MAPS TODAY

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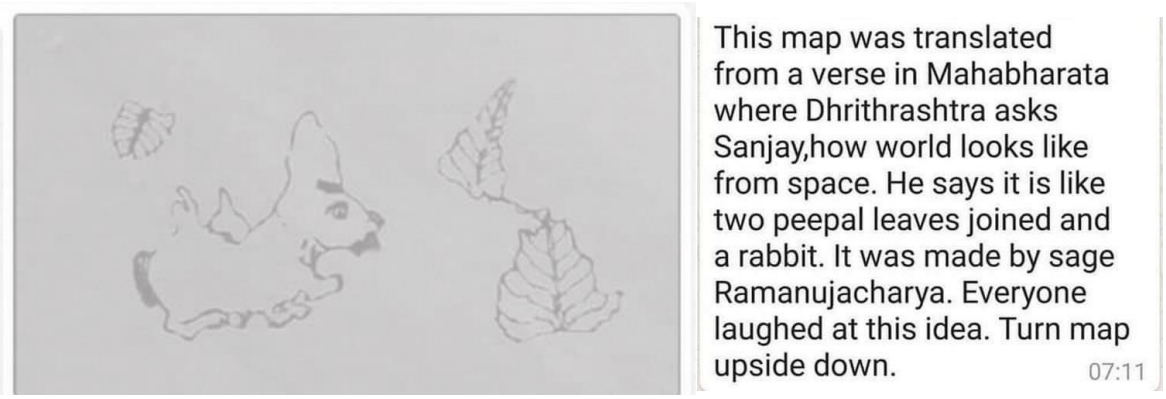
Issue No. 13 March 2021



Geo Map Quiz Question Paper No. 4
(GS Oberoi Inspired)

(organised by GeoMap Society in collaboration with Nishulk School, Khairatabad, Hyderabad email: geomapsociety@gmail.com)

a) *Questions are based on attached topographical sample map*
b) *To be answered in the format given at the end and returned within 30 minutes*
c) *This paper is planned for High School students to create understanding of maps in daily life and governance*
d) *Prizes for good performance*
e) *Certificates for participants*

Total Marks : 75 ***Time: 30 min***

Questions 1 to 5 carry 10 marks each

.1. Restrictions on maps introduced by the British have been removed under a new map policy declared in the year

(a) 2001 (b) 2021 (c) 2005

2. . Area of mango garden SW of Kalyanpur E1 Is approx.

(a) 40 hectares (b) 20 hectares (c) 10 hectares

3. Latitude value of Intersection of Rail and NH 30 in square B5 is

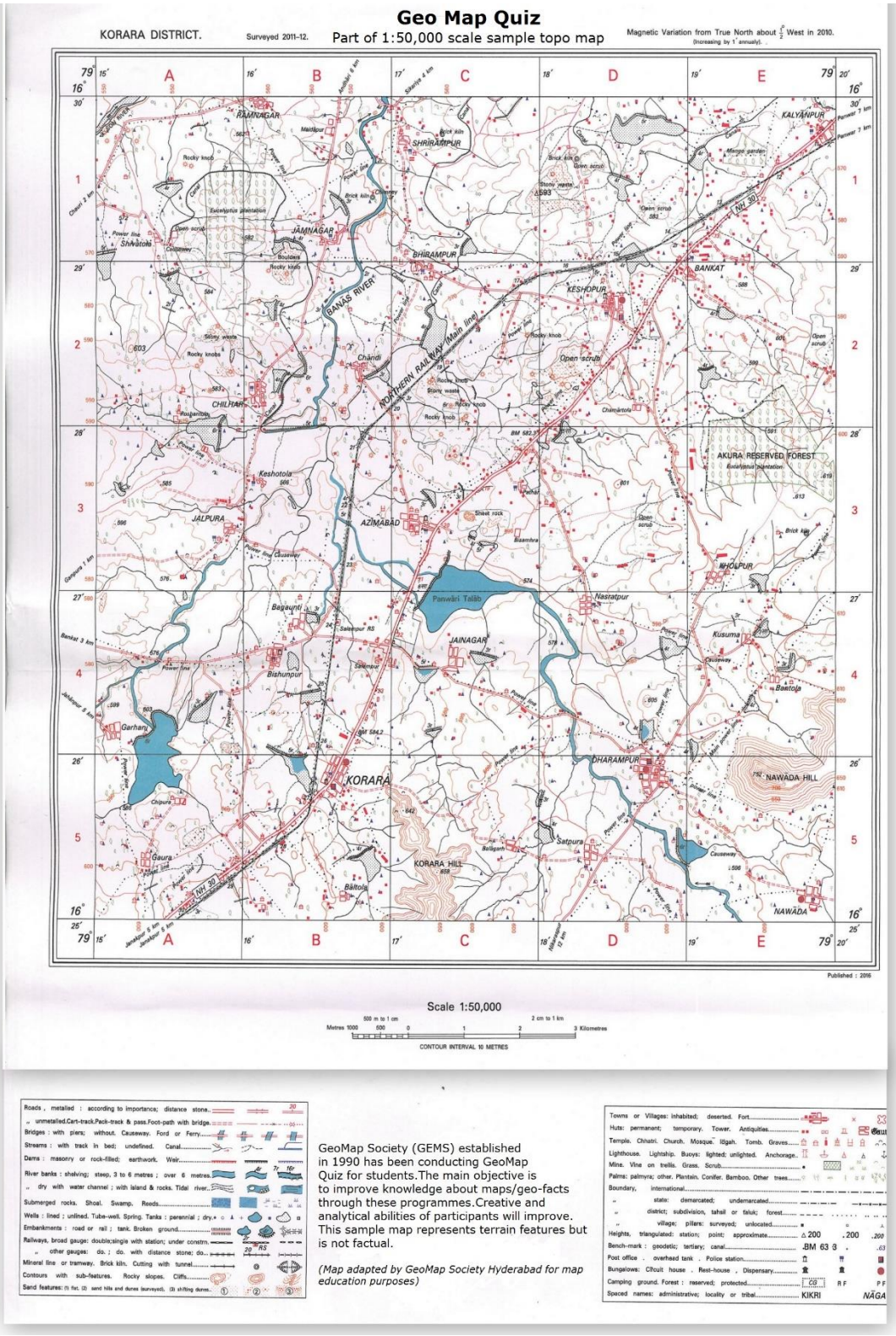
(a) 16^0 25' 30" (b) 16^0 25' 40" (c) 16^0 25' 10"

4. A Tower station is to be set up on a hill with MSL above 680 metres within 5 Kms of Satpura D5. The appropriate square is

(a) E 4 (b) C 5 (c) E 5

5. This village has Tube well, Temple, Power line and Dispensary

(a) Nawada E5 (b) Keshotola B3 (c) Kholpur E3


Geo Map Quiz
KORARA DISTRICT.
Surveyed 2011-12.
Part of 1:50,000 scale sample topo map
Magnetic Variation from True North about 1/2° West in 2010.
(Increasing by 1' annually).
RAMNAGAR
SHRIRAMPUR
KALYANPUR
JAMNAGAR
BHIRAMPUR
BANKAT
KESHOPUR
BANAS RIVER
NORTHERN RAILWAY (Main line)
CHILHAR
Keshotola
JALPURA
AZIMABAD
AKURA RESERVED FOREST
MHOLPUR
Panwari Talab
Nasratpur
Bagaunti
JAINAGAR
Kusuma
Bishunpur
Baatola
Garhara
DHARAMPUR
KORARA
NAWADA HILL
Gaura
KORARA HILL
Batola
NAWADA
Published : 2016
Scale 1:50,000
CONTOUR INTERVAL 10 METRES
GeoMap Society (GEMS) established in 1990 has been conducting GeoMap Quiz for students.The main objective is to improve knowledge about maps/geo-facts through these programmes.Creative and analytical abilities of participants will improve. This sample map represents terrain features but is not factual.
(Map adapted by GeoMap Society Hyderabad for map education purposes)

Content

Editorial

GeoMap Society (GEMS) / CARG, ICORG and INCA have initiated in 2020, a Webinar Series, every month.

New Map Policy 2021 effective from February 2021 has removed restrictions imposed during the British Rule on Indian Geospatial Data (Maps & Imagery). In the webinar on 28 February 2021 on " Geospatial data unchained", participants expressed hope of rapid growth in Map-based applications.

A GIS data base involves integration of spatial data from different sources with different parameters in respect of quality, accuracy, format, datum, coordinate system, etc. Some maps have no projection system. Thus Spatial Data Integration (SDI) is a challenging task. NSDI was formed recognising that spatial information is a national resource and citizens, society, private enterprise and government have a right to access it, appropriately. The new Map Policy has made this easier to implement. Webinar on 26 March is on this topic.

Most people in India are entangled in exploitative litigations regarding lnad/property ownership. To solve this problem, Indian government under PM Narendra Modi launched the Swamitva Yojana in the country. This scheme is aimed to give the ownership of land records to the 6.4 lakh villages by 2024. Read about this in this issue.

We reproduce an item got from Internet, in this issue, about idea of world map from the times of Mhahabharata !!

Considering technological developments, American Society for Photogrammetry and Remote Sensing's (ASPRS) initiated in 2014 a plan for promoting photogrammetry. See att for detailed paper relevant for India too.

Suggestions/ comments welcome

Webinar
ZOOM BASED SPOTLIGHT MEETING
Coordinated by
GEOMAP SOCIETY
in association with
Indian National Cartographic Asso.- INCA Hyd Chapter,
Centre for Applied research in Geomatics – CARG &
Innovation and Co-Innovation Research Group - ICORG

6 pm on FRIDAY
March 26, 2021.
Zoom Meeting Id: 547230 9478
Passcode: 12101948

Note: Open Zoom App, click on Join Meeting
and enter meeting Id and then passcode
TOPIC :
NSDI. AND FIELD DATA RELATED ISSUES
Lead Participants
v **Maj Gen Dr Sivakumar R , Former Head NSDI /NRDMS DST**
v **Brig J S Ahuja, Former Director, Survey of India.**
v **Sri G S Kumar, Former Director, Survey of India.**
v **Sri TChH Rao, Explins about Mapping THORROOR TOWN using total stations and drones and DGPS**

Webinar on 26 March 2021

Report

GeoMap Society (GEMS) / CARG, ICORG and INCA have initiated in 2020, a Webinar Series, every month.

New Map Policy 2021 effective from February 2021 has removed restrictions imposed during the British Rule on Indian Geospatial Data (Maps & Imagery). In the webinar on 28 February 2021 on " Geospatial data unchained", participants expressed hope of rapid growth in Map-based applications.

This report is on webinar held on 26 March 2021 coordinated by Prof IVM

Hanuman Rao, a senior Transmission Engineer presented Drone-based mapping. Main features of his presentation are summarised below:

1. Tharur area of about 10 sq km was mapped using Total Station, DGPS and drone imaging (Srereo) from a height of about 30-60 metres
2. Trees had to be trimmed to capture 110 KV, transmission lines of Railways properly
3. Ground control points @ one km were established and geo referenced.
4. Lot of defects could be noticed like – Missing bolts, Poor condition of earth wire, broken parts, Missing insulators, ….This helped in attending to break downs and quick rectification on ground.
5. Images were clear, DTM generation using special SW including profiles, measurements in areas where ground approach not possible,
6. Customer happy with smart and useful information

Webinar participants were happy to listen to Hanuman Rao who clarified doubts and explained how drone based mapping is efficient.

R.Siva Kumar, (now in USA) former Head, NSDI/NRDS, DST, Govt of India made informative presentation on Spatial Data Integration, main points summarised below:

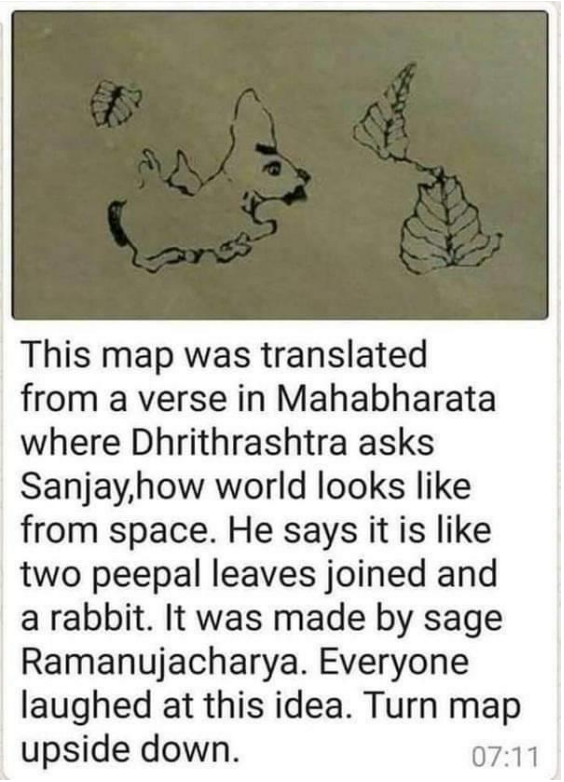
1. In more than last 20 years of NSDI, tons of spatial data has been generated in India in the government and private. Therefore the most important need is META DATA.
2. If meta data is available, value added applications will grow rapidly.
3. Another challenge in data integration is that most data is in analogue form and in diverse forms in respect of scale, accuracy, period/content of

map, projection, coordinate systems,…

4. Drone based mapping is growing. Safety rather than security seems to be an issue.
5. Data clearing centres are to be formed to disseminate spatial data for use. Policies have to be studied and streamlined
6. Standardisation is an important issue to promote use of spatial data. Hanuman strongly feels that standardisation processes have to be improved and strengthened.

IVM and GS Kumar participated actively adding value to discussions. The new Map Policy of 2021 has improved the situation. Read the letter from Sanjay Kumar of GeoSpatial World in this issue.

World from space (Ancient Indian concept)



UAVs for cadastral surveying

Cadastral surveys in Ghana often employ well known surveying equipment such as Total Station and GNSS receivers or a combination of both. These survey techniques are well-established and widely accepted. However, there are limitations in certain areas. In situations where difficult terrain and inaccessible areas and dense vegetation are encountered or when surveyor's life may be at risk, Unmanned Aerial Vehicles (UAVs) could be used to overcome the limitations of these well-established survey instruments. This research used high resolution images from UAV (DJI Phantom 4) to survey plots within the University of Mines and Technology land area. Coordinates of the boundary points were extracted using Agisoft Photoscan. GNSS receivers were also used to survey the land and the same boundary point coordinates obtained and compared. This enabled the establishment of accurate ground control points for georeferencing. The coordinates obtained from both UAV and GNSS Surveys were used to prepare cadastral plans and compared. The difference in Northings and Eastings from UAV and GNSS surveys were +0.380 cm and +0.351 cm respectively. These differences are well within tolerance of +/- 0.9114 m (+/-3 ft) set by the Survey and Mapping Division (SMD) of the Lands Commission for cadastral plans production. This research therefore concludes that high resolution images

from UAVs are suitable for cadastral surveying.

(See att 1 for detailed paper)

Emerging Technologies

Terrestrial stationary laser scanners;
Terrestrial mobile LiDAR systems;
Aerial LiDAR systems;
Photogrammetic Cameras;
Satellite imaging/remote sensing tools;
UAVs;
Ground penetrating Radar

(See att 2 for detailed paper)

ASPRS Launches New Initiative to Engage States as They Consider Regulating Photogrammetry under Existing Surveying Laws

At the American Society for Photogrammetry and Remote Sensing's (ASPRS) November 2014 fall conference in Denver, Colorado, ASPRS announced its "*Licensure Plan for the State Licensing of Photogrammetrists"* initiative. ASPRS recognizes an immediate need to assist states as they search for ways to ensure that proper regulations are created and implemented regarding supervision of both the capture systems and geospatial data products created and delivered to customers. This has gained importance with recent advances in technology, including the miniaturization of traditional photogrammetric capture platforms (e.g. Unmanned Aircraft Systems) and developments that allow remotely sensed data (photogrammetric and lidar data) to be captured at accuracy levels that support traditional surveying and engineering project requirements

(See att 3)

LiDAR (optical) vs Satellie RS

Airborne LiDAR is installed on a helicopter or drone for collecting data. Terrestrial LiDAR systems are installed on moving vehicles or tripods on the earth surface for collecting accurate data points
LiDAR applications - (Real time) Mining, Agriculture, Buildings, Roads etc requiring Digital Elevation or Terrain Model

Satellite Remote Sensing is from space
For large areas, Less accuracy than LiDAR

The combination of both optical and radar data also affords a much wider range of applications

New Map Policy 2021

Email from Pardeep Singh;Deputy Director
Surveyor General Office;Survey of India 9815179367

On Mon, Feb 15, 2021 Pardeep Singh <pardeep.singh.soi@gov.in> wrote:

Subject: #mapmakingsimplified-Guidelines for acquiring and producing Geospatial data and Geospatial Data services including Maps

Respected Sir,

Please find enclosed a copy of **"Guidelines for acquiring and producing Geospatial Data and**

Geospatial Data services including Maps". for your kind information please.

Response from Dr M.K.Munshi; Chair,OGC India Forum +91-9967970424; mmunshi@ogc.org

Dear Pradeep
Thank you for sharing the : **"Guidelines for acquiring and producing Geospatial Data and Geospatial Data services including Maps" .**
This is indeed a bold step taken by DST in consultation with other concerned Ministries, in the path towards 'Atmanirbhar Bharat',

Response from Gurbaksh Oberoi gurbakshsoberoi@yahoo.co.in
Retd. Director, NW Circle, Survey of India,Mar 7, 2021

I was happy seeing your communication. Hope you all, are doing fine.

Since you are fully aware of the problems of actual and potential users of these valuable services, I would request you to make use of these relaxations widely known to all concerned and help them in procurement and use of the services for their work. Technical glitches, if any, may be got removed by active interaction with the Survey of India so that the Users are best facilitated.
It is indeed a bold initiative of the Gov't. in NATIONAL INTEREST. Any spade work required should be expedited.
With best wishes for success of this Initiative.

From: **Sanjay Kumar** <info@geospatialworld.net>
Date: Tue, Feb 16, 2021 at 1:28 PM
Subject: India Geospatial Policy Guidelines: A Historic Moment in Many Ways
To: <Mapstodaygis@gmail.com>

GEOSPATIAL media + communications

India Geospatial Guidelines: Boosting Economy, Advancing Self-Reliance, and Co-ownership of National Ambition

16 February 2021

Dear Readers,

I trust you and your dear ones are doing great. With vaccinations being rolled out worldwide, in a few months we will begin to socialize and share our ideas and moments again.

Today, I write to you to share my joy and happiness on the occasion of the announcement of the **India Geospatial Policy Guidelines** – a historic moment in many ways.

Undoubtedly, the ‘Geospatial Way’ is the future and the most efficient and effective way to collect, process and utilize information in the overall Global Development Agenda. It is a given that integrated geospatial infrastructure and knowledge platforms have a direct correlation with human development and quality of life.

The guidelines issued by the Government of India are going to have huge significance for digital India. The geospatial industry has been highly restricted for a long time now. However, it is of critical importance in the security of the country, while also serving as the foundation for its digital and physical infrastructure.

The reform is historic because geospatial information policy has posed many challenges over the years. I do recall that in 2003, and in 2011, the Government of India attempted to push through some geospatial data policy reforms but there was little political will to see them through. Finally, this time, Prime Minister Narendra Modi himself led the reform process and took decisive steps to open the geospatial sector for the country, while protecting its security.

Boosting Economy

The reforms will boost the tech world’s confidence as a whole because there is a bit of geospatial inside virtually every IT and engineering process today. Currently, the Indian geospatial economy is estimated to be about Rs. 25,000 crores (USD 3.5 Billion), employing about 250,000 professionals. These guidelines will give a significant boost to grow the same to Rs. 50,000 crores (USD 7 Billion) and Rs. 100,000 crores (USD 14 Billion) by the years 2025 and 2030 respectively. Efficient and effective usage of geospatial information could add almost 2% growth to the overall GDP through direct contribution to mission-mode projects like smart cities, highways, modernization of railways, irrigation for every farming field, inter-linking of water, and the Clean Ganga and Digital India initiatives. Above all, the reforms would provide the necessary information base for

start-ups and deployment of innovation.

Advancing Self Reliance

Self-reliance for large economies, and especially for developing countries, is extremely essential. Having suffered in the past due to a lack of self-reliance, it's but obvious that the country has to aim for self-reliance in essential and critical sectors now. Undoubtedly, national geospatial infrastructure and industrial capacity are essential for self-reliance. Recognizing the same, these well thought out guidelines seed the ingredients to nurture the indigenous industry and help it fulfil the growing demand for solutions and services without any biases towards import of technology and products. This is an excellent opportunity for India's vibrant entrepreneurial community to rise to the occasion and develop a robust and valuable geospatial industrial eco-system.

Co-Ownership of National Ambition

A unique aspect of these guidelines lies in its drafting of the preamble and acknowledging and highlighting the valuable role of geospatial information in fulfilling India's ambitions of becoming a USD five trillion economy. We are living in a digital age and therefore, the benchmark for tomorrow's growth lies in our preparedness and leadership in digitalization of our economy and society. The guidelines reflect the Government of India's tremendous trust in its citizens to self-certify and adhere to the guidelines issued for surveying and mapping. It is an enormous opportunity that is limited only by responsibility-driven self-certification and taking a holistic view of co-ownership by public and private entities and citizens alike.

Exemplary leadership

I may sound over-enthusiastic but having been part of the geospatial community of developing countries for most of my career, particularly across Asia, Africa, and Latin America, I must confess that Hon'ble Prime Minister Narendra Modi has shown

exemplary leadership in surviving the institutional legacies of the past to encourage the ambitions of the next generation of digital natives. I am very sure the impact of his leadership will not only give strength to India but inspire several other countries around the world as well.

Evangelism

You are most welcome to add to or write off my views. However, the only learning I would like to take forward is that persistence, genuineness, and purpose can make anything work. In many cases this happens or could happen 'very late', but that's what defines evangelism. It is never for today and tomorrow, it's for day after tomorrow.

Read the India Geospatial Guidelines and give your suggestions

Best regards,
Sanjay Kumar,
CEO, Geospatial Media and Communications
Editor-in-Chief, Geospatial World

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Subscription to Maps Today

This is to inform all that we switched over to on-line publication, on a regular basis from January 2020. We expect it will have wider outreach, flexible and contextual to considering COVID 19 pandemic.

(Portal: www.geopediasociety.com)

Subscription rates have been revised accordingly, as below :

Institutional subscription
Rs 600 for 2 years

Individual subscription
Rs 400 for 2 years

Account Name: Maps Today
Account No. 3332500101669501
Bank Name: Karnataka Bank Ltd
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IFSC code: KARB0000333;
MICR CODE: 500052008

Subscribers will be entitled to :

Soft copy versions to respective emails

Index of Geospatial applications with access details

Networking & Clarifications for doubts by Domain experts

Information on Academic & Skill Courses and Careers

Discount in Participation Fee in events of GEMS

Other Benefits as decided from time to time

Those who paid subscription for GIS India/Maps Today will be adjusted appropriately.

Subscription to Maps Today may please be considered as your contribution to the mission of promoting use of maps and GIS, particularly in view of new Map Policy of 2021.

We seek cooperation & support from all in managing the present difficult pandemic situation. We will continue our mission to promote applications of Digital maps and GIS in various activities to improve good governance.

Maj Shiva Kiran
Chief Executive

Copy of GeoMap Quiz paper being conducted this month. Interested members/readers can use the questions, based on att map. Send email **geomapsociety@gmail.com** for correct answers

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(GS Oberoi Inspired)

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Kms of Satpura D5. The appropriate square is

(b) E 4 (b) C 5
(c) E 5

5. This village has Tube well, Temple, Power line and Dispensary

(b) Nawada E5 (b) Keshotola B3
(c) Kholpur E3

Questions 6 to 10 carry 05 marks each

6. Village for setting up industry, close to perennial tank, metalled road, powerline and Railway line is

(a) Bantola E4 (b) Azimabad C3
(c) Dharampur D5

7. Village having overhead tank & canal with good access to rail is

(a) Salampur B4 (b) Bhirampur (C2) (c) Chandi B2

8. The stream in C4 is flowing towards

a) East b) South c)North

9. Akura Reserved Forest area in square E3 is sloping towards

(a) South (b) West
(c) North

10. Height difference between Satpura(D 5) and Nawada hill(E5) is

(a) 252 metres (b) 152 metres
(c) 182 metres

Tear from here and return for evaluation

Fill your choice a or b or c against question numbers

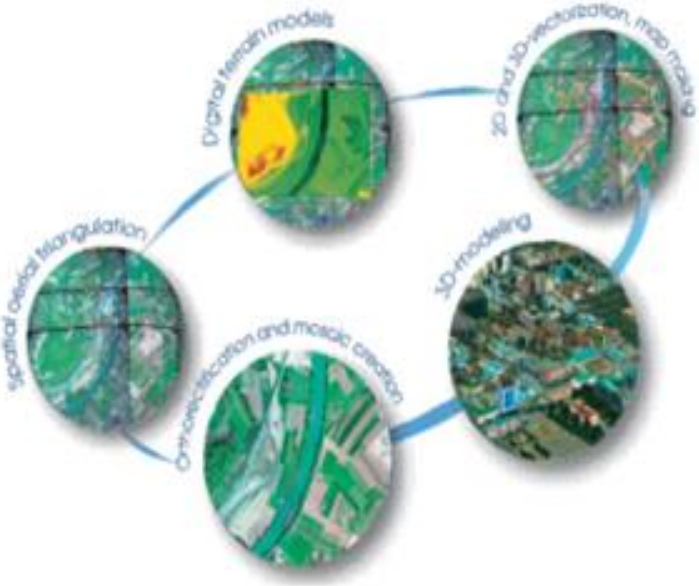
1. 2. 3. 4. 5.

6. 7. 8. 9. 10.

Name of participant
Class/School
Date

Overview

PHOTOMOD®



RACURS, Russia

The PHOTOMOD software family comprises a wide range of products for the remote sensing data photogrammetric processing. This state-of-the-art software allows the extraction of geometrically accurate spatial information from almost all commercially available types of imagery, whether obtained by film or digital cameras, UAS, high resolution satellite scanners.

PHOTOMOD's flexible modular architecture and powerful import/export tools permit a variety of configurations: **Complete Digital Photogrammetric Workstation** (standalone configuration), high productivity distributed network environment for accomplishing large projects, complementary workplaces that can be used along with third-party systems to increase the overall productivity during the most time-consuming and labor-intensive operations like feature extraction and DTM creation.

Today PHOTOMOD is the most popular digital photogrammetric software in Russia and is also used in 70 countries all over the world. PHOTOMOD is the only digital photogrammetric system with the Russian Federation Ministry of Defense certificate and also the main digital photogrammetric software for the Federal Space agency of the Russian Federation (ROSCOSMOS) and Russian Federal Service for State Registration, Cadastre and Cartography (ROSREESTR)

General questions: info@racurs.ru