

**GEOGRAPHIC INFORMATION SYSTEMS
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***** EXAMINATION *****

GEOPHYSICAL EXPLORATION FOR ENGINEERING & ENVIRONMENTAL INVESTIGATIONS

1. **A geophysical survey has this objective:**
 - a) Measurement of geologic features.
 - b) The in situ determination of engineering properties.
 - c) The detection of hidden cultural features.
 - d) All of the above.

2. **Geologic features include:**
 - a) faults.
 - b) bedrock lows
 - c) discontinuities and voids.
 - d) All of the above.

3. **Engineering properties that can be determined in situ include:**
 - a) elastic modulus
 - b) electrical resistivity
 - c) both a and b
 - d) neither a nor b

4. **Hidden cultural features for geophysical detection include:**
 - a) buried underground tanks and pipes
 - b) lakes
 - c) swamps
 - d) ponds

5. **Inverse resolutions provide:**
 - a) unique conclusions
 - b) a most likely solution selected from numerous possibilities.
 - c) both a and b
 - d) neither a nor b.

6. **Forward solutions:**
 - a) proceed from cause to effect.
 - b) are not a unique determination.
 - c) both a and b
 - d) neither a nor b.

7. **Preparation of geophysical models almost always assume:**
- a) earth materials have distinct subsurface boundaries.
 - b) a material is non-homogeneous.
 - c) the unit is non-isotropic.
 - d) All of the above.
8. **Geophysical measurements are:**
- a) always accurate.
 - b) very precise.
 - c) both a and b
 - d) neither a nor b
9. **Geophysical methods can be classified as:**
- a) active techniques
 - b) passive techniques
 - c) both a and b
 - d) neither a nor b
10. **What process type throughout geophysical investigations is interpretation?**
- a) abrupt
 - b) parabolic
 - c) non-continuous
 - d) continuous.
11. **Implementation of a geophysical model fit only the:**
- a) widest definition of interpretation.
 - b) narrowest definition of interpretation.
 - c) require a minimum of ground truthing.
 - d) None of the above.
12. **Correlation of the geophysical model with available ground truth:**
- a) can be a laborious interpretative process
 - b) is a relatively easy process.
 - c) is not used for the final product.
 - d) All of the above.
13. **Airborne geophysics is:**
- a) more detailed than surface procedures
 - b) less detailed than surface procedures
 - c) has the advantage of rapid coverage without surface contact.
 - d) both b and c.

14. **Geophysical field crews productivity is affected by:**
- a) weather
 - b) terrain
 - c) vegetation
 - d) All of the above.
15. **The geophysicist site information include:**
- a) payroll cost
 - b) maintenance costs
 - c) site geology
 - d) None of the above.
16. **Geophysical contracts are:**
- a) line-mile
 - b) per-station
 - c) lump-sum
 - d) Any of the above
17. **A interdisciplinary team for geophysical projects is necessary because:**
- a) Geophysicists are adept in all facets of their field.
 - b) Geophysical exploration is highly specialized.
 - c) Both a and b.
 - d) Neither a nor b.
18. **The stated objective of a geophysical project is the responsibility of:**
- a) the project manager
 - b) the engineer.
 - c) the geophysicist.
 - d) None of the above.
19. **Early exploration in the geophysical sequence allows verification of:**
- a) surveying.
 - b) soil tests
 - c) geology
 - d) None of the above.
20. **The major class of seismic waves is:**
- a) Body waves
 - b) Surface waves
 - c) Both a and b
 - d) None of the above

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