

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2023

Marks Scored:

Level : B.E.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : GEOM 313

Semester : II

F. M. : 10

Registration No.:

Date

03 JUL 2023

SECTION "A"

[20Q. × 0.5 = 10 marks]

Encircle the most appropriate alternative from each set of choices.

1. Raster Image Processor
 - a. Produces digital map file
 - b. Converts digital map file into page description data
 - c. Processes raster image and prints the map
 - d. Interprets page description data and produces a raster image
2. Which of the following is the advantage of analogue maps over digital maps
 - a. Links to additional info
 - b. Panning and zooming
 - c. High information density
 - d. Interaction: adjustable to individual needs
3. The cylinder that receives an image from a printing plate and transfers it to print medium (paper) is:
 - a. Blanket cylinder
 - b. Plate cylinder
 - c. Printing cylinder
 - d. Impression cylinder
4. Which of the following is true for stochastic screening?
 - a. High-resolution printers are required
 - b. The resolution is measured in lines per inch (lpi)
 - c. The density of dots within a given area determines the degree of lightness.
 - d. The size of each dots determines the degree of lightness
5. High-fidelity process colors are based on traditional process colors (CMYK) with two additional colors. Those additional colors are:
 - a. Orange and brown
 - b. Orange and purple
 - c. Green and brown
 - d. Green and orange
6. Usually offset presses are capable to print on one side of the print medium at a time. Some are capable of printing on both sides simultaneously. They are:
 - a. Perfectors
 - b. Sheet-fed
 - c. Web-fed
 - d. Direct-to-press
7. Color vision deficiency in people who is unable to see green color in map is called?
 - a. Protonopia
 - b. Deuteranopia
 - c. Tritanopia
 - d. Trichromat

8. Which of the following is an example of non-temporal animation?
 - a. Map of boundary change in Europe since the World War II
 - b. Map of Nepal showing earthquakes in different time period
 - c. Changes in monsoon for last 30 years
 - d. A blinking dot in a map showing road accidents

9. Among the following types of web maps, which one is considered to be more sophisticated?
 - a. Distributed web maps
 - b. Interactive web maps
 - c. Collaborative web maps
 - d. Analytic web maps

10. Which of the following statement is Not True about dynamic web maps?
 - a. They are generated on the fly when the user loads the associated web page
 - b. Fully interactive experience
 - c. Styling of the map and markers is possible
 - d. Requires very low bandwidth

11. According to Blok (2005) which of the following is a derived dynamic variable:
 - a. Order
 - b. Frequency
 - c. Rate of change
 - d. Moment of display

12. The OGC standard web service used to disseminate grid data through the web is :
 - a. Web Coverage Service
 - b. Web Feature Service
 - c. Web Map Service
 - d. Web Catalog Service

13. Different types of landuse are to be depicted in the map. Which map type is suitable to represent landuse categories?
 - a. Flowline map
 - b. Chorochromatic map
 - c. Choropleth map
 - d. Dot density map

14. Which of the following feature of multimedia applications is widely used to overcome "lost in hyperspace" effect?
 - a. Sequential structure
 - b. Non-Sequential structure
 - c. Thematic Navigation
 - d. Temporal Navigation

15. Data sets could be combined to create new data sets. Users are NOT restricted to the data provided within the atlas itself. These statements are TRUE for.....
 - a. Paper Atlas
 - b. View only electronic atlas
 - c. Interactive atlas
 - d. Analytical electronic atlas

16. Which of the following is an advantage of geovisual exploration?
 - a. It allows for easy identification of outliers in a dataset
 - b. It provides a quick way to perform complex statistical analyses
 - c. It does not require any specialized software or tools
 - d. It can be used with any type of data, regardless of its spatial nature

17. There are three major stages in the process of user-centered design of geospatial data dissemination system. They are:
 - a. User requirement analysis, system design, testing prototype
 - b. Analyze requirement, produce design solution, evaluate design
 - c. User profiling, prototype design, user testing
 - d. System design, prototype design, user requirement analysis

03 JUL 2023

18. Utility and Usability are new research areas in cartography. Utility means
- The aesthetic appeal of a map
 - The ability of a map to convey required spatial information effectively to users
 - The ability of the users to utilize the maps with satisfaction
 - The use of advanced technologies in map production
19. In which of the following map use the research technique of cartographic products users are asked to say whatever they are looking at, thinking, doing, and feeling as they go about their task?
- Focus group discussion
 - Thinking aloud
 - Output product Analysis
 - Eye tracking
20. The value of red color in RGB color space is 126. What is its corresponding value of Cyan in CMY color space?
- 51%
 - 52%
 - 61%
 - 62%

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SECTION "B"

[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Explain the term modern Cartography in your own words. Explain the influencing factors for map design. [1.5+2.5]
2. What is Map reproduction? Explain the process of offset lithographic printing. [1+3]
3. What is the importance of representing time in the context of modern cartography? Suggest some methods for representing change with time in geographic data visualization. [2+2]
4. How can you incorporate multimedia in maps and why is it necessary? Briefly explain the feature navigation in multimedia maps. [2.5+1.5]
5. Why is User- Centric Design (UCD) approach important in the context of modern cartography? Explain the basic principle and the overall process of UCD. [1.5+2.5]
6. What is the use of color in map? Briefly explain additive and subtractive color. [2+2]
7. Write short notes on: [2+2]
 - a. Typography in cartography
 - b. 3D Maps-Design process

SECTION "C"

[2Q. × 8 = 16 marks]

Attempt *ANY TWO* questions.

8.
 - a. Compare dissemination of map in paper format with map in a web environment. What are the advantages and disadvantages of using mobile phones as a map dissemination tool? [2+2]
 - b. What is screening in print reproduction and why is it needed? Explain two screening techniques. [1.5+2.5]
9.
 - a. Imagine you are working for a food delivery startup. Your task is to design a web-based platform that connects restaurants, delivery drivers, and customers, facilitating the ordering and delivery of food. Which type of web maps will you use for this task and why? Briefly explain the technologies that you plan to use for developing such web maps. List out some features of the maps that you plan to make for this platform. [5]
 - b. What is the role of dynamic visualization variables in maps? List all the dynamic visualization variables and briefly explain any three of them. [3]
10.
 - a. What is the role of geovisual exploration in the geographical data context? List out the data exploration methods. Describe Geovisual Analytics with an example. [2+1+2]
 - b. One of the statements in Geovisual analytics is "Detect *the expected* and discover *the unexpected*." Explain this statement with a suitable example. [3]