

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, July- 2020

Course Name: Mineral Exploration & Mining Geology

Semester: IV

Programme Name: B. Tech, GSE

Time: 03 hrs

Course Code: PEGS 2006

Max. Marks: 100

SECTION A (60 Marks)

S. No.		Marks	CO
Q 1	<p>i. Alluvial soil exhibits ----- drainage texture</p> <p>ii. Near surface application in seismic survey is meant for study of -----</p> <p>iii. Frequency of radio waves for GPR is</p> <p>iv. Recordig speed in GPR is -----</p> <p>v. Shape of Imgae is GPR is</p> <p>vi. In GPR image, the top of hyperbola represents -----</p> <p>vii. Panchromatic films are used for mapping of ---- deposit</p> <p>viii. Angle variation in Vertical photographs is less than -----degree</p> <p>ix. Aerial photogrpahs taken from a pair of camera with vertical & slightly tilted axis are known as</p> <p>x. In Schlumberger array, the distance between potential electrodes is less than ---- of spacing between current electrodes</p>	10	CO2
Q 2	<p>i. In GPR low frequency waves are used for -----purpose</p> <p>ii. Minerals in which country is not self-sufficient, known as -----</p> <p>iii. Probable reserve is a part of -----reserve</p> <p>iv. Low oblique images are used in Reconnaissance survey due to</p> <p>v. Identification based on physical & chemical properties known as ----</p> <p>vi. The presence of minerals is authenticated in -----area</p> <p>vii. The area beyond territorial water is known as -----</p> <p>viii. For auction of composite lease, which exploration needs to be completed</p> <p>ix. The owner of minerals underlying ocean within territorial water is -----</p> <p>x. Royalty on Lignite is ratified by -----</p>	10	CO1
Q 3	<p>i. weighted average method is otherwise known as -----method</p> <p>ii. In geobotanical study, darkening of leaves indicate -----deposit</p> <p>iii. Conversion of deposit to target happens in ----- stage</p> <p>iv. Reserve ready for immediate exploitation is termed as -----</p> <p>v. Placer mining is otherwise known as -----</p> <p>vi. Vertical access from top to bottom in Underground mine is known as ----</p> <p>vii. In an open pit mine, line joining bottom most toe & top most crest forms -----</p> <p>viii. Ocean sediments containing 5% of organic mush are termed as -----</p> <p>ix. dispersion haloes formed sinmultaneously with deposit are called as -----</p> <p>x. Kimberlite deposits are examples of ----- deposit</p>	10	CO3
Q 4	<p>In single RP, time period is for -----years & ----- square kilometer area</p> <p>The vertical & inclined passage in u/g mine are known as ----- & -----</p> <p>Two movements contributing towards formation of placer deposit are ---- & -----</p>	14	CO4

	Coalification is dependent on ----- & ----- Resistivity measured upon ground is a function of ---- & ----- User cost method distinguishes between ----- & -----of an asset Break-even point is dependent upon ----- & -----		
Q 5	Mark as True/ False i. Reflected waves indicate bedrock structure ii. Placer deposits can be of residual origin iii. Limitation of geobotanical survey is 500 mtrs iv. Anthracite & Lignite are different grades of coal v. Hydrocarbon gases are the last products in oil cooking vi. Haul road should be constructed along the edges of bench vii. Commissioning stage is followed by start-up stage viii. Vertical images are used to locate fossil fuels, mostly ix. Hydrophones are electromagnetic devices x. Dynamite is known as vibroesis	10	CO2
Q6	i. Fixed cost remains same throughout the entire operation cycle ii. Inner curves of meanders are suitable locations for placer deposition iii. Radon acts as a path finder for Uranium iv. Identification of anomalous area is done in tactical survey v. RADAR is used where shape, size of deposit matters over depth vi. Error in estimating the Probable reserve is 30-50%	06	CO4
SECTION B (40 Marks)			
Q 7	A project costs Rs 80,000 and has a scrap value of Rs. 5,000 at the end of 15 yrs. Assuming the condition of straight line depreciation, Find out depreciation & book value of investment at the end of 15th year	10	CO4
Q 8	A copper vein of uniform thickness found at a depth of 100 mtrs. Vein width at the top is 60 mtrs. Ass ay values are 15 & 9 respectively. Find out the average assay of the deposit	10	CO3
Q 9	What is role of scale and how will it differ for a) Reconnaissance, b) Prospecting, c) General Exploration and d) Detailed Exploration?	10	CO1
Q 10	In an area under tactical survey, mesothermal gold deposits (Veins) found. The host rock identified as Schist. The host rock is heavily fractured. The vein is extended beyond depth of 500 mtrs. Assuming yourself to be a team leader comprising of Geologists and Mining Engineers, suggest the mining method, best suited one, considering i. Explosive consumption ii. Power consumption iii. Any other subordinate factors need to be considered, If any	10	CO2