

Wydział: **Górnictwa i Geoinżynierii**

Rodzaj studiów: *stacjonarne i niestacjonarne I stopnia*

Kierunek studiów: **Mining Engineering**

Zakres pytań obowiązujący od roku akademickiego 2018/19

No	Question
1	Write what are the criteria for classifying mineral resources.
2	Draw forms of occurrence of mineral deposits.
3	Write what are the mining technologies of mineral deposits.
4	Draw a schematic diagram of the access structure for underground exploitation.
5	Write what is the difference between roadway and inclined drift.
6	Draw diagrams of opencast workings and their basic elements.
7	Write how underground mining systems are divided with examples of application.
8	Write how the opencast mining systems are divided together with examples of application.
9	Write what are the factors affecting the selection of the underground exploitation system, including the method of liquidation of gobs.
10	Write what is the difference between the deposit structure and the stone structure and draw an example structure
11	Write what are ways to filling of post-mining area.
12	Write what are the methods of mechanical excavation of deposits of fracture minerals and rocks concisely on blocks.
13	Write what is the difference between hydraulic and paste filling.
14	Write what are the main parameters of regular deposit.
15	Draw diagrams of irregularities in depositing the seams.
16	Draw regular and irregular deposits.
17	Write how underground mines are divided.
18	Draw longwall face with caving (gobs, goafs).
19	Draw longwall face with backfilling.
20	Draw room and pillar mining system with divisions on the layers.
21	Write what are the differences between the preparatory and exploitation excavations.
22	Write what are the differences between the access and preparatory excavations.
23	Write how the length of the face differs from the length along the strike.
24	Write what factors affect on the driving speed of the preparatory excavations.
25	Write what kind of pillars you know and what role they play.
26	Write what are operational losses and where they occur.
27	Write what is deposit dilution and where it occurs.
28	Describe and draw a sublevel caving system.
29	Describe and draw the Top Coal Caving system.
30	Describe and draw a room and pillar system based on underground ore mining.
31	Describe and draw a chamber system based on underground salt mining.
32	Draw the roadheader and point out its elements. Write to what operation is used.
33	Draw the conveyor belt and mark its main elements. Write to what operation is used.

34	Draw the armoured face conveyor and mark its main elements. Write to what operation is used.
35	Draw a longwall shearer loader and mark its elements. Write to what operation is used.
36	Draw a powered roof support and mark its elements. Write to what operation is used.
37	Write what kind of equipment is used to ventilation of excavations in underground mining.
38	Draw the rock bolt support and mark its elements.
39	Write how is the difference between the resin and the expansion rock bolt support.
40	Draw a scheme of suspending clamping layers for rock bolt support.
41	Draw an arch yielding support and mark its elements.
42	Write what are the methods of support of preparatory excavations.
43	Write what is the difference in working between the arch yielding support and the bolt support.
44	Write what is the process of underground coal gasification and draw a diagram of such a process.
45	Write what is the cutting of a jet of water under high pressure and draw a scheme of such a process.
46	Write what is a pillar shaft (draw a scheme).
47	Write what is a safety pillar (draw a scheme).
48	Write what is a barrier pillar (draw a scheme).
49	Write how do the bolts holes differ from the blast holes.
50	Draw the arrangement of the blasting holes in the operating chamber and mark different types of holes.
51	Write how blast holes are divided.
52	Write what is the explosive.
53	List the natural hazards associated with underground mining.
54	List the natural hazards associated with opencast mining.
55	Write what is coal dust.
56	Write what is a source of methane hazard in underground mining.
57	Write what is a source of radiation hazard in underground mining.
58	Write what is the difference between tremor and rock burst.
59	Write are the control methods of coal dust.
60	Write what is the source of fire hazard in underground and open pit mines.
61	Write what is the source of gas and rock outbursts.
62	Write what is the source of explosive gases in underground mining.
63	Write what is the source of poisonous gases in the underground mines.
64	Write what is a ventilation damp.
65	Write which instruments are used to measure the flow velocity and air temperature in underground mining.
66	Write what is the explosion triangle.
67	Write what factors affect on the selection of the mining system.
68	Write how the system of exploitation affects on the terrain surface and how to counteract on the deformation of the surface.
69	Write what is the methane drainage of preparatory and operational works.

70	Write what is an accident at work (definition, types, accident rates).
71	Write what is occupational risk and general principles of occupational risk assessment.
72	Characterize the plow technology used in mechanized longwall faces.
73	Write the definition of workability and characterize factors affecting the size of this parameter.
74	Specify the classification of borehole methods for the exploitation of solid raw materials.
75	Write what are the systems for mechanical loading of explosives used in underground and opencast mining.
76	Write what are the systems for initiating explosive charges, used in mining - the division, the principle of operation, conditions of use, advantages and disadvantages.
77	Characterize three selected methods of calculating the support's load of the roadway workings.
78	Characterize the initial state of stress and deformation in the rock mass.
79	Characterize the state of stress in the vicinity of the exploitation excavation according to the theory of the pressure wave.
80	Write what is the auxiliary ventilation.
81	Write how the bucket wheel stacker are divided, additionally draw a scheme of bucket wheel stacker.
82	On the basis of the drawing of the dumping ground (excavation heap), indicate and explain its basic geometrical elements.
83	Present the division and use of single-bucket excavators and describe the construction of the selected excavator (together with the construction diagram).
84	Present the division and use of circular wheeled excavators and describe the construction of the selected excavator (together with the construction diagram).
85	Present the division and use of bulldozers and describe the construction of the selected bulldozer (together with the construction diagram).
86	Explain the construction differences of the rigid and articulated hauler, list their advantages and disadvantages and describe the construction of the selected hauler (along with the construction diagram).
87	Describe the transport system of output on the example of a non-ferrous metal ore mine in a room and pillar system (from the front of the operating room to the skip).
88	List and briefly characterize factors affecting the efficiency of the screening process.
89	List the devices used in mineral grinding - for a selected device, please discuss in detail with a schematic drawing of its construction.
90	Describe the flotation process.
91	Draw a diagram of the construction of the explosive material and sign its elements.
92	Write how the failed holes are liquidated in mining.
93	Write how a thick deposit is exploited, divided into layers and caving , additionally draw a scheme.
94	Write how a thick deposit is exploited, divided into layers and backfilling , additionally draw a scheme.
95	Write which machines and equipments are used to load, haul and dump from exploitation excavations.

96	Write what is an ore and what you get from it.
97	Write what are the methods of enrichment; select one of them (use a schematic drawing in the description).
98	Write what is the difference between a shaft and a crosscut.
99	Write what is the difference between industrial resources and non-industrial resources.
100	Write what is the difference between the descending gallery and the incline drift due to the direction of driving and the direction of the haul output.