

ANSWER KEY

FY YEAR HIGHER SECONDARY EXAMINATION March 2023

PART-I/II/III

SUBJECT: GEOLOGY

CODE NO: FY 29429
60 SCORES

VERSION: 1
2 HOURS

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
<u>SECTION I</u>				
Questions 1 to 5. Attempt ALL the questions. Each question carries one score. (5x1=5)				
1		Perennial		1
2		Till (English version one option is incorrect so attempt is enough)		1
3		lithosphere/atmosphere/hydrosphere/cryosphere		1
4		petrology		1
5		graphite.		1
<u>SECTION II</u>				
Questions 6 to 15. Answer any nine questions. Each question carries two score. (9x2=18)				
6	i) Oil and Natural Gas Corporation ii) Central Ground Water Board		1 1	2
7	- is the process of downslope movement of rock debris and soil under the influence of gravity or any two types.		2	2
8	- gully erosion = localized erosion creating channels up to 10m deep called gullies. - removal of a uniform layer of fine particles from the surface through sheet flow is called sheet erosion.		1 1	2

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
9		<ul style="list-style-type: none"> - collection of water in ditches and furrows - pumping down of surface water brought from neighbouring areas (injection recharge) - afforestation. (any two points) 	1 + 1	2 2/6
10		<ul style="list-style-type: none"> - column of CaCO_3 hanging down from the roof of the cavern is stalactite - CaCO_3 growing upward from the floor of the cavern is stalagmite. <p>or Labelled Diagram.</p>	1 +	2
11		<ul style="list-style-type: none"> - the entire area drained by a stream. - the area from which all precipitation flows commonly to a single stream. <p>or Diagram.</p>		2
12		<ul style="list-style-type: none"> - chiefly through two processes <p>⇒ glacial plucking ⇒ glacial abrasion.</p> <p>Any two points related with glaciers</p>	1+1	2
13		<ul style="list-style-type: none"> - rock masses partially undercut by the abrasion carried out by wind blown sands <p>or Diagrams.</p>		2
14		<ul style="list-style-type: none"> - general term for all materials transported and deposited directly by or from the glacial ice or by water from melting glacier. <p>Any two points relevant to glaciers.</p>		2
15	i) talc ii) diamond		1 1	2

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<p><u>SECTION III</u> Questions 16 to 22. Attempt any FIVE. Each question carries 3 Score. (5x3=15)</p>				
16		<ul style="list-style-type: none"> - exploration of coal, petroleum, natural gas, ore deposits - prediction of climate changes - measures to safeguard from natural disasters (any three relevant points) - groundwater exploration 	1+1+1	3
17		<ul style="list-style-type: none"> - a star once passed near the Sun, pulling away from its matter that later condensed and formed the planets. - the ejected mass chilled out immediately resulting in the formation of innumerable small solid particles, named as planetesimals. Proposed by Moulton and Chamberlin (Any three points) 		3
18		<ul style="list-style-type: none"> i) simply makes smaller rock fragments out of larger ones/no new substances are formed ii) hydrolysis/hydration/carbonation/oxidation/dissolution iii) biological weathering. 	1 1 1	3
19		<p>aquifer - sandstone - holds and transmits water aquiclude - clay - holds water aquifuge - basalt - non-porous, impermeable.</p>	1+1+1=3	
20		<ul style="list-style-type: none"> - barchans - crescent-shaped dunes with the points of the crescents pointing in the downwind direction. - parabolic dunes - U shaped or V shaped sand dunes with convex noses trailed by elongated arms. 		

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
		<ul style="list-style-type: none"> - longitudinal dunes - long, straight dunes which are parallel to the wind direction. - transverse dunes - dunes that form perpendicular to the prevailing wind. or Diagrams. (Any three types)	1+1+1	3
21	i) - huge limestone structures built by certain marine organisms called coral polyps. ii) - formed by the calcareous skeletons that house the corals. - millions of coral skeletons cemented together over a period ranging from a few thousand to millions of years give rise to coral reefs. (Any Three Relevant Points)		+ + = 3	# + # = 3
22	<ul style="list-style-type: none"> - The sediments deposited in the Tethys sea were uplifted, bent, warped and faulted. - folding of strata, accompanied by general uplift and consequent erosion. - collision between Indian plate and Eurasian plate. Folded Mountain. 			3
SECTION IV				
Question 23 to 27. Attempt any FOUR. Each question carries 4 score. (4 × 4 = 16 score)				
23		<ul style="list-style-type: none"> - proper diagram of the soil profile - proper labelling of any three horizons. 	1 3	4
24		<ul style="list-style-type: none"> → during times of flood, in stream reaches with meanders, when the stream acquires greater discharge, it cuts across a meander loop, shortening and straightening its course. → an isolated loop of stream channel on the side is left behind. → horse-shoe or crescent-shaped 		4

Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
25	-	proper diagram of the ocean floor topography - proper labelling	1 1+1+1	4 5/6
26	i) - ii) -	the tendency of a mineral to break along certain definite directions yielding more or less smooth, planar surfaces. - rarity - beauty (colour and brilliance) - durability (any two points)	2 + 2	2 # 2 = 4
27	i) - ii) -	mountains formed when large amounts of molten rock or magma push the earth's crust from underneath. The magma never reaches the top surface of the earth. the highlands made up of softer rocks are worn out, whereas those made up of harder rocks are preserved. - hard rocks form elevated landmasses called relict mountains. (Any four relevant points about mountains)	2 2	2 # 2 = 4

SECTION V
Questions 28 and 29. Attempt any one.
(1 x 6 = 6 score)

28	-	the endless circulation of water through the different geospheres in solid, liquid and gaseous forms is called water cycle. - processes involved are 1) precipitation 2) surface runoff 3) infiltration		
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Qn. No	Sub Qns	Answer Key/Value Points	Score	Total Score
		4) baseflow 5) evaporation 6) transpiration 7) condensation. - involves the transfer of water from the oceans through the atmosphere to the continents and back to the oceans over and beneath the land surface. or Neat Labelled Hydrologic cycle.		$\frac{6}{6}$ 6
29		i) - this theory postulates that the ocean floors are spreading and moving away from the oceanic ridges. - ocean crust is continuously created along the axial portion of the oceanic ridges and destroyed at deep sea trenches. - first described by Harry H. Hess.	2	2
		ii) - fit of continental margins - similarity of rock sequences and structural features - palaeoclimatic evidences - fossil evidences.	4	4

+ 6
4
(2+4=6)

SK

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 11/1/2023.

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