

2019

B.Sc.

4th Semester Examination

GEOLOGY (Honours)

Paper - GE4P

[Practical]

Full Marks : 20

Time : 3 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Set - I

(Earth Resources)

1.	Sample	L	W_v	W_w
	S ₁	6.0	3.0	0.0
	S ₂	7.5	2.5	0.5
	S ₃	10.0	3.0	0.0
	S ₄	12.5	2.3	0.7
	S ₅	10.0	2.0	1.0
	S ₆	5.0	2.6	0.4

[Turn Over]

L = Length of samples.

W_v = Width of vein material

W_w = Width of wallrock

The minimum mining width in the reserve is 3ft. The density of the vein material is $9\text{ft}^3/\text{ton}$ and density of the wallrock is $12\text{ft}^3/\text{ton}$. The ore contains galena whose specific gravity is 7.2. Find out the overage grade of Pb and also find out the dilution percentage.

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2. Interpret the given groundwater table contour map. (Map provided with this question) 4
 3. Plot the major Indian oil fields and natural gas horizons on the given map of India. (Map will be provided at the exam centre)
 4. Laboratory Note book. 2
 5. Viva-Voce. 3
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(Nuclear Waste Management)

1. Propose two models, one reaction controlled model and another diffusion controlled model for two species, A and B, in glass in order to determine the moving boundary location. 5+5
 2. (a) Derive the relation between half-life and decay constant.
(b) Cobalt-60 has a half-life of 5.27 years. Find the average life-time of each Cobalt-60 atom. 2+3
 3. Laboratory Note book. 2
 4. Viva-Voce. 3
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