CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD

Technical and Vocational Education Examination

7470 Digital processing and Survey Technology 1

JUNE XXXX **ADVANCED LEVEL**

Specialty(Specialty Code)	
Centre No.	
Centre Name	
Candidate No.	
Candidate Name	

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

7470 Digital processing and survey technology 1: MULTIPLE CHOICE QUESTION PAPER

One and a half hours

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 **Advanced Level – 7470 Digital processing and Technology 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 pen **Candidate Name, Exam Session, Subject Code, Centre Number and Candidate Number.** Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.
6. A**nswer ALL questions**
7. Each question has FOUR suggested answers: **A, B, C** and **D**. Decide on 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. Texts, notes and pre-prepared materials of any kind are also **NOT** allowed in the examination room.
12. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet after. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT**.

1. The kind of surveys where only a small area is considered is known as

A	Geodetic surveys
B	plane surveys
C	aerial surveys
D	hydrographic surveys

2. A staff reading of 1.360m was read on a staff held on a Bench Mark whose height is 150.00.Determine the staff reading required to set out a point whose height is 149.316m.

A	2.404m
B	2.044m
C	0.684m
D	0.648m

3. The polar coordinates of a point are defined by

A	A distance D and a bearing V
B	An height H and a distance D
C	An angle β and a bearing V
D	A vertical angle V_z and a horizontal angle H_z

4. The sum(∑) of the internal angle of a triangle is

A	190^o or 210gr
B	270^o or 180gr
C	180^o or 200gr
D	360^o or 400gr

5. The operation required to determine height differences between points on the surface of the earth is known as

A	Plane surveying
B	Levelling
C	Setting out
D	Traversing

6. A line which is at a constant height relative to mean sea level is referred to as

A	Level line
B	Contour line
C	Building line
D	Plumb line

7. The abbreviation EDM in topography stands for

A	Electrical Digital measurement
B	Electromagnetic Distance measurement
C	Easy Distance measurement
D	Elementary distance measurement

8. LIS's as an abbreviation in surveys stands for;

A	Land information system
B	Local information system
C	Local information satellites
D	Local internet system

9. Which of the following is true for a +2% gradient?

A	For every 1m moved, the land rises by 2cm
B	For every 10 m moved the land rises by 2cm
C	For every 100m moved the land rises by 2cm
D	For every 50m moved, the land rises by 2cm

10. HPC stands for

A	Height of plane of collimation
B	Higher precision collimation
C	Height of parallel collimation
D	Height of perfect collimation

11. The first reading taken at an instrument's station in direct levelling circuit is

A	Foresight
B	Back sight
C	Intermediate sight
D	Reduced sight

12. The slope of a longitudinal alignment is expressed as 1 in 40, rising .Express this gradient in percentage

A	+2.5%
B	+0.025%
C	-2.5%
D	-0.05%

13. The difference between a measured results and the exact value of a quantity is known as

A	Blunder
B	Mistake
C	Error
D	Deviation

14. The symbols used to designates points of the terrain on topographic maps are called

A	Conventional signs
B	Conventional features
C	Conventional representation
D	Conventional marks

15. The point in longitudinal profile where the project height coincides with the height of natural ground is

A	Datum
B	Point of zero work
C	Datum point
D	Project level

16 A pipe line slopes downward at a gradient of -0.5%.Express it as 1 / n.

A	1/100
B	1/20
C	1/50
D	1/200

17. The instrument used for measuring magnetic bearings is a/an

A	compass
B	Optical square
C	GPS
D	EDM

18. It is a mechanical instrument used for the determination of the surface area of irregular figures on a topographic maps

A	Barometer
B	Tachometer
C	Planimeter
D	Thermometer

19. The errors whose signs and magnitude can't be predicted during measurements are

A	Random errors
B	Systematic errors
C	Gross errors
D	Constant errors

20. Which type of errors occurs due to the carelessness of the observer, and can always be discovered by redundant measurement

A	Random errors
B	Constant errors
C	Gross errors
D	Constant errors

21 A horizontal distance of 28m is to be set out on a land that slopes at 10, rising. Calculate the distance that will be laid down on the land.

A	28.41m
B	27.14m
C	28.14m
D	27.41m

22. The quadrant bearing of a line located on the 2nd quadrant SE is obtained by adding or subtracting the whole circle bearing from?

A	270grs
B	300grs
C	170grs
D	200grs

23. The abbreviation WCB stands for

A	Whole circle bearing
B	Western circle bearing
C	Whole coordinates bearing
D	Whole control bearing

24. An imaginary line joining points of the same altitudes on a land above the datum is

A	Contour line
B	Straight line
C	Curve line
D	Spiral line

25. A distance of 32.6m is to be plotted to the scale of 1/50.Determine the plan distance

A	62.5mm
B	65.2cm

C	62.5cm
D	6.52mm

26. A means used to facilitate travelling /movement from one place to another is called

A	Culvert
B	Tunnel
C	Flyover
D	Road

27. The symbol (Δ) stands for what in a simple circular curves:

A	Deflection angle
B	Vertical angle
C	swing angle
D	Sub chord angle

28. Which of the following formulae is true in simple circular curves?

A	T=BC-IP
B	T=O-BC
C	T=P-IP
D	T=O-EC

29. One of the main uses of a roadway cross section is that

A	It describes the nature of the road
B	It describes the road way left and right
C	It describes the nature of the alignment
D	It describes the road way at right angles left and right of the center line

30. The height of a point above sea level is known as

A	Altitude
B	Depth
C	Aptitude
D	Zero level

31. During trigonometric leveling distance of 50m was measured at an inclination of 102.356gr.Knowing that the height of sight was equal to the height of the instrument. Determine the difference in elevation.

A	+1.85m
B	+1.58m
C	-1.8m
D	-1.85m

32. An analytical method of calculating surface areas is

A	By coordinates
B	By Simpson's rule
C	By counting squares
D	By planimeter

33. The location of points on the earth can easily be done in topography using

A	Latitude only
B	Longitudes only
C	Latitudes and longitudes
D	Equator

34. Contour lines on a map which are close together represents

A	A gentle slope
B	A steep slope
C	A variable steep
D	No slope

35. The two plane mirrors of an optical square has as angle of intersection

A	45^o
B	30^o
C	60gr
D	20gr

36. The permissible error in chaining for measurements with a chain on a hilly rough terrain is

A	1in 1000
B	1in 250
C	1in100
D	1in 500

37. Which of the following scales is the smallest

A	1/5000
B	1/10000
C	1/50000

D	1/1000000

38. The correction for a sag during chaining is always

A	Additive
B	Subtractive
C	Zero
D	Sometimes additive and sometimes subtractive

39. The theodolite is an instrument used for Measuring

A	coordinates of point
B	horizontal angles
C	vertical bearings
D	Measuring of stadia distances and horizontal/vertical angles

40. Which of the following readings is taken on a change point

A	Back sight
B	Fore sight
C	Fore sight and back sight
D	Fore sight and Intermediate sight

41. By stationing the levelling instrument midway between the two points, the surveyor seeks to eliminate

A	errors due to curvature only
B	errors due to refraction only
C	errors due to both refraction and curvature
D	errors due to reflection and curvature

42. The EDM uses

A	X-Rays
B	Sound waves
C	Light waves
D	Magnetic flux

43. The most probable value of a quantity is equal to

A	Observed value + correction
B	Observed value –correction
C	True value + correction
D	True value-correction

44. Chain surveying is best adopted for

A	Small areas in open ground
B	Small areas with crowded details
C	Large areas with highly details
D	Large areas with difficult details

45. A dumpy level is setup vertically over a peg "A" and the height from the top of the peg to the center of the eye piece is 1.54m and the reading on peg "B" is 0.705m, the level is then setup Over peg "B" the height from the eyepiece above peg "B" is 1.490m and the reading on "A" is 2.195m, what would be the difference in height between "A" and "B"?

A	0.700m
B	0.630m
C	0.770m
D	0.785m

46. The bearings of the lines AB and BC are respectively 146^0 30"and 68^o 30" the angle ABC would be

A	$102^{\cdot}000^o$
B	100.102^o
C	102.789^o
D	102.200^o

47. The bearing of AB is 190^o 00'00" and that of CB is 260^0 30' 00 "the angle ABC is;

A	70^o 33'
B	70^o 35'
C	70^o 30'
D	70^o 80'

48. For the construction of roadway (railway) the required parameters are:

A	Lateral sections
B	Longitudinal profile

Turn Over

C	Longitudinal and lateral sections
D	Gross profile

49. The distance that is measured from the start of simple circular curve to the intersection point between the two alignments is

A	Bisector
B	Length of curve
C	Principal Chord (length)
D	Tangent length

50. In a simple circular curve of 300m radius with specified length chord of 30m. Determine the degree of the curve

A	4.17 grade
B	6.19 grade
C	6.37 grade
D	3.97 grade

NOW GO BACK AND CHECK YOUR WORK