type: none"> <li>Area of interest in ERDAS</li> <li>Image subset by using AOI</li> <li>AOI by using shapefile</li> </ul>	10am to 12pm	<i>Nisha</i>
27.	<b>Sunday</b>	<b>Holiday</b>		
28.	Monday	<ul style="list-style-type: none"> <li>Quick map services in QGIS and ArcGIS</li> </ul>	10am to 12pm	<i>Nisha</i>
29.	Tuesday	<ul style="list-style-type: none"> <li>Network Analysis</li> <li>Supervised and unsupervised lecture</li> </ul>	10am to 12pm	<i>Nisha</i>
30.	Wednesday	<ul style="list-style-type: none"> <li>Interpolation in ArcGIS</li> <li>Topology and Topology errors</li> </ul>	10 am to 12pm	<i>Nisha</i>
31.	Thursday	<ul style="list-style-type: none"> <li>Feedback</li> </ul>		

*[Signature]*  
**Dr. Shubhangi Kale**  
Assistant Professor  
Dept. of Geography



*[Signature]*  
**Dr. G. S. Ubale**  
**HEAD**  
DEPARTMENT OF GEOGRAPHY  
VIVEKANAND COLLEGE, KOLHAPUR  
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