ANSWER KEY

FIRST YEAR HIGHER SECONDARY EXAMINATION MARCH 2025

Part III

SUBJECT: GEOLOGY

CODE NO: F4 329 VERSION: B

SCORES:60 2 HOURS

Qn No	Sub Qn	Value Points/Indicators	Score	Total Score
		Section I		
1		Astronomy	1	1
2		~~Dunes~~ Sand dunes	1	1
3		Geoid	1	1
4		35	1	1
5		Cordillera	1	1
				5X1=5
		Section II		
6	a	Root wedging	1	2
	b	Residual soil	1	
7	a	Load	1	2
	b	Erosion	1	
8	a	Gypsum	1	2
	b	Ruby	1	
9	a	Palaeontology is the study of fossils	1	2
	b	Petrology is the study of rocks	1	
10	a	Water table -the upper surface of the zone of saturation.	1	2
	b	Karst topography-resultant topography produced by the widespread action of groundwater	1	
11	a	Sea cliff- vertical or near vertical rock exposure along coastal zone result from weathering and erosion.	1	2
	b	Coral reef-huge limestone structures built by certain marine organism called corals.	1	
12		Evidences in support of continental drift-fit of	2	2

		continental margins-similarity of rock sequences and structural features-fossil evidences -palaeoclimatic evidences.		
				6X2=12
		Section III		
13		Three major geological organizations-Geological Survey of India (GSI):~A government organization for conducting geological surveys and studies. Oil and Natural Gas Corporation (ONGC):~It conducts exploration and production activities in India of crude oil and natural gas. National Centre for Earth Sciences Studies (NCESS):~The primary objective of CESS is to promote modern scientific and technological research to the country in general and Kerala	3	3
14		The big bang hypotheses-universe was concentrated at a single point. The universe expanded rapidly with a tremendous explosion, the universe had cooled enough that protons, neutrons, and electrons could form.Proto galaxies and within them the earliest stars are formed. Both time and space were created in big bang event.	3	3
15		Types of mass wasting-creep, falls, topples, slides, flows, landslides , avalanches and subsidence.	3	3
16	a	Deflation hollows-depression formed in barren unconsolidated materials by deflation action of wind.	1	3
	b	Loess- blanket-like aeolian deposits formed when the finest particles of dust silt and clay , travelling by suspension settle down.	1	
	c	Barchans-crescent shaped sand dunes-convex towards wind ward side.	1	
17		Features of glacial erosion-cirque-a semicircular or half bowl shaped depression present at the valley head in a glaciated mountain.arete- knife edged ridge formed when two cirques meet.horn-it		3

		is a peak formed when three or more cirques meet.		
18		Formation of residual mountains-formed when the highlands made up of softer rocks are worn out, whereas those made up of harder rocks are preserved. fold mountains- folding of strata, accompanied by general uplift and consequent erosion. volcanic mountains- built up by the accumulations of igneous materials around the vents of volcanoes.	3	3
				5X3=15
		Section IV		
19	a	Geysers	1	4
	b	Angle of repose	1	
	c	Alfred Wegener	1	
	d	ice ages	1	
20		Layered internal structure of the earth- four layers the crust-thin -sial and sima the mantle-thick -upto 2900 km outer core -in molten state -iron and nickei the inner core- dense and hot+Marked diagram	4	4
21	a	Porosity - the amount of openings present in a rock. Permeability-number of inter connected pore spaces in rock formation.	2	4
	b	Stalactite -a column of calcium carbonate cevelops, hanging downward from the roof the cavern. Stalagmite- column of calcium carbonate starts to grow upward from the floor of the cavern.	2	
22		Ocean floor structure-the topography of the ocean floor is diverse-divided into definite regions : Continental shelf- gently sloping submerged surface extending from the shoreline Continental slope-the steep gradient that leads to the deep-ocean floor Deep ocean floor-contains a a number of	4	4

		distinctive topographic units such as abyssal plains & hills, mid-oceanic ridges,island arch,deep-oceanic trenches,seamounts & guyots etc.		
23		Features of Convergent plate motion-Convergent plate margins are those margins where two plates moving towards one another. Here plate destruction occurs. Three types are convergent boundaries are possible. Oceanic-Oceanic Convergence forming island arcs-Oceanic-Continental Convergence forming volcanic arcs and Continent-Continent Convergence forming tectonic mountains.	4	4
				4X4=16
		Section V		
24		Classification of earth processes -traditionally grouped into two- Internal processes -diastrophism, magmatism, metamorphism External processes-degradation and agradation	3	6
		Types of chemical weathering-rocks are broken down by chemical alteration of minerals.Types-solution,oxidation,carbonation,hydrolysis,hydration and spheroidal weathering.	3	
25	a	Stream valleys-narrow elongated v shaped valleys formed by river Water falls-formed by differential erosion by a stream	2	6
	b	Meanders-broad sweeping curves found along the course of a stream.+diagram Oxbow lakes-cut off meanders later occupied by water+diagram	4	
26		Physical properties of minerals-properties which can be observable directly. Important physical properties Habit- physical characteristic or make up of a mineral. Colour-contributes composition and presence of	6	6

		impurities. Streak- colour of its fine powder. Lustre-shining of mineral. Cleavage-tendency to break with smooth planes. Fracture-nature of broken surfaces. Hardness-the resistance which the mineral offers to scratching. Transparency-ability to transmit light. Specific gravity-heaviness of a mineral.		
				2X6=12
				Grand Total 60/75