GISCI GEOSPATIAL CORE TECHNICAL KNOWLEDGE EXAM ® CANDIDATE MANUAL

January 2021

This document provides information about the GISCI Geospatial Core Technical Knowledge Exam ®, now a requirement for GISCI GISP Certification. For information about the GISP Certification Program, consult the GISCI website at www.gisci.org.

This document is updated prior to each exam window.

Next Exam Date: Early June, 2021 (Worldwide) Dates TBD

Application Period: North American locations: until two weeks prior to first exam date
                           International locations: until two weeks prior to first exam date

Currently, exams are scheduled twice a year, in early June & December.

Exam Procedure

- **Submit Application**   Apply online at the GISCI website (www.gisci.org).

- **Pay Application and Exam Fees**   Once your Application Form is received, GISCI will
                                       contact you with instructions for payment.
- **Application Fee**   The Exam Application Fee is $100.
                                       This is a one-time exam application fee.   This fee not be charged
                                       in the event of re-testing.
- **Exam Fee.**
      o US and Canada: $250
      o International: $300

Schedule your specific exam date   After payment confirmation, PSI will send you email authorization to schedule your exam. Once you receive this email notice, access and register on the test provider's online scheduling portal to schedule your specific exam date, time, and location. Scheduling for the Summer exam will start in early February.

The exam will be offered at specific times at test facilities across the US. Exam times and seat capacity will vary among test facilities, so, to ensure obtaining the most convenient location and time, **you are encouraged to schedule your exam as soon as possible after you receive authorization.**

Take the Exam   You must take the exam at the place and time arranged between you and the test provider (PSIOnline). You can reschedule (subject to seat availability), and cancellation must take place with at least 2 day's notice to avoid an $ 85 exam no-show fee.

Receive Exam Results   You will receive pass/fail exam results from GISCI after we complete a full exam review. GISCI will review the exam scoring and send a final notification within three to four weeks of the exam close.

Extensions to the Procedure

- **Rescheduling.** You may use your PSI online portal to reschedule your specific exam date at least 2 days prior to the exam date, without financial penalty, if there is space available.
- **Inability to schedule your specific exam date.** If you are authorized to take the exam, but do not schedule your specific exam date, you may receive a refund or transfer the Exam Fee to the next exam period, upon request. (Contact the GISCI Executive Director.)
- **Postponement to a later exam event.** If you wish to take the exam at a later exam event, you must obtain authorization for that exam event. Your Exam Fee may be transferred to that event.
- **Failure to take your exam as scheduled.** If you schedule your exam and do show without prior notice, the Exam Fee may not be refunded. If you want to take the exam at a later event, you must obtain authorization for that date, and pay the Exam Fee for that date.
- **Exam failure and retake.**
    - If you fail the exam, you may take it again at the next exam event. You must obtain authorization for that future event. We only schedule exams for the current session window.
    - If you fail the exam, you must pay the Exam Fee to take it again, and must obtain authorization for the exam event in which you plan to take it.
    - If you fail the exam twice, in back to back sessions, you must wait a year before re-testing.
    - You may not retake the exam in the same exam event.
- **Next exam.** The GISCI Geospatial Core Technical Knowledge Exam ® is scheduled with a current interval of approximately 6 months, with exam events scheduled in the Summer and Fall of each year. (Check the GISCI website www.gisci.org for future exam dates – generally in early June and Dec.)

Exam Location & Scheduling

- The exam will be offered through PSIOnline's testing centers worldwide.
- North American locations: Once you receive your authorization, you may contact PSI to schedule your exam date, time, and location.

    International locations: While many locations may offer online scheduling, you may need to schedule your exam date & time by direct request to GISCI

Exam Description

- **Length.** Each exam will have 180 questions. 100 of the questions are scored and are pre-determined.
- **Time.** The time allowed for the exam is 4 hours. We try to accommodate special needs.
- **Format:** The questions are Selected Response format (Multiple Choice and Multiple Response).
- **Medium.** The exam will be offered via Computer Based Testing on the computers at the PSI testing centers. Calculators will be provided, onscreen, as necessary, on the testing center's computers.
- **Environment.** The exam will be proctored at a PSI testing center.
- **Language.** English.

Scoring

The exam contains two types of questions: multiple choice and multiple response. Approximately ¾ of the exam questions are multiple choice. For these questions, select the one best answer from the list of options. The rest are multiple response. Each multiple response question ends with "Select all that apply." For these questions, select all of the correct answers from the list of options. There are at least two correct answers for each multiple response question.

Each question is scored as correct or incorrect, and all items have the same weight. Items with no response are scored as incorrect. Multiple response items must have all correct responses to be scored as correct. Otherwise, they are scored as incorrect. The number of correct answers is totaled to determine the candidate's exam score. A score of 73% correct answers for the 100 scored questions is needed to pass.   We do not report scores.

Exam Content

Exam Foundation

The exam is based on a job analysis involving GIS professionals across all GIS job categories and sectors, with at least four years of GIS experience. It is also guided by the Geospatial Technology Competency Model, Tier 4, Core Geospatial Industry-Wide Technical Competencies, and informed by the Geographic Information Science & Technology Body of Knowledge.

Core GIS Technical Knowledge

The exam tests core geospatial technical knowledge. Therefore, it does not address software details, specific environments, specialized knowledge, ethics, or management knowledge.

Exam Knowledge Areas

The exam covers 45 specific Knowledge Areas grouped into ten Categories as indicated in the tables below. For a more detailed description of each Category, please consult the 2019 Exam Blueprint.

GISCI Geospatial Core Technical Knowledge Exam ® Knowledge Categories

Knowledge Category	Weight
1. Conceptual Foundations	10%
2. Geospatial Data Fundamentals	15%
3. Cartography & Visualization	10%
4. Data Acquisition	11%
5. Data Manipulation	11%
6. Analytical Methods	11%
7. Database Design & Management	10%
8. Application Development	7%
9. Systems Design & Management	7%
10. Professional Practice	8%
10. Total	100%

Resources that contain information related to the exam content are readily available in many forms.
The following are examples of the types of materials that provide information regarding exam topics:

- GIS text books
- GIS compendiums and manuals (not software manuals)
- GIS courses
- GIS periodicals
- Cartography text books
- Cartography courses
- Geography text books
- Geography courses
- Mathematics and statistics text books
- Mathematics and statistics courses
- GIS software supplier general GIS discussion (not software specific)
- General computer and programming texts
- General computer and programming courses

Any of the specific items in the above categories would provide relevant information. Therefore, GISCI does not provide specific titles and citations.

The exam assesses geospatial professional competence acquired over the course of an individual's geospatial education, career, and mastery of the material. It is expected that, for most candidates, study will involve refreshing their familiarity with some aspects of core geospatial knowledge that they may not have applied recently.

Exam Preparation Materials

An Official Practice Exam, an Unofficial GISCI Exam Study Guide, and other materials can be found on the GISCI website

(https://www.gisci.org/ExamInfo/ExamCandidateInformation/ExamPreparationInfo.aspx)

(https://www.gisci.org/ExamInfo/PracticeExam.aspx)

On the Day of the Exam

- Arrive at the testing center **30 minutes** in advance.
- Present a valid, government-recognized, unexpired, photo **ID** with your name as it appears on your exam authorization and scheduling. (Contact GISCI at least two weeks in advance if you need to make arrangements for another type of ID to be used, and bring that pre-approved ID to the test center.)
- **No personal items** are to be brought into the testing area.
- **No electronic devices** of any kind are allowed in the testing area.
- You are **not permitted to leave the building or use your cell phone or other electronic devices** during the exam.
- There is to be **no conversing** or other form of communication among candidates once you enter the testing area.

- **Persons not scheduled to take the exam are not permitted** to wait in the testing center or surrounding common area.
- Test takers must conduct themselves in a **professional and courteous** manner at all times.
- You are **prohibited from reproducing, communicating or transmitting any test content** in any form for any purpose. Any such actions are violations of PSI and GISCI security policy, and may result in the disqualification of exam results and/or lead to legal action.

PSI Exam FAQs are available here:

https://candidate.psiexams.com/faqs/faqs.jsp

Special Accommodations

All exam centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and every reasonable accommodation will be made in meeting a candidate's needs. If you have special requirements, please contact GISCI at least 30 days before the exam date, so that suitable arrangements can be made.

Non-Discrimination

GISCI does not discriminate on the basis of race, religion, sex, age, sexual orientation, or national origin, or any other category that is protected by federal law or applicable laws and regulations.

Appeal of Results

Any appeals regarding exam results should be submitted to the GISCI Executive Director.

Sample Questions

The following sample questions provide examples of the question format. An answer key is provided at the end of the list of questions.

1) Which is an example of analog-to-digital conversion? a) Creating centroids from a polygon file b) Importing a DXF c) Scanning a map document to JPG format d) Transforming a GIF to a TIF

2) Which of the following is NOT a component of the OGC geometry object model? a) Chain b) Curve c) Point d) Surface

3) Which is the most effective method for maintaining data quality to ensure that no line features of a stream center line layer intersect the polygon feature of a land cover layer? a) Clip b) Intersect c) Overlay d) Topology

4) According to National Map Accuracy Standards, what percentage of features must be within 1/30 of an inch or less from their intended horizontal accuracy on maps with scales of 1:20,000 or larger? a) 5% b) 10% c) 90% d) 95%

5) Which are compression techniques for raster data? Select all that apply. a) Lattice b) Pyramids c) Quad trees d) Run length encoding

(ANSWER KEY: 1=c; 2=a; 3=d; 4=c; 5=c,d)

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