Site Analysis

- The exam includes the following ILOS: A.6, B.8, C.6
- Answer in the external answer sheet; don't answer in the exam sheet

First Question (ILOS A.6, B.8, C.6 – 20 credit):
Choose the most correct answer between a, b, c and d to complete the following sentences:

1- .... refers to the physical urban environment, psychological, socio cultural, ecological and economic structures
(a. Urban Fabric   -   b. Urban form –   c. Urban morphology   d. Urban solids)

2- .... is the main framework for gathering, managing and analyzing data
(a. GIS system   -   b. Georeferencing   c. UTM system   d. all answers are correct)

3- .... Clarifies the physical characteristics of cities through synthesizing its shape, size, and density.
(a. Urban Fabric   -   b. Urban form -   c. Urban morphology   d. Urban spaces)

4- .... Solar radiation is the solar radiation reaching Earth after being scattered by molecules
(a. Diffused   b. spread   c. Direct   d. Total)

5- The process of formation of cities can be analyzed by .....
(a. Urban Fabric   -   b. Urban form -   c. Urban morphology   d. Urban voids)

6- The Map of urban voids represents the ......
(a. Street network   b. street network and open spaces   c. open spaces   d. no answer is correct)

7- Mapper can identify ....analysis by its degree or percent rise
(a. Contour line   b. topographic   c. Grid   d. Slope)

8- Locations of Urban sections shall be highlighted on a ....
(a. Bar chart   -   b. Key map   c. both answers are correct   d. No answer is correct)

9- Before achieving a computational fluid analysis for air flow ......are required
(a. Wind direction   b wind velocity   c. both answers are required   d. No answer is required)

10- Studies of solids and voids could inspire architectural projects in designing .....
(a. Plans–   b. Sections   c. Both answers are correct   d. No answer is correct)

11- .... Represents different events occurring in a certain place in different occasions and time periods.
(a. Historical time line -   b. urban morphology –   c. serial vision   d. typological analysis)

12- WGS 1984 is the most accurate geographical system for obtaining the ....error
(a. Maximum   -   b. Minimum   c. Medium   d. extreme)

13- The evolution of cities through time is represented by studying its ......
(a. Urban Fabric   -   b. Urban form -   c. Urban morphology   d. Urban structure)

14- ....analysis Is not part of the sensory analysis
(a. Audible –   b. visible   c. tactile   d. Gender).

15- ...... analysis is not required in the networks and circulation analysis.
(a. Urban solids –   b. urban water   c. green corridors   d. Main roads).

16- By activating history on Google earth engine ...... are revealed
(a. Maps of past years   b. Maps in different scales-   c. Maps section lines   d. All answers correct)

17- Demographic analysis mainly concerns ......
(a. Urban studies   b. social studies   c. environmental studies   d. ecological studies)

18- GIS can calculate how many residential blocks are located at a distance of 100 meters from a selected school, which can be obtained by........
(a. Select by distance   b. Selection tool   c. Select by attribute   d. Select by location)

19- ....interface in GIS is responsible for 3D previews
(a. Arc Catalogue   -   b. Arc map   c. Arc Scene   d. Arc 3D)

20- Slope analysis is mainly one of the requirements of ....
(a. Skyline analysis   -   b. Topographic analysis   c. energy consumption analysis   d. all are correct)

21- For simulating lady bug sky dome analysis, ... need to exist and be activated.
(a. Selected sky mtx.   b. Gen cumulative sky matx.   C. Both answers are required   d. None of the answers is required)

22- Urban sections are used to clarify .....
(a. Sky lines   -   b. urban heights -   c. all answers are correct   d. No answer is correct)

23- ....Mark map geographic locations on Google earth engine
(a. Control points   -   b. KML.   c. Place marks   d. MXD)

24- Cairo Egypt is located in the North hemisphere Zpne ....
(a. 36   b. 37   c.35   d. 38)

25- Before performing environmental simulations of Lady bug ....file is required
(a. KML   b. Mxd   c. mdb.   d. epw.)

26- ....analysis represents the available means of transportation in the city.
(a. street network   -   b. urban fabric   -   c. urban mobility   d. Urban corridors)

27- Architectural style analysis is required for the ......
(a. Digital analysis   b. topographical analysis   c. environmental analysis   d. urban analysis)

28- The outputs of Lady bug radiation rose include ....
(a. Total solar radiation   b. Diffused solar radiation   c. direct solar radiation   d. All previous answers)

29- Walkability in site analysis is represented by ....
(a. Pedestrian streets   b. Public space   c. both answers are correct   d. no answer is correct)

30- .... Is part of the green infrastructural studies
(a. Ecological corridors   b. urban morphology   c. Transit points   c. no answer is correct)

31- ....represents different layers of the city urban fabrics in sequential time periods.
(a. Urban evolution-   b. urban networks   c. Urban landuse   d. urban fabric)

32- ....represents actions that would full fill the needs between the existing conditions and the desired conditions for an urban settlement.
(a. SWOT analysis   b. Gap Analysis-   c. Computational analysis   d. demographic analysis)

33- ....enables the mapper to create layers of the same geographical coordinates on Arc map.
(a. Feature class   -   b. Feature dataset   c. personal database   d. geodatabase)

34- Serial vision concept has been described by .....
(a. Cullen Gordan   -   b. Christopher Alexander   c. Jane Jacobs   d. Zaha hadid)

35- .... Connections are required for achieving an infrastructural analysis
(a. Audible water   b. Gas   c. Electricity   d. All answers are correct)

36- .... is the correct coding for GIS to select only constructed residential blocks
a- Uses are residential and construction state = constructed
b- Used = residential and construction state = constructed
c- Uses are residential or construction state = constructed
d- Uses = residential or construction state = constructed

37- Site analysis enable designers to make.....
(a. project zoning   b. project program   c. all previous answers   d. No correct answer)

38- .... in Gis change the color and line weight of each feature class
(a. shape editor   -   b. Create feature   c. Attribute table   d. Symbol selector)

39- .... is the correct coding for GIS to select all residential blocks and all constructed blocks
a- Uses are residential and construction state = constructed
b- Used = residential and construction state = constructed
c- Uses are residential or construction state = constructed
d- Uses = residential or construction state = constructed

40- To obtain a correct air flow simulation ....materials shall be set
(a. Air and brick   b. volume and pressure   c. Pressure and air   d. Volume and air)

Second Question (ILOS A.6, B.8, C.6 – 50 credit):
Put True or False

1. Computational Fluid design software can help designers to estimate wind protection measures against harmful wind.
2. The urban form clarifies the evolution of urban settlements through time.
3. Choose the command "KML to layer conversion" on ArcMap interface in order to transform kml file to a feature class.
4. Site analysis helps in producing projects better fitting with the surrounding context.
5. Urban climatic studies do not inspire contextual changes.
6. Studying the Educational level of people reflects if new projects shall address educational services or not.
7. The analysis period in solar radiation is obtained from the Gen cumulative Mtx. Component.
8. Mapper can use "Add control points '"command to relate the place marks to their location on the Google earth image.
9. Geo-referencing is the process of relating real coordinates to the spatial data.
10. It is important to specify the direction of the wind before making the CFd computational fluid design simulation.
11- The mobility map shows the transit points in an urban settlement.
12- In CFD (computational fluid design) the gauge pressure for atmosphere is always equals to 1.
13- Selected sky matrix is the amount of sky radiation in a specific period.
14- Land use analysis enables the designer to predict the environmental behavior of his design proposal.
15- The north direction in Rhino-grass hopper by default is heading to the top of the map.
16- It is not required to show the road widths in a street network map.
17- Ecological context is defined as any urban area where the climate differs from the surrounding context.

3

18- Designer can use *"Statistics"'* to obtain a table of one record for each unique value of the selected field.

19- Walkability experience is influenced by serial vision analysis.

20- Computational fluid design analysis influence the Orientation of buildings in any new project.

21- Numerical representation of data through bar charts is not required in site analysis.

22- Studying slope analysis enables designers to predict where to make cut and fill operations.

23- The information related to shape area field shall be filled by the designer while using arc map.

24- Pressure is one of the boundary conditions of any building on Computational fluid design simulation.

25- By utilizing "Insert"' icon in Arc map, Geographical maps can be presented with the legend, scale and north arrow.

26- Environmental studies are essential for predesign phases but they are not required for post occupancy assessment.

27- In geo-referencing all control points could be modified through *'"View link table"'* command.

28- GPS visualizer software enables designers to predict elevations (latitude) of points generated by paths from Google earth engine.

29- Sky line, land uses and landmarks are considered part of the environmental analysis.

30- Solar radiation analysis is useful for localizing areas required for solar energy production.

31- Permeable paving is used for floors exposed to low solar radiation values.

32- Geo-referencing can be generated by using Google earth engine and GIS.

33- Air and brick represent the boundary condition for any building simulation on Computational fluid design software.

34- In pre-design phase building forms can be modified after performing environmental simulations.

35- Ladybug radiation analysis is obtained from *"Visualize weather data "*in ladybug tool.

36- Numerical methods are used for performing environmental studies and predictions.

37- The shape length is an automatically generated field by arc map.

38- You can obtain advanced editing tools on arc map through activating *"Advanced editing command"'*.

39- To calculate the sum and mean of certain fields you can use *"Summarize"* on Arc Maps.

40- Urban climatic studies are used to assess existing or new designs.

41- Solar radiation analysis is only generated on roofs.

42- It is faster and easier to achieve urban planning queries through GIS than manual tools.

43- Airflow analysis is part of the topographic studies.

44- Urban microclimatic studies are used for modification and optimization of buildings.

45- In order to set the WGS 1984 system on GIS, *"Projected coordinates"* shall be selected.

46- Cut and fill proposals can only be done after topographic studies.

47- Solar radiation analysis are used to reduce the effect of air flow.

48- Before working on an Arc Map file designers shall first prepare a folder on their computer to collect all their output work.

49- IDW command in Arc Map generates a raster surface from a group of points.

50- Children percentage can be illustrated from the demographic analysis.

All My Best wishes,
Dr. Doaa Salaheldin Ismail Elsayed
Dr. SARA Khalil
Dr. Naser ALMekaw'y