

**REG REVIEW ASSESSMENT OF ASBOG® FG/PG TEST BLUEPRINT FROM ASBOG®
TASK ANALYSIS - Revised December, 2015**

# Questions						REG REVIEW, Inc.	
FG %/ FG #	PG %/ PG #	Total %	FG	PG		Chapter in Study Manual	Covered in Course
			X	X	Knowledge Base common to all topics: <i>Project planning, management, organization, and economics; (PG); Professionalism and ethics (FG/PG)(in General and Field and Economic only - may be an oversight)</i>		√
21%/ #30	20%/ #22	20.8			A. General and Field Geology: <i>Surface and subsurface exploration, techniques, and interpretations; Geologic and geophysical tools, application, and interpretation; Earth processes; Surface and subsurface mapping and map applications; Geologic section construction; Photogrammetry, terrain measurement, GPS, and GIS; Remote sensing; Image analysis and interpretation; Scale and scale analysis; Measurement theory, accuracy and precision; Geostatistics; Documentation and record keeping; Modeling concepts; Professionalism and ethics; QA/QC.</i>		
6	5		X	X	Plan and conduct geological investigations considering human health, safety, and welfare, the environment, regulations, professionalism and ethics, and Quality Assurance/Quality Control (QA/QC)	7,10	√
6	4		X	X	Compile and organize available information to plan geological investigations		√
6	4		X	X	Collect, describe and record new geological and geophysical data	7, 9,10	√
6	4		X	X	Determine positions, scales, distances, and elevations from remote sensing, imagery, surveys, sections, maps and GIS	3	√
6	5		X	X	Prepare, analyze, and interpret logs, sections, maps and other graphics derived from field and laboratory investigations	2,3,7	√
11%/ #15	5%/ # 5	8			B. Mineralogy, Petrology, & Geochemistry: <i>Rock and mineral identification; Crystal symmetry, systems, and forms; Igneous rocks and processes; Sedimentary rocks and processes; Metamorphic rocks and processes; Geochemical reactions and diagenesis.</i>		
	3			X	Plan and conduct mineralogic, petrologic, and geochemical investigations, including the use of field, laboratory, and analytical techniques	6	√
5			X		Identify minerals and rocks and their characteristics	5	√
4			X		Identify and interpret rock and mineral sequences and associations, and their genesis	5,6	√
3			X		Evaluate geochemical and isotopic data, and construct geochemical models related to rocks and minerals		√
3	2		X	X	Determine type, degree, and effects of rock and mineral alteration	5	√
12%/ #17	6%/ #6	9.2			C. Sedimentology, Stratigraphy, & Paleontology: <i>Stratigraphic principles; Weathering, erosion, transport, and deposition; Depositional environments; Facies analysis; Basin analysis; Sedimentary structures; Diagenesis; Geologic time; Geochronology; Fossil record and evolution; QA/QC.</i>		
	3			X	Plan and conduct sedimentologic, stratigraphic, or paleontologic investigations, including the use of field, laboratory, and analytical techniques		√
4			X		Select and apply appropriate stratigraphic nomenclature and establish correlations	3	√
5	3		X	X	Identify and interpret sedimentary processes and structures, depositional environments, and sediment provenance	3,4	√
5			X		Identify and interpret sediment or rock sequences, positions, and ages	3,5	√
3			X		Identify fossils and interpret fossil assemblages for age, paleoenvironmental interpretations, and/or stratigraphic correlations	5	√
13%/ #18	8%/ #9	10.8			D. Geomorphology, Surficial Processes, & Quaternary Geology: <i>Geomorphic processes; Landform analysis techniques; Sea and lake level change; Glaciation; Weathering; Sediment transport; Groundwater and surface water; Low temperature geochemistry; Human-land interaction; Soil development and classification; Remote sensing; GIS; QA/QC.</i>		
	3			X	Plan and conduct geomorphic investigations, including the use of field, laboratory, and analytical techniques	4,10	√
5			X		Identify, classify, and interpret landforms, surficial materials, and processes	4,12	√
4			X		Determine absolute or relative age relationships of landforms, sediments, and soils	3,4	√
5	3		X	X	Evaluate geomorphic processes and development of landforms, sediments, and soils, including watershed functions	4	√
4	3		X	X	Apply remote sensing and GIS techniques to interpret geomorphic conditions and processes	3, 4	√

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11%/ #15	8%/ #9	9.6			E. Structure, Tectonics, & Seismology: <i>Fractures, faults, and folds; Rock fabric; Rock mechanics; Structural analysis; Plate tectonics; Tectonic regimes; Volcanism; Structural and seismic history; Paleoseismology; Earthquake processes, QA/QC.</i>		
	3			X	Plan and conduct structural, tectonic, or seismologic investigations, including the use of field, laboratory, and analytical techniques	2,10,12	√
4			X		Identify and define structural features and relations, including constructing and interpreting structural projections and statistical analyses	2	√
4	2		X	X	Interpret deformational history through structural and tectonic analyses	2,3	√
3	2		X	X	Develop and apply tectonic models to identify geologic processes and history		√
4	2		X	X	Evaluate earthquake mechanisms and paleoseismic history	12	√
12%/ #18	19%/ #21	15.6			F. Hydrogeology: <i>Groundwater and surface water systems and processes; Aquifer characterization; hydrogeologic modeling; Low temperature aqueous geochemistry; Contaminant transport and geochemistry; Isotopic and tracer studies; Hydraulic properties of fluids and earth materials; Site investigation methods, tools, and applications; Geophysical techniques; Landform analysis; Weathering; QA/QC. Well drilling, Well design, and construction; Soil and water remediation techniques; Water resource management and protection.</i>		
	5			X	Plan and conduct hydrogeological, geochemical, and environmental investigations, including the use of field, laboratory, and analytical techniques	8,9,10	√
6			X		Define and characterize hydraulic properties of saturated and vadose zones	8	√
	4			X	Design groundwater monitoring, observation, extraction, production, or injection wells	7,8	√
6	4		X	X	Evaluate water resources, assess aquifer yield, and determine sustainability	7	√
6	4		X	X	Characterize water quality and assess chemical fate and transport	9	√
	4			X	Manage, develop, protect, or remediate surface water or groundwater resources		√
11%/ #15	19%/ #21	14.4			G. Engineering Geology: <i>Landform analysis techniques; Soil and rock weathering; Groundwater and surface water systems and processes; Low temperature geochemistry; Human-land interaction; Soil and rock mechanics; Soil and rock classification and engineering properties; Geologic hazards; Hazard and risk analyses; Cost/benefit analyses; Site investigation methods, tools, and applications; Geophysical techniques; QA/QC. Land restoration and hazard mitigation; Mine closure; Image analysis and interpretation, Remote sensing, GIS; Earth and rock constructuin methods; In-situ and laboratory testing.</i>		
	4			X	Plan and conduct environmental and engineering geological investigations, including the use field, laboratory, and analytical techniques	10, 11, 13	√
5	3		X		Identify and evaluate engineering and physical properties of earth materials	4,7	√
	4			X	Provide recommendations for engineering design, land use decisions, environmental restoration, and watershed management	11,13	√
5	3		X	X	Identify, map, and evaluate geologic, geomorphic, and seismic hazards	3,4,12	√
5	4		X	X	Interpret land use, landforms, and geological site characteristics using imagery, maps, records, and GIS	3,4	√
	3			X	Develop plans and recommendations for hazard mitigation, and land and watershed restoration	12,13	√
9%/ #12	15%/ #17	11.6			H. Economic Geology & Energy Resources: <i>Exploration and development techniques; Geophysical techniques; Petrophysical techniques; Geochemical analysis; Geostatistical analysis; Mineralization processes; Characteristics of mineral deposits; Energy resource systems; Characteristics of hydrocarbon traps; Industrial minerals, coal, and earth materials; Exploration risk and economics; Resource/reserve assessment; Safety hazards and risk analysis; Professionalism and ethics; QA/QC. Exploration drilling techniques; Drill program design and management; Assaying; Land restoration and hazard mitigation; Mine and well decommissioning.</i>		
	3			X	Plan and conduct mineral or energy resource exploration, evaluation, and environmental programs, including the use of field, laboratory, and analytical techniques	6,10	√
4	3		X	X	Compile and interpret the data necessary to explore for mineral and energy resources	5,6	√
4	3		X	X	Estimate the distribution of resources based on surface and subsurface data	3,7	√
	2			X	Undertake economic evaluation and reserve assessments	6	√
4	3		X	X	Determine quantity and quality of resources	12	√
	3			X	Perform geological studies for design, abandonment, closure, waste management, and reclamation and restoration of energy development or mineral extraction operations		√
100%/ #140	100%/ #110	100.0%					