

Seismic Data Processing and Interpretation (GPC 517): Quiz # 1

Total points 14/20 ?

Answer all Questions

The respondent's email (mona.20mc0053@agp.iitism.ac.in) was recorded on submission of this form.

✗ In DBS the design window position and sometimes its length is varied according to offset from source. Why? * .../2

Because periodicity vary with offset distance and on the base of period we determine the length of operator..It removes short path multiples and reverberation. ✗

Correct answer

To accommodate seismic traces in same reflection within same window.

✓ To go from the frequency domain to the time domain for sampled data requires. * 1/1

FFT

IFFT

FT

HT



✓ The objectives of deconvolution is/are * 1/1

- Shorten reflection wavelet
- Attenuate ghosts
- Reverberations
- All objectives mentioned above



✓ Which filter will be used for eliminating Ground roll? * 1/1

- Notch
- F-K
- Hi Cut
- Mute



✗ In Deconvolution the spectrum of the reflectivity series actually treated as, * 0/1

- White Noise
- Non-white Noise
- Does not change with time
- Broadband



Correct answer

- Non-white Noise



✓ What is the full form of PGC? *

1/1

- Probable Gain Control
- Possible Gain Control
- Pure Gain Control
- Programmed Gain Control



✓ DBS will be applicable on the following gather of the seismic data, *

1/1

- Near trace
- Mid trace
- Far trace
- DBS cannot be applicable over the gathers



✓ A signal $f(t)$ has a duration of 2ms and an essential bandwidth of 10kHz. It is desirable to have a frequency resolution of 100 Hz in the DFT. Frequency Resolution = 100, Determine N_0 (Periodic sequences). *

200



Correct answer

200



✓ After all process of DBS and DAS which parameter/parameters is/are to be finalized? * 1/1

- Window position for autocorrelation
- Operator length
- Deconvolution type
- Above all



✗ What is the goal of DAS? * 0/1

- Spectral balancing
- Removing long period multiples
- Spectral Balancing and Removing long period Multiples
- Remove white noise



Correct answer

- Spectral Balancing and Removing long period Multiples

✓ Find out the correct answer of Nyquist frequency for sample period 2 ms where 500 Hz is maximum frequency. * 1/1

- 62.5 Hz
- 250 Hz
- 125 Hz
- 500 Hz



✓ Name the format of seismic dataset. * 1/1

- .SEG Y
- .SEG D
- .SEG B
- All formats mentioned above



✓ Amplitude decay within window is compensated by, * 1/1

- Gain curves
- Removal of noisy frequency
- Removal of Linear coherent noise
- Enhancing the seismic band size



✓ Find out correct option. "Field Data are recoded in multiplexed mode" * 1/1

- True
- False



✘ For basic assumption which kind of phase of the wavelet is required * 0/1

- Zero Phase and Known ✘
- Mixed Phase and Known
- Minimum Phase and Known
- Maximum Phase and Unknown

Correct answer

- Minimum Phase and Known

✔ Primary reflection amplitude = 1; Reflection Coefficient of the water bottom = R and reflection coefficient of the surface = -1 ; then, the amplitude reflected upward at the water bottom will be * 1/1

- $-R(1+R)$ ✔
- $R(1+R)$
- $1+R$
- $-(1+R)$



✓ Wiener Filter is related to the following concept/concepts *

1/1

- Input signal $x(t)$
- The desired output $z(t)$
- Actual output signal $y(t)$
- Above all



✗ During processing of a seismic data the refraction energy trains should be excluded from the design window. * 0/1

- True
- False



Correct answer

- True

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