



**SURVEYS, SOIL MECHANICS AND MATERIALS 1**  
**5230**

**JUNE XXXX**

**INTERMEDIATE LEVEL**

Centre No. & Name	
Candidate No.	
Candidate Name	

Mobile phones are **NOT** allowed in the examination room.

**5230-SURVEY, SOIL MECHANICS AND MATERIALS1: MULTIPLE CHOICE QUESTION PAPER**

**1 hour 30 minutes**

**INSTRUCTIONS TO CANDIDATES**

*Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.*

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

*Before the examination begins:*

3. Check that this question booklet is headed “**Intermediate Level – 5230 - SURVEYS, SOIL MECHANICS AND MATERIALS 1.**”
4. Insert the information required in the spaces above.
5. Insert the information required in the spaces provided on the answer sheet using your HB pencil:

**Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number.**

Take care that you do not erase or fold the answer sheet or make any marks on it other than those asked for in these instructions.

*How to answer the questions in this examination:*

6. Answer **ALL** the **50** questions in this Examination. All questions carry equal marks.
7. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide which answer is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen.  
For example, if C is your correct answer, mark C as shown below:  
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to this question later.
10. Do all rough work in this booklet, using, where necessary, the blank spaces in the question booklet.
11. **You must not take this booklet and the answer sheet out of the examination room. All question booklets and answer sheets will be collected at the end of the examination.**

*Turn Over*

1. It is the hardest class of stones
  - A Sedimentary rocks
  - B Metamorphic rocks
  - C Shinkles rocks
  - D Igneous rocks

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2. Hydraulic lime is manufactured by
  - A Burning limestone
  - B Grinding limestone
  - C Mixing quicklime with water
  - D Mixing gypsum and clinker

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3. Portland cement is fabricated by mixing
  - A Limestone and clay
  - B Limestone and shingle
  - C Shingle and clay
  - D Limestone and chalk

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4. Admixtures are added to fresh concrete to
  - A Increase the strength
  - B Improve some of its properties
  - C Increase the volume
  - D Reduce the volume

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5. "Slaking" is the term used when
  - A Burnt limestone is mixed with clay.
  - B Burnt limestone is mixed with sand.
  - C Burnt limestone is mixed with chalk.
  - D Burnt limestone is mixed with water.

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6. It is the type of soil with the lowest permeability
  - A Loose soil
  - B Clay soil
  - C Granular soil
  - D Sandy soil

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7. It is an example of a sedimentary rock
  - A Slate
  - B Granite
  - C Marble
  - D Lime stone

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8. Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers is
  - A  $90^\circ$
  - B  $30^\circ$
  - C  $45^\circ$
  - D  $0^\circ$

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9. The rocks which are formed due to cooling of magma at a relatively shallow depth from the earth's surface are called
  - A Plutonic rocks
  - B Hypabyssal rocks
  - C Volcanic rocks
  - D Igneous rocks

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10. With increase in moisture content, the bulking of sand
  - A Increases
  - B Decreases
  - C First increases to a certain maximum value and then decreases
  - D First decreases to a certain minimum value and then increases

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11. Quartzite is a
  - A Siliceous rock
  - B Argillaceous rock
  - C Metamorphic rock
  - D Calcareous rock

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12. Cement is said to be of good quality if
  - A Its colour is not greenish grey
  - B One feels cool by thrusting one's hand in the cement bag
  - C A handful of cement thrown into a bucket of water does not float
  - D Its colour is greenish grey

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13. Granite is not suitable for ordinary building purpose because it
  - A cannot be polished
  - B is not a fire proof material
  - C is costly
  - D has less crushing strength

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14. "Dry Rod" in timber is caused by
  - A Lack of ventilation
  - B Absence of water
  - C Presence of water
  - D Enough ventilation

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15. Below is not a test employed to determine the workability of concrete is
  - A Slump test
  - B Compacting factor test
  - C Consistometer test
  - D Liquid test

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16. Gauge mortar is  
 A cement ,sand and water  
 B Lime, cement sand and water  
 C Lime sand and water  
 D Cement ,gravel and water
- 
17. The principal raw material for making cement  
 A White stone,  
 B Chalk and lime stone  
 C Limestone and clay,  
 D Clay and chalk,
- 
18. consistency is determine in the laboratory using the  
 A Vicat apparatus  
 B Abraham cone  
 C spout bottle  
 D Le- chaterlier Bottle
- 
19. In the growth of timber the term growth refers to  
 A Wood tissue  
 B Each new layer  
 C Season period  
 D Annual growth
- 
20. The process of removing moisture (sap) from converted timber to bring it into equilibrium with relative atmospheric humidity is called  
 A Seasoning  
 B Conversion  
 C Transformation  
 D Drying
- 
21. A laboratory test which is use to indicate the consistency of soil is  
 A Grain seize analysis,  
 B Liquid limit  
 C Slump test  
 D Proctor test
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22. The unit weight of water is  
 A  $1000\text{g/m}^3$   
 B  $1000\text{kg/m}^3$   
 C  $1000\text{kg/cm}^3$   
 D  $1000\text{N/m}^3$
- 
23. Rocks formed after cooling and solidification of the earth crust is called  
 A Sand stone  
 B Slate  
 C Marble  
 D Granite
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24. The process of-slaking lime ,the following steps should be respected  
 A lime and water pour together,  
 B Lime should be added to the water  
 C Slaked lime before adding water  
 D Water should be added to the lime
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25. Gypsum is added to Portland cement during manufacturing to  
 A Improve its strength  
 B Reduces its heat of hydration  
 C Improve its fineness  
 D Modify it hardening duration
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26. The relative density of cement is done in the lab using  
 A Vicat's apparatus  
 B Le-Châtelier's apparatus  
 C Hydraulic press  
 D Blaine apparatus
- 
27. Which of the following sedimentary rocks changes into quartzite by metamorphic action?  
 A Sand stone  
 B Lime stone  
 C Shale  
 D Gypsum
- 
28. A heavy stone is suitable for  
 A Arches  
 B Rubble masonry  
 C Roads  
 D Retaining walls
- 
29. The commonly used lime in white washing, is  
 A White lime  
 B Fat lime  
 C Hydraulic lime  
 D Quick lime
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30. When chalk or limestone is burnt at a high temperature, it produces  
 A Hydrated lime.  
 B Slaked lime.  
 C Quicklime.  
 D Fat lime.
- 
31. Bricks should be thoroughly dried before burning in order to  
 A Prevent cracking.  
 B Ensure easy handling.  
 C Ensure even colour.  
 D Prevent weakness.
- 
32. The term "Arris" of a brick is the  
 A width of a brick.  
 B top of a brick.  
 C edge of a brick.  
 D length of a brick.
- 
33. State the name of special bricks used for lining chimney stack  
 A Concrete bricks.  
 B Clay bricks.  
 C Sand-creed bricks.  
 D Fire bricks.
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34. The preparation of surface of stone to obtain plain edges is known as  
 A Dressing of stones  
 B Blasting of stones  
 C Seasoning of stones  
 D Quarrying of stones
- 
35. Addition of pozzulana to ordinary Portland cement increases  
 A Bleeding  
 B Shrinkage  
 C Permeability  
 D Heat of hydration
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36. Index number expressing the relative sizes of both coarse and fine aggregates, is called  
 A Proportioning of aggregates  
 B None of these  
 C Grading of aggregates  
 D Fineness modulus
- 
37. The basic purpose of a retarder in concrete is to  
 A Increase the initial setting time of cement paste in concrete;  
 B Decrease the initial setting time of cement paste in concrete  
 C Render the concrete more water tight  
 D Improve the workability of concrete
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38. Strength of cement concrete primarily depends upon  
 A Quality of water  
 B Quantity of aggregate  
 C Water-cement ratio  
 D Quantity of cement
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39. The most common admixture which is used to accelerate the initial setting of concrete is  
 A Gypsum  
 B Calcium chloride  
 C Calcium carbonate  
 D Clinker
- 
40. A piece of timber whose thickness and width are respectively 5 cm and 10 cm is called  
 A Slate  
 B Plank  
 C Board  
 D Strip
- 
41. A graduated piece used for measuring vertical distances between points is  
 A Ranging pole  
 B Tape  
 C Level staff  
 D Tripod stand
- 
42. It is the last reading taken from an instrument position  
 A Back sight  
 B Fore sight  
 C Intermediate sight  
 D last
- 
43. A staff position where two readings are taken is called  
 A Back sight  
 B Fore sight  
 C Change point  
 D Bench mark
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44. It is used in determining the difference in height between points using angles
- A Level
  - B Theodolite
  - C Tape
  - D Spirit level

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45. EDM means
- A Electro-magnetic distance measurement
  - B Electric distance mark
  - C Electro distance measurement
  - D Electric device means

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46. Direct leveling is done using
- A Theodolite
  - B Tape
  - C Spirit level
  - D Level

47. Contours are defined as
- A Lines of equal lengths
  - B Lines of equal height
  - C Horizontal line
  - D Vertical line

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48. A tool used to carry out setting out is
- A Straight edge
  - B Ranging pole
  - C Clinometers
  - D Staff

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49. The zenith angle is said to be at left position when
- A The telescope is at face right
  - B The eye piece is to the right of the telescope
  - C The eye piece is to the left of the telescope
  - D The telescope is at face left

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50. The aim of leveling is to
- A Study the relief
  - B Calculate the volume of earth
  - C Construct the foundation
  - D Study the soil

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Stop

Go back and check your work