(1.) 58109 Set-1

[Time: 3 Hours] [Marks: 100]

Please check whether you have got the right question paper.

N.B: 1. All questions are compulsory and carry equal marks.
2. Draw sketches and diagrams wherever necessary.
3. Use of map stencil and simple calculator is allowed.
4. Map appendix should be attached to the answer book.

1.	Attempt any two questions from the following:	
a)	Give a detailed account of the interior of the earth. Characteristics of Crust (thickness, SIAL, SIMA, specific gravity)-Mantle (thickness, Mohorovicic discontinuity, specific gravity) and Core (thickness, NIFE, specific gravity).	(10)
b)	Write a note on igneous rocks. Definition of igneous rock-oldest-extreme heat and pressure-absence of layers-less porous-absence of fossils.	(10)
c)	Describe in brief the Continental Drift Theory of Alfred Wegner. Background of the theory – Wegner as plant scientist -found evidences of similar kinds of plants species in different continents -conceptualisation of continental drift. The theory – Pangaea and Panthalasa – drift (Laurasia and Gondwana - present world -Evidences – jig saw fit, similar species, fossils, migration of birds-Criticism - incomplete evidences, no sufficient explanation on some anomalies.	(10)

2.	Attempt any two questions from the following:	
a)	What is an earthquake? Explain the types of earthquake waves? Definition of earthquake- characteristics of Primary, Secondary and Surface waves.	(10)
b)	What are faults? Discuss the various types of faults. Definition of faults- types: normal, reverse, lateral, step, oblique-slip and their characteristics.	(10)
c)	Explain the causes and effects of volcanic eruption. Causes: plate movements, folding, faulting, increase of temperature in the interior of the earth. Effects: spilling of lava-burning and burying of surface- emission of ash, rocks and toxic gases- climate change-occurrence of earthquakes and tsunamis-rich nutrients to the soil-effect on transport lines.	(10)

3.	Attempt any two questions from the following:	
a)	What is biological weathering? Explain the various sub-types of biological weathering? Definition of biological weathering-characteristics of: faunal, floral and	(10)

	anthropogenic weathering.	
b)	Explain the concept of mass wasting and its types. Definition of mass wasting-characteristics of: fall, slide, flow and creep. Explanation in short along with sub-types wherever applicable.	(10)
c)	Describe the landforms created by depositional work of glaciers. Formation process of: moraines, outwash plains, drumlins, eskers, kames and kettles.	(10)

4.	Attempt any two questions from the following:	
a)	Discuss various depositional landforms created by wind. Characteristics of: ripple marks, loess and various types of sand dunes.	(10)
b)	Describe the erosional landforms created by sea waves. Sea cliff-wave cut platform-sea caves- sea arch-sea stack-sea stump-blow hole.	(10)
c)	What is Karst Topography? Describe depositional landforms created by underground water. Definition of Karst topography- Characteristics of: Stalactite, stalagmite, cave pillars and drapes or curtains.	(10)

5.	Attempt any two questions from the following:	
a)	Explain the concept of gradient. Vertical Interval-Horizontal Equivalent their importance in calculation of gradient.	(10)
b)	Draw a cross section X and Y on the contour map given in Appendix I and identify the landform. State the intervisibility of points A, B and C.	(10)
c)	Points P and S are on 1000 metres and 800 metres contour lines respectively on a topo map. The scale of the map is 1cm to 1 km. the distance between points P and S is 10 cm. so find out the gradient between these points. Scale conversion: 1 cm to 1 km =1 cm to 1,000 metres. Therefore 10 cms = 10x1000 = 10,000 metres Gradient=Vertical Interval (V.I.)/Horizontal Equivalent (H.E.) Gradient=(1,000-800)/10,000 Gradient=200/10,000=2/500 **Gradient=1:50**	(10)
d)	Explain the concept of intervisibility. Intervisibility a condition where 2 places located on a slope are visible to each other-explanation for how the visibility differs from one topographical feature to another as the placement of contours change.	(10)

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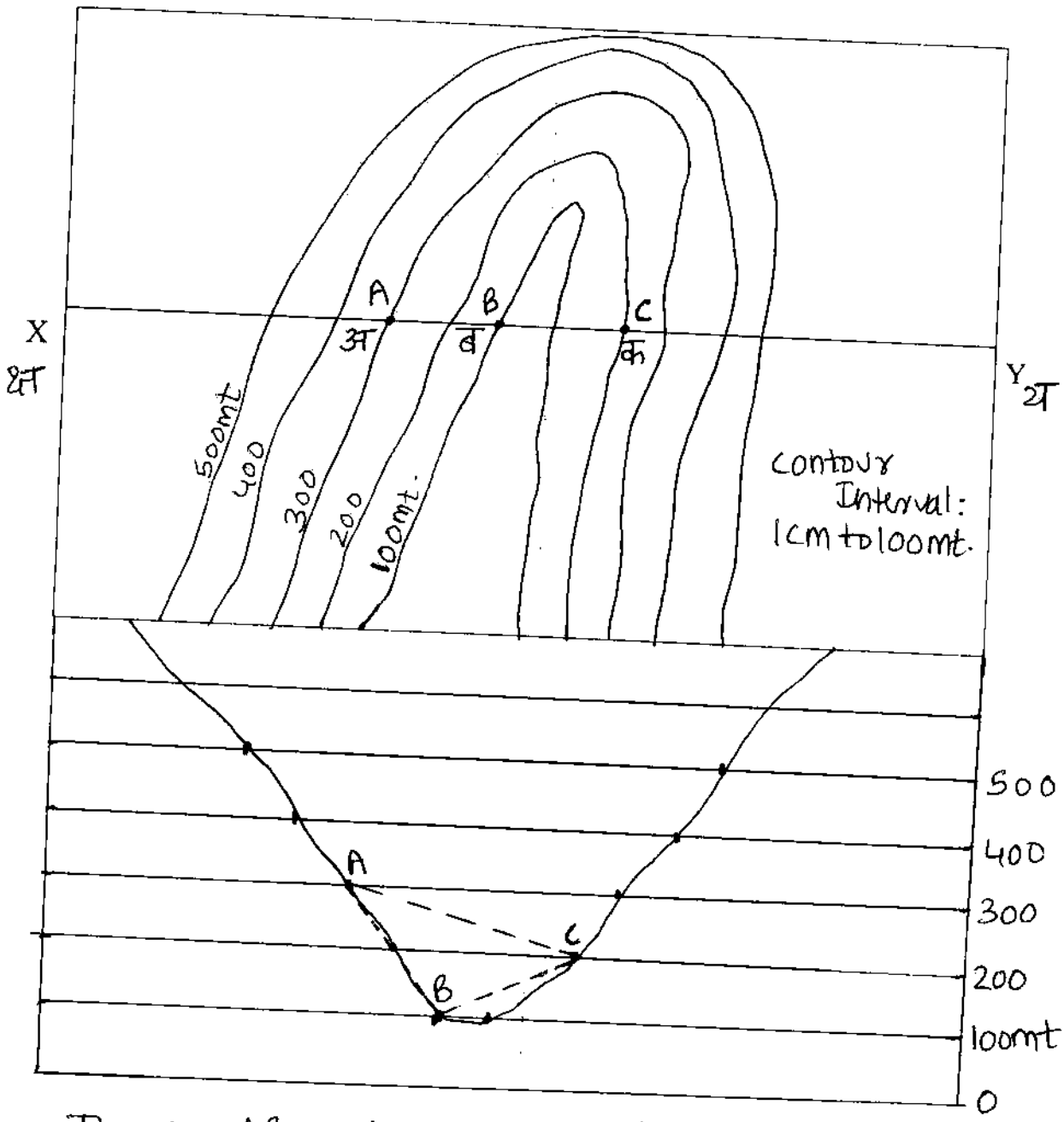
Q3

APPENDIX – I (परिशिष्ट - १)



The landform is V-shaped valley

Intervisibility: A to B is not visible

B to C is visible

A to C is visible