Name: Dr. C. Lalmuankimi Dept. of Geology Govt. Zirtiri Residential Science College Aizawl - 796001 2020 4<sup>th</sup> Semester Core Course - VII ECONOMIC & APPLIED GEOLOGY Full Marks: 40 PART – A A. Choose the correct answer 1x25=25UNIT - I 1. Best example of magmatic segregation is a) Copper deposit b) Bauxite deposit c) Chromite deposit d) Manganese deposit 2. Ores of copper, lead and zinc are produced by the process a) Magmatic segregation b) Magmatic injection d) None of the above c) Contact Metamorphism 3. The minerals formed by the igneous process are termed as a) Essential b) Primary c) Varietal d) Accessory 4. The most common example of disseminated type of deposit in basic rock is a) Chromite b) Diamond c) Platinum d) Copper 5. Diamond bearing rock is known as 'kimberlite' pipe a variety of b) Peridotite a) Dunite c) Basalt d) Copper UNIT – II 6. The openings in the mining, which serve as a means of entry is known as b) Adits a) Shafts c) Cross cut d) Stop 7. Blasting gelatin is made up of

	a) Nitroglycerine and ammonium nitrate	b) Nitroglycerine and sodium nitrate	
	c) Nitroglycerine and guncotton	d) Nitroglycerine only	
8.	The mining terminology, exploitation or winning is		
	a) The process of blasting	b) The process of ventilation	
	c) The detailed mapping of the ore body	d) The process of extracting	
	e	economic mineral from the earth	
9.	The drill holes which are driven vertically and make the sides of the excavation are		
	termed as		
	a) Erasers	b) Simplers	
	c) Dressers	d) None of the above	
10.	Strip mining is a method of		
	a) Underground mining	b) Horizon mining	
	c) Long wall mining	d) Opencast mining with a high	
		degree of mechanization	
	UNIT – III	I	
11.	Seismic method is widely used for prospecting	3	
	a) Base metals	b) Magnetic minerals	
	c) Petroleum and ground water	d) Radioactive minerals	
12.	Airborne radioactive method is mostly used for prospecting		
	a) Atomic minerals	b) Magnetic minerals	
	c) Base metals	d) None of the above	
13.	The geochemical method that is most effective for detecting gold in a deposit is		
	a) Magnetic method	b) Soil analysis	
	c) Chemical composition of the ore body	d) Stream water analysis	
14.	The cheapest, easiest and fastest among the geophysical method is		
	a) Electrical	b) Gravity	
	b) Seismic	d) Magnetic	
15.	The geophysical search after radio-active elements is primarily a search for		
	a) Buried uranium ores	b) Daughter elements	
	c) Abnormal gamma radiation	d) Normal gamma radiation	

# UNIT – IV

16.	Specific gravity for most of building stone lies between		
	a) 1.5 to 2.0	b) 2.5 to 3.0	
	c) 2.0 to 3.5	d) 3.0	
17.	The most suitable soil for compressing air tunneling		
	a) Silt	b) Clay	
	c) Sand	d) Gravel	
18.	Which of the following stone is best suited for construction of piers and abutments of a		
	railway bridge?		
	a) Granite	b) Limestone	
	c) Shale	d) Quartzite	
19.	Repetitive observations of the same area at equal interval of time are useful monitor the		
	dynamic phenomena		
	a) Snow cover	b) Vegetative cover	
	c) Forest fires	d) All of the above	
20.	In GPS, receivers are		
	a) Quartz clock	b) Atomic clocks	
	c) Electrical clocks	d) Mechanical clocks	
	1	UNIT – V	
21.	The yield or capacity of an aquifer is	s termed as	
	a) Storage co-efficient	b) Co-efficient of permeability	
	c) Specific yield	d) a & b	
22.	Water of aeration is known as		
	a) Vadose	b) Connate	
	c) Juvennile	d) All of the above	
23.	An aquifer which occurs in the zone of aeration is known as		
	a) Confined aquifer	b) Unconfined aquifer	
	c) Perched aquifer	d) Semi-confined aquifer	
24.	Water having least impurities is		

	a) Atmospheric water	b) Surface water
	c) Underground water	d) Industrial water
25.	Pressure of hardness depends upon	
	a) Presence of Ca and Mg salts	b) Absence of Ca and Mg salts
	c) Pressure of Mg and Fe salts	d) Absence of NaCl
	PART	- B
Fill u	p the following	1x15=15
	1. The useless material associated with ore	-mineral is
	2. The metal content of an ore is called the	of the ore.
	3. The process in which mineral grains of §	greater density sink through the fluid magma
	during the crystallization is known as	
	4. Hydrothermal solutions are	
	5. An is an entrance to an underground_mine which is horizontal or nearly	
	horizontal by which the mine can be ente	red, drained of water, ventilated, and minerals
	extracted at the lowest convenient level.	
	6. The method utilizes the refraction of seismic waves on geologic layers and	
	rock/soil units in order to characterize	e the subsurface geologic conditions and
	geologic structure.	
	7. Anis a plane of constant	nt metamorphic grade in the field separates
metamorphic zones of different metamorphic inde		nic index minerals.
	8. A branch of geology concerned with the	e identification and study of geological features
	through the study of aerial or orbital photo	graphs is known as
	9 emit energy in order to sca	n objects and areas whereupon a sensor then
	detects and measures the radiation that is re-	eflected or backscattered from the target.
	10. Water of magmatic and organic origin	is known as
	11is the instrument which is	used for measuring the permeability.
	12. The lower the degree of saturation the	the permeability.
	13. A geophysical method, which is most	applicable for surface investigation of ground
	water is	
	14is the most common chemi	cal constituent of ground water.

15. High salanities are found in soils and ground water of -----

#### **ANSWER KEY**

### PART – A Multiple choice questions

- 1. c 2. c 3. b 5. b 6.a 7.c
- 5. b
   6.a
   7.c
   8. d

   9. c
   10. d
   11. c
   12. a

   13. b
   14. d
   15. c
   16. b

   17. b
   18. a
   19. d
   20. a

4. b

21. a 22. a 23. c 24. a

25.a

#### PART – B Fill in the blanks

- 1. Gangue 2. Tenor 3. magmatic differentiation
- 4. Early and end products of magmatic fluids 5. Adit
- 6. Seismic refraction 7. Isograd
- 8. Photogeolog 9. Active remote sensing
- 10. Juvenile water 11. Permeameter
- 12. Lower 13. Electrical resistivity method
- 14. KCl 15. Arid climate