

**GEOGRAPHIC INFORMATION SYSTEMS  
GEOGRAPHIC INFORMATION CENTER  
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**\*\*\* EXAMINATION \*\*\***

**PROJECT CONTROL, COORDINATE SYSTEMS, AND DATUMS  
FOR NAVIGATION AND FLOOD CONTROL PROJECTS**

1. **A geographical grid systems is:**
  - a) latitude-longitude
  - b) state plane coordinate system
  - c) universal transverse mercator system
  - d) All of the above
  
2. **Permanent control monuments may define:**
  - a) limits of construction
  - b) project limits
  - c) boundary limits
  - d) All of the above
  
3. **GPS has eliminated the need for:**
  - a) baselines along jetties and canals
  - b) measurement of depths
  - c) measurement of tides
  - d) measurement of stream velocities
  
4. **A software used to convert NAD27 coordinates to NAD83 coordinates is:**
  - a) NADCOM
  - b) CORPSCON
  - c) WGS CONV
  - d) SPCS-UTM
  
5. **A point closure of 1:40,000 would meet an USACE Classification of:**
  - a) Second Order Class I
  - b) Second Order Class II
  - c) Third Order Class I
  - d) Third Order Class II
  
6. **A point closure of 1:60,000 would meet an USACE Classification of:**
  - a) Second Order Class I
  - b) Second Order Class II
  - c) Third Order Class I
  - d) Third Order Class II

7. **A point closure of 1:15,000 would meet an USACE Classification of:**
- a) Second Order Class I
  - b) Second Order Class II
  - c) Third Order Class I
  - d) Third Order Class II
8. **A vertical control survey of 9 miles having a closure of 0.33 would be:**
- a) Second Order Class I
  - b) Second Order Class II
  - c) Third Order Class
  - d) Fourth Order
9. **A vertical control survey of 9 miles having a closure of 0.03 would be:**
- a) Second Order Class I
  - b) Second Order Class II
  - c) Third Order Class
  - d) Fourth Order
10. **The station of the entrance channel and the Middle Turning Basin is:**
- a) 32+33.76
  - b) 0+00
  - c) 215+00
  - d) 176+68
11. **The width of the entrance channel from toe to toe is:**
- a) 200 feet
  - b) 400 feet
  - c) 600 feet
  - d) 800 feet
12. **Stationing on a navigation project usually commences:**
- a) offshore
  - b) at the beach
  - c) at the high water line
  - d) at the first intersection with a flood wall
13. **A river datum is referenced to a:**
- a) high water reference plane
  - b) low water reference plane
  - c) high tide reference plane
  - d) low tide reference plane
14. **A river datum is determined from:**
- a) astronomic readings
  - b) GPS readings
  - c) gage/staff observations at sufficient points
  - d) None of the above

15. **The base elevation used as a reference from which to reckon heights**

- a) is a datum
- b) is a tide
- c) is a ebb
- d) is a flow line

16. **The datum for the Great Lakes is:**

- a) NAD27
- b) NAV29
- c) NAD83
- d) IGLD85

17. **The datum for connecting channels in the Great Lakes:**

- a) has been changed from NAV29 to NAV88
- b) must be adjusted for slope between the Great Lakes
- c) is a high water datum
- d) None of the above

18. **The National Tidal Datum Epoch is:**

- a) 9-year period
- b) 15-year period
- c) 19-year period
- d) 23-year period

19. **The National Tidal Datum Epoch is reviewed by NOS:**

- a) every year
- b) every 19 years
- c) every 25 years
- d) every 100 years

20. **Hydrographic surveys in tidal areas should be referenced to:**

- a) NGVD29
- b) NAVD88
- c) NAD27
- d) NAD83

21. **Many of the monuments set for the NGVD29 were destroyed by:**

- a) subsidence in Texas and Louisiana
- b) earthquakes in California
- c) the Interstate Highway System construction
- d) All of the above

22. **The primary BM for the NAVD 1988 is located:**

- a) at Meade, Kansas
- b) Greenwich
- c) Father Point, Rimouski, Quebec, Canada
- d) None of the above

23. **The vertical network for the NAVD 1988 included approximately:**
- a) 6000 stations
  - b) 9000 stations
  - c) 12,000 stations
  - d) 15,000 stations
24. **OHWM means:**
- a) outer high water mark
  - b) Ordinary High Water Mark
  - c) Ocean High Water Mark
  - d) None of the above
25. **Which river is not a connecting channel for the Great Lakes?**
- a) Detroit River
  - b) St. Clair River
  - c) St. Lawrence River
  - d) Ohio River
26. **Dynamic heights:**
- a) show the potential energy of a system
  - b) show the local gravity of a system
  - c) show the geopotential energy of a system
  - d) None of the above
27. **Orthometric heights are the result of:**
- a) the geopotential number multiplied by local gravity
  - b) the geopotential number divided by local gravity
  - c) the geopotential number subtracted from local gravity
  - d) the geopotential number added to local gravity
28. **As the energy surface increases,**
- a) the geopotential number decreases
  - b) the orthometric height decreases
  - c) the orthometric height increases
  - d) None of the above
29. **Orthometric elevations from differential leveling:**
- a) will not yield dynamic elevations
  - b) will yield dynamic elevations
  - c) are constant for a small area
  - d) None of the above
30. **The Milwaukee city datum plane according to**
- a) the IGLD 1955 elevation is 578.18
  - b) the IGLD 1955 elevation is 573.27
  - c) the IGLD 1955 elevation is 574.28
  - d) the IGLD 1955 elevation is 579.30

31. **The Chicago city datum plane according to**
- a) the IGLD 1955 elevation is 578.18
  - b) the IGLD 1955 elevation is 573.27
  - c) the IGLD 1955 elevation is 574.28
  - d) the IGLD 1955 elevation is 579.30
32. **The Cleveland city datum plane according to**
- a) the IGLD 1955 elevation is 578.18
  - b) the IGLD 1955 elevation is 573.27
  - c) the IGLD 1955 elevation is 574.28
  - d) the IGLD 1955 elevation is 579.30
33. **The Buffalo city datum plane according to**
- a) the IGLD 1955 elevation is 578.18
  - b) the IGLD 1955 elevation is 573.27
  - c) the IGLD 1955 elevation is 574.28
  - d) the IGLD 1955 elevation is 579.30
34. **A factor affecting the differences between points in Lake Michigan is:**
- a) velocity head
  - b) pressure head
  - c) vertical adjustment residuals
  - d) All of the above
35. **A structure having an elevation of 580.00 feet using IGLD 55 Lake Michigan:**
- a) will have an elevation of 578.62 using the Chicago city datum
  - b) will have an elevation of 581.38 using the Chicago city datum
  - c) will have an elevation of 580.00 using the Chicago city datum
  - d) None of the above
36. **A structure having an elevation of 580.00 feet using IGLD 55 Lake Michigan:**
- a) will have an elevation of 578.62 using the Milwaukee city datum
  - b) will have an elevation of 581.38 using the Milwaukee city datum
  - c) will have an elevation of 582.50 using the Milwaukee city datum
  - d) None of the above
37. **The Mississippi River north of Cairo, Illinois uses:**
- a) LWRP27
  - b) LWRP74
  - c) LWRP93
  - d) None of the above
38. **Dividing a hydrographic survey area into discrete sections is known as:**
- a) tidal zoning
  - b) tidal partitioning
  - c) tidal sectioning
  - d) tidal division

39. **The slope of the water surface along inland streams is:**

- a) constant
- b) constantly varying
- c) slowly rising
- d) slowly falling

40. **Surface water fluctuations are stilled by:**

- a) staffs
- b) gages
- c) electronic filters
- d) orifices

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I hereby certify that I studied the course materials, and the above answers are my own. No other person has helped me to complete this exam.

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