

Abia State University

ABSU

POST-UTME

Past Questions

[Sciences]

Subjects:

➤ *English language*

Mathematics

➤ *Biology*

Chemistry

Physics

~~**NOT FOR SALE**~~

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There are many indicators with which to access the measure of corruption. One of them is the affluent living habit of the public officials compared to his/her declared income. Corruption occurs when a public official expects to be induced to perform an act which that public official is ordinarily required to do by law.

Corruption can shut down development. One of the most widely discussed consequences of corruption is the distortion of governmental expenditure. This often results to money being wasted on white elephant projects, rather than people-oriented services such as health and education. As a result, more opportunities are presented for corrupt use or diversion of funds.

Raising the ethical standards of government can lead to many benefits especially for the economic, political and social

development of the country. Fighting corruption and promoting good governance is therefore crucial to developing an environment that facilitates the social, political and economic development of the people.

However, while there are often general statements made about the effects of corruption on poverty and development, there is not an explicit recognition that corruption is more than just wealth misappropriation or abuse of power.

Corruption impoverishes countries and deprives their citizens of good governance. It destabilizes economic system when organized crimes and other illegal activities, basic functions are eroded and the quality of life of the people is reduced. Bribery, for example, is universally regarded as a crime measures, and the involvement of the society at large.

Another implication of global measures against corruption is making government work better by preventing the economy. Finally, predesigning political and regulatory structures will reduce corruption and other anti-system players that encourage corrupt practices.

Adopted from ThisDay Newspaper 28/10/2007

1. According to the writer, corruption is triggered off by _____

- A. selfish interest
- B. public officials
- C. private officials
- D. unnecessary affluence

2. From the passage, one of the consequences of corruption is that _____

- A. it is beneficial to wealthy people who stole public wealth
- B. people get what they want with so much money to spend

C. it impedes the progress of a nation

D. large projects are executed

3. Who, according to the writer, should prevent corruption?

- A. corrupt public officials
- B. the people
- C. the government
- D. lawyers and police

4. Which of the following is an indication of ethical standard of governance.

- A. socio-economic instability
- B. bloated expenditure
- C. democratic governance
- D. fundamental human rights

5. The essence of fighting corruption, according to the passage, is to _____

- A. promote good governance
- B. make people richer
- C. punish corrupt politicians
- D. send the corrupt to jail

In each of the questions 6 to 10, choose the option that best completes the gap.

6. A wide range of options_____ made available to students in their final year last year

- A. were
- B. was
- C. are
- D. is

7. Paper is made _____ wood pulp

- A. of
- B. with
- C. from
- D. on

8. The federal government has _____child trafficking

- A. projected
- B. proscribed
- C. prescribed
- D. postulated

9. Based on the fact before me, I have no alternative _____ to hold you responsible.

- A. as
- B. but
- C. than
- D. only

10. Many people would always find reasons to _____ the law.

- A. debase
- B. circumspect
- C. circumvent
- D. arrogate

In each of question 11 to 14, choose the option opposite in meaning to the word or phrase underlined.

11. The principal was advised to be flexible on critical issues.

- A. livid
- B. cautious
- C. evasive
- D. rigid

12. Chinwe was promoted for her efficiency.

- A. ability
- B. incompetence
- C. inconsistency
- D. rudeness

13. Election processes often become volatile.

- A. calm
- B. strange
- C. sudden
- D. latent

14. Ola thought that her father was very callous.

- A. parlous
- B. compassionate
- C. wicked
- D. cheerful

In each of questions 15 to 17, choose the option nearest in meaning to the word or phrase underlined

15. Peter is an ardent supporter of education for the girl child.

- A. an ignorant
- B. an optimistic
- C. a cogent
- D. a passionate

16. The scholar's epitaph was demolished

- A. book
- B. monument
- C. embodiment
- D. farmland

17. The exhibition was an eye opener to all.

- A. dispatch
- B. display
- C. style
- D. examination

In each of questions 18 to 20, choose the option that best completes the gap

18. Those _____ are very beautiful.

- A. flowers of her
- B. flowers of her's
- C. our flowers
- D. flowers of ours

19. She traced her family history_____ matrilineal descent.

- A. in
- B. by
- C. with
- D. at

20. The house and the Senate will _____at noon next Wednesday to hear a special address by the President.

- A. convene
- B. adjourn
- C. rise
- D. collude

BIOLOGY:

21. The process in which complex substances are broken down into simpler ones is referred to as

- A. catabolism
- B. metabolism
- C. tropism
- D. anabolism

22. The plants that grow in deserts or very dry areas are referred to as

- A. hydrophytes
- B. epiphytes
- C. xerophytes
- D. mesophytes

23. The process of transforming the chemical energy of cellular fuels into high energy bonds of ATP in plants is

- A. photosynthesis
- B. photolysis
- C. respiration
- D. autotrophism

24. Which of the following group of organisms feeds directly on green plants?

- A. primary consumers

- B. secondary consumers
- C. producer
- D. decomposers

25. A pollutant that is mostly associated with acid rain is

- A. nitrogen
- B. oxide B ozone
- C. fluorine
- D. carbon (iv) oxide

26. An individual with blood group AB can receive blood from those in blood group(s)

- A. A, B, AB and O
- B. A, AB, and O only
- C. AB only
- D. A and B only

27. The causative agent of bird is a _____

- A. protozoan
- B. virus
- C. bacterium
- D. fungus

28. Which of the following is common to the mosquitoes, housefly and black fly?

- A. they are parasites of man
- B. their immature stages are aquatic
- C. they undergo complete metamorphosis
- D. their adults have two pairs of wings

29. The inheritable characters that are determined by a gene located only on the X-chromosome is

- A. recessive
- B. sex-linked
- C. homozygous
- D. dominant

30. Which of the following is a polysaccharide

- A. glucose
- B. sucrose
- C. maltose
- D. cellulose

CHEMISTRY

31. Elements in the same period in the periodic table have the same _____

- A. chemical properties
- B. physical properties
- C. number of shells
- D. atomic number

32. Calculate the percentage by mass of nitrogen in calcium trioxonitratre (v)

- A. 17.1%
- B. 27.6%
- C. 8.5%
- D. 13.1%

(Ca = 40, N = 14, O = 16)

33. Which of the following salts is slightly soluble in water?

- A. Na_2CO_3
- B. PbCl_2
- C. AgCl
- D. CaSO_4

34. Permanent hardness of water can be removed by

- A. adding caustic soda
- B. boiling
- C. filtration
- D. adding slaked lime

35. An isotope has an atomic number of 15, and a mass number of 31. The number proton it contains is

- A. 16
- B. 15
- C. 46
- D. 31

36. The minimum amount of energy required for a reaction to take place is

- A. activation energy
- B. kinetic energy
- C. tactic energy
- D. ionization energy

37. The alkanol obtained from the production of soap is

- A. propanol
- B. ethanol
- C. glycerol
- D. methanol

38. The process of converting starch to ethanol is

- A. cracking
- B. distillation
- C. fermentation
- D. oxidation

39. The enzyme invertase converts sucrose into

- A. glucose and glucose
- B. glucose and galactose
- C. glucose and fructose
- D. fructose and galactose

40. Calculate the molecular formula of a compound with empirical formula CH_2O and relative molecular mass 120 ($\text{C}=12$, $\text{O}=16$, $\text{H}=1$)

- A. $\text{C}_2\text{H}_4\text{O}_2$
- B. $\text{C}_4\text{H}_8\text{O}_4$

C. $\text{C}_8\text{H}_{16}\text{O}_8$

D. $\text{C}_3\text{H}_6\text{O}_3$

PHYSICS

41. The accurate measurement of the relative density of a substance in its powdered form is done with a beam balance and _____

- A. an eureka can
- B. a burette
- C. a pipette
- D. a density bottle

42. Which of the following is used for the correction of short-sightedness?

- A. concave lens
- B. concave mirror
- C. convex mirror
- D. convex lens

43. If the volume of a gas increases steadily as the temperature decreases at constant pressure, the gas obeys

- A. Pressure law
- B. Charles' law
- C. Graham's law
- D. Boyles law

44. Which of the following electromagnetic waves has the highest frequency?

- A. infrared -ray
- B. x-ray
- C. ultra-violet ray
- D. radio waves

45. A cannon is fired from town x. After how long is the sound heard at a town y, 4.95km away (velocity of sound in air= 330ms^{-1})

- A. 12s
- B. 15s
- C. 30s
- D. 10s

46. A train with an initial velocity of 20ms^{-1} is subjected to a uniform deceleration of 2m^{-2} . The time required to bring the train to a complete halt is

- A. 5s
- B. 10s
- C. 20s
- D. 40s

47. Calculate the work done when a force of 20N stretches a spring by 50mm

- A. 0.5 J
- B. 1.5 J
- C. 2.0 J
- D. 2.5 J

48. Which of the following obeys ohms laws?

- A. electrolytes
- B. metals
- C. diode
- D. glass

49. What is the equivalent of 20k in Celsius scale?

- A. 293°C
- B. 68°C
- C. 20°C
- D. 120°C

50. A current of 20A flows through a cable whose resistance is 5Ω . Calculate the electric power dissipated

- A. $2 \times 10^3\text{W}$
- B. $2 \times 10^4\text{W}$
- C. $1 \times 10^3\text{W}$
- D. $1 \times 10^2\text{W}$

**SOLUTION TO ABSU
2015/2016 POST UTME
SCREENING EXERCISE**

USE OF ENGLISH

1. D 2. C 3. C 4. C 5. A 6. D 7. C
8. D 9. C 10. D 11. D 12. C 13.
A 14. B 15. D 16. B 17. B 18. D
19. B 20. B

BIOLOGY

21. B 22. C 23. B 24. A 25. B
26. B 27. B 28. C 29. D 30. C

CHEMISTRY

31. D 32. A 33. C 34. A 35. B
36. A 37. C 38. C 39. D 40. D

PHYSICS

41. D 42. D 43. A 44. D 45. B
46. B 47. – 48. A 49. A 50. D

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2014/2015 ABSU POST UTME QUESTIONS

TIME ALLOWED: 1 HOUR

Fill in the blanks using the best of the options

1. The student's nocturnal meetings resulted ____the suspension of all of them.

- A. In
- B. to
- C. from
- D. for

2. The boy was seriously sick____ typhoid fever.

- A. with
- B. in
- C. in
- D. for

3. The vice president had to stand_____ of the meeting.

- A. on/in
- B. in/at
- C. by/at

D. in/in

4. To procure the much-needed chemical, the school____ to spend fifty-thousand-naira last year.

- A. should
- B. must
- C. has to
- D. had to

5. It_____ government a lot of money to train these artisans.

- A. costed
- B. cost
- C. costs
- D. has costed

6. The man has_____ for you, Chioma said.

- A. some news
- B. few news
- C. a few news
- D. many news

7. The teacher is prepared to pay for the_____ to General Manager.

- A. Damage
- B. done damages
- C. destruction
- D. a loss of damages

8. It was done with a view to_____ the reason for arresting them.

- A. see
- B. sees
- C. seeing
- D. seing

9. The railway_____ at Calabar and Dutse has been reconstructed.

- A. terminuses
- B. termini
- C. terminus
- D. termina

10. It is time they ____with their father on the issue.

- A. discuss

- B. discusses
- C. will discuss
- D. discussed

11. _____something on the table.

- A. there's
- B. theirs
- C. there
- D. their's

12. That Caleb Bobo B defeated Dick Roughed 'm' was a great _____

- A. fit
- B. feat
- C. feet
- D. foot

13. Mr. Obi is _____. He often behaves as if he is not

- A. irresponsible/maturely
- B. irresponsible/matured
- C. non-responsible/matured
- D. irresponsible/mature

14. Nkechi said "_____"

- A. we had to do it
- B. that we had to do it
- C. if we had to do it
- D. we have to do it

15. _____ if I could see him.

- A. he said
- B. he asked
- C. he shouted
- D. he commended

16. He is in Owerri _____

- A. is he?
- B. isn't he?
- C. does he?
- D. doesn't he?

17. Williams must be given a lot of _____ if we want him to carry out the assignment.

- A. equipment
- B. equipments
- C. many equipment
- D. those equipment

18. The poet was given an award for his excellent _____ that were up to twenty.

- A. work
- B. come work
- C. works
- D. a little work

19. Ikenna said it was given as the answer to the question _____?

- A. does Ikenna say it
- B. do Ikenna say it
- C. who said it
- D. whom said it

20. Their boss in his effort to find out the process taken to accomplish the task asked _____

- A. who did it?
- B. when did you do it
- C. why did you do it
- D. how did you do it

21. He saw us there, _____

- A. Does he?

- B. Was he?
- C. Didn't he?
- D. Did he?

22. Can she do it?

- A. no, she won't
- B. yes, she can
- C. yes, she can't
- D. no, she can

23. Lawrence is a_____

- A. nice fat light complexioned American Officer good-looking
- B. nice fat light complexioned good-looking American
- C. fat nice good-looking light complexioned American
- D. American fat nice good-looking light complexioned

24. The government set up a_____

- A. ten-men committee
- B. ten-men's committee
- C. ten-man committees
- D. ten-man committee

25. All the_____ met in Aburi to discuss issues of common interest.

- A. secretaries-generals
- B. secretary's general
- C. secretaries generals
- D. secretary-generals

26. Having done that_____ Adanma ran away

- A. ,
- B. .
- C. ?
- D. ;

27. The law_____ he that possesses leadership qualities shall be allowed to lead is being amended.

- A. ,
- B. :
- C. ;
- D. ?

28. Hope you are fine_____

- A. ?
- B. .
- C. :
- D. !

29. The boy who saw me in Lagos_____ Akin lived is here

- A. whom
- B. when
- C. where
- D. since

30. The_____ of the chief shall be buried within the of his house

- A. remains/ surroundings
- B. remain/ surrounding
- C. remains/ surrounding
- D. remain's/ surroundings'

31. The chairman of National Electoral Commission is

- A. National Tambuwal
- B. Senator David Mark
- C. Professor Jega
- D. Professor Okojie

32. The executive secretary, Nigerian Universities Commission is

- A. Professor Julius Okojie
- B. Professor Attahiru Jega
- C. Professor A. B. C. Nwosu
- D. Professor Ohiorvbere

33. The governor of Akwa Ibom state is

- A. Chief Osoba
- B. Chief Obong
- C. Chief Akpabio
- D. Chief Attah

34. The body of Prof. Dora Akunyili was buried in

- A. Akwa
- B. Agulu
- C. Ogidi
- D. Ekwulobia

35 The chief justice of Nigeria is

- A. Ibrahim Khadi
- B. Aloma Mukhtar

C. Yusfu Isah

D. Isa Muazu

36. Ebola virus was imported into Nigeria by

A. Sawyer

B. Hernandez

C. Sheriff

D. Taylor

37. The governor of Kwara state is

A. Dr. Abubakar

B. Dr. Umar

C. Dr. Ahmed

D. Dr. Makura

38. The person who imported Ebola virus into Nigeria came from

A. Liberia

B. Senegal

C. Guinea

D. Congo

39. Ebola virus disease is characterized by

A. Lassa fever

B. Haemorrhagic fever

C. Obstructive fever

D. Non-invasive fever

40. Golan heights is found in

A. Syria

B. Israel

C. Argentina

D. Iran

41. The governor of Central Bank of Nigeria is

A. EI-Rufia

B. Sanusi

C. Emefiele

D. Balogun

42. The chief judge of Abia State is

A. Umeh Kalu

B. Obisike Orji

C. Nnenna Oti

D. Stella Nwakanma

43. A deputy Governor was recently impeached in this state

- A. Enugu
- B. Kwara
- C. Niger
- D. Kaduna

44. The capital city of Jigawa State is

- A. Ovia
- B. Dutse
- C. Chibok
- D. Wadan

45. The Aviation Minister is

- A. Stella Oduah
- B. Osita Chidoka
- C. Emeka Nwogu
- D. Labaran Maku

46. The Chancellor of Abia State University is

- A. Sir Francis Orji

B. Professor S.O Igwe

C. General Ike Nwachukwu

D. Senator Chukwumerije

47. The Vice-Chancellor of Abia State University is

- A. Prof. Mkpa
- B. Prof. Irukwu
- C. Prof. Ogbuagu
- D. Prof Anyim.

48. The Secretary to Government of the Federal hails from the state

- A. Benue
- B. Ebonyi
- C. Bayelsa
- D. Ogun

49. The National Chairman of PDP is

- A. Muazu
- B. Lamido
- C. Obasanjo
- D. Anenih

50. The visitor to Abia State University is

- A. Dr. T. A Orji
- B. Dr. M. T Mbu
- C. Dr. Tinubu
- D. Dr. Uduaghan

**SOLUTION TO ABSU
2014/2015 POST UTME
SCREENING EXERCISE**

**1. B 2. C 3. B 4. D 5. B 6. A 7. A
8. C 9. D 10. D 11. A 12. A 13.
D 14. D 15. B 16. B 17. A 18. C
19. B 20. D 21. D 22. B 23. C
24. D 25. D**

**26. A 27. C 28. A 29. C 30. –
31. C 32. C 33. C 34. B 35. B
36. A 37. B 38. A 39. B 40. B
41. B 42. D 43. C 44. B 45. A
46. A 47. C 48. B 49. A 50. A**

TIME ALLOWED: 1 HOUR**ENGLISH LANGUAGE****SECTION 1**

The below has gaps numbered 1 to 10. Immediately following each gap, four options are provided. choose the most appropriate option for each gap.

The first day I entered the University was very interesting. I, as a new ___1___ waiting to be initiated into the university life with a ___2___ ceremony, kept strictly to the rules of the school. I was assigned a ___3___ in ___4___. the ___5___ gave me the room key to my room. I met Ngozi in the room; and she was my room ___6___ for that year. ___7___ often started at 7.00a.m. the ___8___ was so compact that I had no time to waste. Our lecturers reserved the

right to give us ___9___ assessment at any time. it always formed part of the final examinations. I left the school in 1989 after a remarkable ___10___ ceremony.

1. A. Pupil
B. student
C. attendant
D. lecturer

2. A. admission
B. matrix
C. matriculation
D. convocation

3. A. sleeping
B. sleep
C. bedding
D. bed space

4. A. hostel
B. hall
C. dormitory
D. house

5. A. porter

- B. gateman
- C. guard
- D. supervisor

6. A. colleague
B. tenant
C. friend
D. mate

7. A. teachings
B. tutorial
C. education
D. lectures

8. A. Times table
B. programme
C. agenda
D. timetable

9. A. continuous
B. continue
C. continued
D. continuing

10. A. graduation
B. freedom
C. convocation
D. graduard

SECTION 2

Fill in the blank in the following sentences making use of the best of the four options.

11. This pen _____ in 1992 and it is still alright up till day.

- A. had been made
- B. was made
- C. would be made
- D. was being made

12. By the time I get there tomorrow, he ____ your mate

- A. will see
- B. will be seeing
- C. will have seen
- D. has been

13. In the past, his mother ____our house.

- A. always visits
- B. had always visited
- C. use to visit

D. used to visit

14. Obi _____ there before I got to Okigwe.

A. got

B. has got

C. went

D. had got

15. The teacher asked the students " _____

A. are you hearing me?

B. do you hear me?

C. will you hear me?

D. did you hear me?

16. Chinonso _____ my father very well.

A. knowing

B. know

C. knows

D. have known

17. He said that _____

A. he can do it

B. he has to do it

C. he could do it

D. he may do it

18. The man _____ Ada _____ the hall.

A. is watching/is leaving

B. watched/left

C. watched/leave

D. watched/leaving

19. We asked the student to _____ the noise.

A. less

B. lessen

C. lesser

D. least

20. The programme _____ because it was not well planned.

A. fell out

B. fell over

C. fell across

D. fell through

21. _____ by my friend, the driver knew that his appointment would be terminated

- A. seen
- B. saw
- C. seeing
- D. sees

22. Anthony was asked to go to _____ till the following week

- A. work
- B. works
- C. working
- D. worked

23. The man _____ quietly on the bed yesterday.

- A. lie
- B. lay
- C. lain
- D. laid

24. The paper will take three hours. We just have one hour left. that is, we ____ for the past two hours.

- A. have written
- B. will be written
- C. have been written
- D. are writing

25. Do not _____ a lie; always _____ the truth.

- A. say/tell
- B. inform/tell
- C. tell/inform
- D. tell/say

26. The school was _ ten years ago.

- A. find
- B. founded
- C. found
- D. finds

27. John _____ a pen from Peter.

- A. lent
- B. borrowed
- C. lend
- D. was borrowed

28. Nike was so happy that she _____ to entertain the gathering.

- A. was dancing
- B. would have danced
- C. could danced
- D. danced

29. Chinyere found it difficult to get a seat _____ the plane.

- A. in
- B. over
- C. up
- D. on

30. Ugo said that _____ about fifteen teachers in the department.

- A. they were
- B. it will be
- C. there were
- D. there was

31. You _____ me before twelve O'clock today.

- A. have seen
- B. have better see
- C. had better seen
- D. had better see

32. Chioma _____ do that thing. it is forbidden.

- A. shall not
- B. cannot
- C. should not
- D. may not

33. I can't repair the lantern. I do not know _____ about it

- A. anything
- B. something
- C. anybody
- D. somebody

34. We _____ have decided to see the king.

- A. ourself
- B. ourselves
- C. our-self
- D. our selves

35. Williams _____ I visited last week is now here.

- A. whose
- B. whom
- C. who
- D. which

36. It is _____ who did it.

- A. him
- B. his
- C. her
- D. he

37. Chidi voted _____ the party's chairman.

- A. with
- B. against
- C. on
- D. over

38. Chibuzor is the _____ boy in his class.

- A. clever
- B. cleverest
- C. more clever

D. most clever

39. By the end of June, Ben _____ the examinations.

- A. would have finished
- B. could have finished
- C. should have finished
- D. will have finished

40. Though Amaka prepared for the examinations _____ she failed woefully.

- A. if
- B. since
- C. yet
- D. because

PHYSICS

41. Which of the following could be effectively used to reduce friction?

- A. kerosene
- B. grease
- C. water
- D. petrol

42. A copper wire was subjected to a tensile stress of $7.7 \times 10^6 \text{Nm}^{-2}$ calculate the tensile strain of the wire.

- A. 2.0×10^{-5}
- B. 7.0×10^{-3}
- C. 7.0×10^{-4}
- D. 2.2×10^4

[young modulus= $1.1 \times 10^{11} \text{Nm}^{-2}$]

43. An object weighs 22kg in water and 30kg in air. What is the up thrust exerted by the liquid on the object?

- A. 50N
- B. 520 N
- C. 220 N
- D. 80 N

[$g = 10 \text{ms}^{-2}$]

44. A block of aluminium is heated electrically by a 30W heater. If the temperature rises by 10°C in 5 minutes, the heat capacity of the aluminium is

- A. 900Jk^{-1}

- B. 90Jk^{-1}
- C. 100Jk^{-1}
- D. 200Jk^{-1}

45. A perfect emitter or absorber of radiant energy is a

- A. conductor
- B. black body
- C. white body
- D. red body

46. The energy that shows that increase in pressure lowers the melting point can be observed in

- A. sublimation
- B. condensation
- C. coagulation
- D. regelation

47. If the volume of gas increases steadily as the temperature decreases at constant pressure, the gas obeys

- A. Graham's law
- B. Boyle's law
- C. pressure law

D. Charles law

48. Steam burn is more severe than that of boiling water because

- A. a steam burn is independent of a relative humidity
- B. steam possesses greater energy per unit mass
- C. water boils at a high temperature
- D. steam burn is dependent on relative humidity

49. Which of the following types of wave needs a medium for propagation?

- A. sound wave
- B. light wave
- C. radio wave
- D. X-ray

50. The ground is always cold at high night because the

- A. atmosphere absorbs the sun's energy at night

B. earth radiates heat to the atmosphere at night

C. sun no longer shines at night

D. atmosphere reflects the sun's energy at night

51. A metal of volume 40cm^3 is heated from 30°C to 90°C , the increase in volume is

- A. 0.12cm^3
- B. 4.00cm^3
- C. 1.20cm^3
- D. 0.40cm^3

[linear expansivity of metal = $2.0 \times 10^{-5}\text{K}^{-1}$]

52. When the human eyes loses its power of accommodation, the defect is known as

- A. short-sightedness
- B. presbyopia
- C. astigmatism
- D. long-sightedness

53. A length of wire has a frequency of 255Hz when stretched by a force 225 . If the

force increases by 324N, what is the new frequency of vibration?

- A. 306Hz
- B. 512Hz
- C. 488Hz
- D. 356Hz

54. A certain far sighted person cannot see near objects that are closer to the eye than 50cm clearly. Determine the power of the converging lens which will enable him to see at 25cm.

- A. 0.06D
- B. 0.02D
- C. 0.03D
- D. 0.04D

55. Which of the following electromagnetic waves has the highest frequency?

- A. Ultra-violet rays
- B. radio wave
- C. X-rays
- D. infrared rays.

56. When a red rose flower is observed in blue light, what colour does the observer see?

- A. red
- B. blue
- C. magenta
- D. yellow.

57. The eclipse of the sun occurs when the

- A. moon is between the sun and the earth
- B. earth is between the sun and the moon
- C. moon is completely hidden in earth's shadow
- D. moon's umbra falls on some part of the earth.

58. A Cannon is fired from town X. After how long is the sound heard at town Y 4.95km away?

- A. 30s
- B. 10s
- C. 12s
- D. 15s

[velocity of sound in air = 330ms^{-1}]

59. An image in a convex lens is upright and magnified 3 times. If the focal length of the lens is 15cm, what is the object distance?

- A. 10cm
- B. 25cm
- C. 16cm
- D. 14cm

60. The capacitance of a parallel plate capacitor is $20\mu\text{f}$ in air and $60\mu\text{f}$ in the presences of dielectric. What is the dielectric constant?

- A. 0.3
- B. 6.0
- C. 3.0
- D. 2.0

BIOLOGY

61. The primary structure responsible for pumping blood for

circulation through the mammalian circulatory systems is the

- A. right auricle
- B. arteries
- C. left ventricle
- D. veins

62. Circulation of blood to all parts of the body except the lungs is through

- A. systematic circulation
- B. the lymphatic system
- C. pulmonary artery
- D. the pulmonary artery

63. Yeast respire anaerobically to convert simple sugar to carbon (iv) oxide and

- A. acid
- B. oxygen
- C. water
- D. alcohol

64. The sheet of muscle that separates the thoracic and the abdominal cavities is the

- A. intercostals muscle
- B. pleural membrane
- C. pericardium
- D. diaphragm

65. The oily substance that lubricates the mammalian hair to keep it flexible and water repellent is secreted by the

- A. sebaceous glands
- B. fatty cells
- C. granular layer
- D. sweat glands

66. The outer layer of the kidney where the Bowman's capsules are found is the

- A. pelvis
- B. medulla
- C. pyramid
- D. cortex

67. Which of the following stimuli is likely to elicit a nastic response in an organism?

- A. light intensity
- B. chemical substances
- C. gravity
- D. touch

68. In the male reproductive system of a mammal, sperm is stored in the

- A. urethra on epidermis
- B. sperm ducts
- C. seminiferous tubules
- D. vas deferens

69. Chemosynthetic organisms are capable of manufacturing their food from simple inorganic substances through the process of

- A. denitrification
- B. reduction
- C. phosphorylation
- D. oxidation

70. The part of the human gut that has an acidic content is the

- A. duodenum
- B. ileum
- C. colon
- D. stomach

71. I. Stomach – spirogyra

II. Alveoli – earth worm

III. Malpighian tubule – mammal

IV. Contractile vacuole – protozoa

Which of the above structures is correctly matched with the organisms in which it is found?

- A. II
- B. I
- C. IV
- D. III

72. A food chain always begins with a

- A. decomposer
- B. producer
- C. primary consumers
- D. consumer

73. Mycorrhizae promote plant growth by

- A. protecting it from infection
- B. helping it to utilize atmospheric nitrogen
- C. serving as a growth regulator
- D. absorbing inorganic ions from the soil

74. The barrier between maternal and foetal blood is

- A. liver
- B. umbilical cord
- C. uterine wall
- D. placenta

75. The blood component that has the greatest affinity for oxygen is the

- A. leucocytes
- B. erythrocytes
- C. thrombocytes
- D. lymphocytes

76. Which of the following organisms is mainly found in the marine habitat?

- A. tilapia
- B. dogfish
- C. tortoise
- D. achatina

77. The two halves of a pelvic girdle are joined together at the _____

- A. ilium
- B. pubis
- C. obturator foramen
- D. public symphysis

78. The loss of soil through erosion can be reduced by_____

- A. crop rotation
- B. manuring
- C. irrigation
- D. watering

79. The vector for yellow fever is _____

- A. anopheles mosquito

B. tsetse fly

C. black fly

D. Aedes mosquito

80. The protozoan plasmodium falciparum is transmitted by_____

- A. female Aedes mosquitoes
- B. female Culex mosquitoes
- C. female black fly
- D. female anopheles mosquito

CHEMISTRY

81. A mixture of sugar and sulphur can be separated by_____

- A. dissolution in water, evaporation and filtration
- B. filtration, evaporation and dissolution in water
- C. dissolution in water, filtration and evaporation
- D. evaporation, dissolution in water and filtration

82. Which of the following is a physical change

- A. freezing ice cream
- B. dissolving calcium in water
- C. burning kerosene
- D. exposing white phosphorus to air

83. The percentage of water of crystallization in $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$ is

- A. 33%
- B. 44%
- C. 55%
- D. 87%

84. A gas exerts pressure on its container because _____

- A. the molecules of gas collide with the wall of the container
- B. some of the molecules are moving faster than others
- C. of the collisions of the molecules with each other
- D. of the mass of the molecules of the gas

85. The basic assumption in the kinetic theory of gases is that the collisions of the gaseous

molecules are perfectly elastic implies that the

- A. forces of attraction and repulsion are in equilibrium
- B. gaseous molecules can occupy an available space
- C. gaseous molecules will continue their motion indefinitely
- D. gas can be compressed

86. If an atom is represented as ${}^{23}_{11}\text{X}$, which of the following deduction is correct?

- A. it contains 12 protons
- B. it forms a covalent chloride
- C. its atomic number is 23
- D. it is an alkali metal

87. If the relevant molecular mass of an element is not a whole number, it can be deduced that the element is

- A. naturally radioactive
- B. abundant in nature
- C. a transition metal
- D. an isotopic mixture

88. Cathode rays cause an object placed behind a perforated anode to cast a shadow on the screen. that the rays

- A. are positively charged
- B. are negatively charged
- C. have mass
- D. travel in straight lines

89. Which quantum number divides shells into orbital?

- A. principal
- B. azimuthal
- C. magnetic
- D. spin

90. The type of bonding in $\{\text{Cu}(\text{NH}_3)_4\}^{2+}$ is

- A. coordinate
- B. electrovalent
- C. metallic
- D. covalent

91. The mixture of gases used in a photographer's flash tube is

- A. argon and krypton
- B. krypton xenon
- C. helium and argon
- D. argon and xenon

92. When sodium trioxocarbonate (iv) decahydrate loses its water of crystallization to the atmosphere, the process is

- A. deliquescence
- B. efflorescence
- C. hygroscopic
- D. effervescence

93. Water can be obtained as the only product during the

- A. combustion of hydrocarbons
- B. neutralization of an acid by a base
- C. combustion of hydrogen
- D. electrolysis of brine

94. If 10.5g of lead (ii) trioxonitrate (v) is dissolved in 20cm^3 of distilled water at 18°C , the solubility of the solute in mol/dm^{-3} is

- A. 1.60
- B. 5.25
- C. 16.00
- D. 525.00

[Pb= 207, N=14, O=16]

95. For a given solute, the concentration of its saturated solution in different solvents are

- A. the same at the same temperature
- B. different at the same temperature
- C. the same at different temperature
- D. constant

96. The major source of oxides of nitrogen is from the burning of

- A. coal
- B. wood
- C. fuel
- D. chlorofluorocarbons

97. The acid used in electrolysis of water is dilute

- A. HNO_3

- B. CH_3COOH
- C. H_2SO_4
- D. HCl

98. What volume of 1.5M solution of KOH would contain 0.045 moles?

- A. 67.50cm^3
- B. 30.00cm^3
- C. 6.75cm^3
- D. 3.00cm^3

99. The salt formed from a reaction between citric acid and sodium hydroxide in solution will be

- A. acidic
- B. basic
- C. complex
- D. neutral

100. Which of the following metals is purified commercially by electrolysis is?

- A. Zn
- B. Fe

C. Sn

D. Cu

MATHEMATICS

1. If $Y=(2x)^3$ find the value of $\frac{dy}{dx}$ at $x = -2$

A. 12

B. 16

C. 48

D. 64

2. The turning point of the function $f(x) = 2 + x - x^2$ is

A. $(1/2, 5/2)$

B. $(3/2, 1/2)$

C. $(0, 2)$

D. $(5/2, 1/2)$

3. Find the area of the figure bounded by the pair of curves given by $y = 3$ and $y = 3 + x^2$

A. $7/6$ units (sq)

B. $6/7$ units (sq)

C. $19/16$ units (sq)

D. $19/6$ units (sq)

4. The radius of a circular disc is increasing at the rate of 0.25cm/sec . at what rate is the area of the disk changing when its radius is 8cm ?

A. $2\pi\text{cm}^2/\text{sec}$

B. $96\pi\text{cm}^2/\text{sec}$

C. $4\pi\text{cm}^2/\text{sec}$

D. $36\pi\text{cm}^2/\text{sec}$

5. Evaluate $2x \sin$?

A. 0

B. 1

C. 1

D. $-1/2$

6. Find the derivation of $y = \sin(3x^2 - 3x + 4)$

A. $(6x - 3) \cos(3x^2 - 3x + 4)$

B. $(3x^2 - 3x + 4) \cos(6x - 3)$

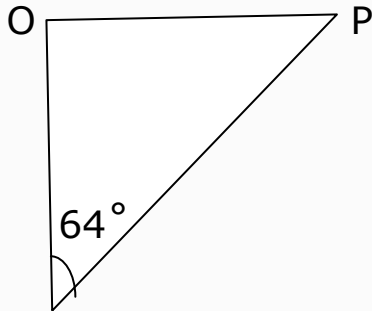
C. $\cos(6x - 3)$

D. $\sin(3x^2 - 3x + 4)$

7. Find the coordination of the midpoint of the line joining $(5, -2)$ and $(-3, 12)$

- A. (2, 3)
- B. (5, 1)
- C. (2, 1)
- D. (-1, 5)

8.



From the diagram above, find the bearing of Q from P.

- A. 1160
- B. 224
- C. 2240
- D. 1540

9. In the diagram above, O is the centre of the circle, $\angle MON = 80^\circ$ and $\angle LQN = 120^\circ$. Calculate $\angle PMO$

- A. 60°
- B. 40°
- C. 55°
- D. 10°

10. Find the equation of the perpendicular at point (1, 7) to the line $y = 2x + 5$

- A. $2y + x = 15$
- B. $y^2x = 15$
- C. $2y + x = y$
- D. $y + 2x = 4$

11. If $M = \begin{pmatrix} 1 & 2 & 3 \\ -1 & -3 & -2 \\ 0 & 1 & 0 \end{pmatrix}$ Find the determinant of matrix M.

- A. 6
- B. -2
- C. -5
- D. 1

12. Two matrices M and N are defined by

$$M = \begin{pmatrix} 3 & 2 & 1 \\ 4 & 1 & 1 \\ -1 & 2 & 0 \end{pmatrix} \text{ and } N = \begin{pmatrix} 2 & 0 & 1 \\ 3 & -2 & 2 \\ 4 & -4 & 3 \end{pmatrix}$$

- A. $\begin{pmatrix} 3 & 2 & 1 \\ 4 & 1 & 1 \\ -1 & 2 & 0 \end{pmatrix}$
- B. $\begin{pmatrix} 2 & 0 & 1 \\ 3 & -2 & 2 \\ 4 & -4 & 3 \end{pmatrix}$
- C. $\begin{pmatrix} 3 & 2 & 1 \\ 4 & 1 & 1 \\ -1 & 2 & 0 \end{pmatrix}$

D. $\begin{pmatrix} 2 & 0 & 1 \\ 3 & -2 & 2 \\ 4 & -4 & 3 \end{pmatrix}$

13. A polynomial in x whose zeros are 1, -1 and 2 is _____

- A. $x^2 + 2x^2 + x + 2$
 B. $2x^3 - x^2 + 2x^2$
 C. $x^3 2x^2 + 2$
 D. $x^2 - 2x^2 - x - 2$

14. The 7th term of an AP is twice the third term. If the first term is 12, find the common difference.

- A. 6
 B. 24
 C. 14
 D. 42

15. The weight Wkg of a metal bar varies jointly as its length L metre and the square of its diameters. If W = 90 when d=3/2 and L = 36

- A. $\sqrt{\frac{W}{10L}}$
 B. $\sqrt{\frac{7W}{10L}}$

- C. $\sqrt{\frac{10W}{10L}}$
 D. $\sqrt{\frac{71}{10L}}$

SOLUTION TO ABSU 2013/2014 POST UTME SCREENING EXERCISE

ENGLISH LANGUAGE

- 1. B 2. C 3. A 4. A 5. A 6. D 7. D
 8. D 9. A 10. C 11. B 12. B 13. D
 14. D 15. D 16. C 17. C 18. -
 19. B 20. D 21. C 22. A 23. C
 24. C 25. D 26. B 27. C 28. D
 29. A 30. A 31. B 32. C 33. A
 34. A 35. C 36. D 37. B 38. D
 39. D 40. C**

PHYSICS

- 41. B 42. C 43. D 44. A 45. B
 46. D 47. D 48. B 49. A 50. -
 51. - 52. B 53. A 54. A 55. C
 56. C 57. A 58. D 59. A 60. C**

BIOLOGY

61. C 62. A 63. D 64. D 65. A
66. D 67. D 68. B 69. D 70. D
71. C 72. B 73. D 74. D 75. B
76. B 77. D 78. A 79. D 80. D

CHEMISTRY

81. C 82. A 83. B 84. A 85. C
86. D 87. D 88. D 89. B 90. A
91. B 92. B 93. C 94. A 95. B
96. A 97. C 98. B 99. D 100. D

MATHEMATICS

1. C 2. C 3. D 4. B 5. C 6. C 7. C
8. B 9. B 10. C 11. A 12. B 13. C
14. A 15. B

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TIME ALLOWED: 1 HOUR

USE OF ENGLISH

Read Passage 1, carefully and answer the questions that follow.

Passage 1

The root of the problems which bedevil rural dwellers in Nigeria can be traced to the sad fact that work opportunities are so restricted that they cannot work their way out of poverty and misery. Though a great number of Nigerians still live in the villages and small towns, work opportunities exists mainly in the big cities where development effort are concentrated.

The reason usually given for this obvious lapse is that it is easier to establish industries and to find finance and markets to keep them going in the big cities and towns

than in the rural areas where productivity is low because of mass illiteracy and poverty.

As capital is the product of human work, rural dwellers who are desperate enough to overcome poverty often leave the villages in search of some kind of existence in the big cities and towns. Therefore, rural unemployment in Nigeria produces mass migration into the cities, leading to a rate of urban growth which seriously taxes the resources of even the biggest cities like Ibadan, Lagos, Abuja and Kano.

From the sad experiences of these cities, it is easy to see hoe rural unemployment can become urban unemployment with the attendant social problems like robbery, overcrowding and the growth of shanties or slums.

Such problems cannot be wished away but will remain with us until

deliberate efforts are made to bring health to economic life outside the big cities in order to check the migration of destitute rural dwellers into towns and cities that cannot absorb them.

It is necessary; therefore, that at least an important part of the development effort should bypass the big cities and be concerned with the provision of viable infrastructure in the small towns and villages. In this connection, it is necessary to emphasize that the primary need is workplaces. The task should be to bring into existence thousands or millions of new workplaces in rural areas and towns in order to maximize work opportunities for rural dwellers.

For this proposition to make sense, first, the work opportunities should be created in the rural areas where the majority of the people live, not where they tend to migrate for lack of opportunities.

Second, the production methods employed must be relatively simple, so that the demands for high skills are minimized, not only in the production process itself but also in matters of organization, raw materials supply, financing, marketing and so forth; third, production should be mainly from local materials and for local use.

Lastly, rural workplaces should be cheap enough so that they can be created in large numbers. These; four requirements together meet the description of what is usually called "cottage industry". Millions of them are needed for rural transformation in Nigeria and to check the dangerous process of mutual poisoning between urban areas in the country.

1. The expression "As capital is the product of human work" seems to support the argument that

A. rural people are poor because they lack work opportunities to fight back poverty

B. urban productivity is affected by mass migration from the rural areas

C. urban areas will continue to experience overcrowding as long as workplaces are concentrated there

D. rural dwellers who move to capital cities often over poverty

2. The expression mutual poisoning, as used in the passage, suggests that

A. migration negates effective urban and rural life

B. migration can make urban areas complement each other

C. rural and urban areas complement each other

D. rural people violent urban hygiene

3. The writer describes the features of a "college industry" as

A. remedying urban migration, available employment, simplicity of operations and affordable products

B. rural location, simplicity, local sourcing of raw materials and affordable products

C. affordable energy sources, availability of manpower, cheap products and easy marketing of products

D. availability of capital, high productivity, low capital demand and simplicity of operation

4. Which of the following statements is true according to the passage?

A. urban workplaces are responsible for rural poverty and misery

B. providing work opportunities in the rural areas will lead to low productivity, illiteracy and poverty

C. rural work opportunities, could reduce urban unemployment

D. urban workplaces absorb rural/urban migrants.

5. In the first sentence of the passage, the word work, used differently, can be explained as

- A. industrial and cam
- B. job and struggle
- C. employment and insure
- D. career ad prepare

In each of the questions 6 to 18, choose the option opposite in meaning to the word(s) phrase in italics.

6. After the surgical operation, the doctor gave the indication that Mr. Idogo will *pull through*

- A. be maimed
- B. offer
- C. projects
- D. be revived

7. His cruelty to mother *defies* logical explanation

- A. demand
- B. offer
- C. project

D. precludes

8. The tennis player *surreptitiously swapped* rackets after first set

- A. openly retained
- B. overtly
- C. quietly surrendered
- D. violently swung

9. They attacked all regulations designed to *emasculated* student militancy

- A. condone
- B. conserving
- C. marshalling
- D. storing

10. There is no point *dissipating* energy on a useless argument

- A. destroying
- B. pleases
- C. honours
- D. discredits

11. The secretary *runs down* anybody that does not sing his praises

- A. hates
- B. pleases
- C. honours
- D. discredits

12. Everyone including the principal, believed that he was a very *assiduous* student

- A. assertive
- B. industrious
- C. aggressive
- D. casual

13. The dancing troupe put up a *flawless* performance

- A. an interesting
- B. an imperfect
- C. a satisfactory
- D. a careless

14. My brother married a *loquacious* woman

- A. quiet
- B. Noisy
- C. talkative
- D. beautiful

15. My elder brother is now faced with the *vicissitudes* married life

- A. amazement
- B. sweetness
- C. amiability
- D. stability

16. My father's advice to me was quite *invaluable*

- A. useless
- B. useful
- C. helpful
- D. unsolicited

17. The minister has finally been dropped from the present cabinet because of his *ignoble* act

- A. criminal
- B. ignorant
- C. honourable
- D. selfish

18. Orinya balances the pail on her head with *accustomed* ease

- A. convincing
- B. surprising
- C. unwary
- D. unusual

In question 19 to 26 fill in the right word/phrase

19. There is no _____ sense in what that politician has just said

- A. many
- B. plenty
- C. lot of
- D. much
- E. big

20. There is much indifference in his nonchalance inconsistency

- A. concern
- B. nonchalance
- C. willingness
- D. inconsistency

21. Most warring countries end up in a slate of salvation

- A. hunger
- B. thirst
- C. danger
- D. famine

22. The officer asked for a more temperate assessment of the matter

- A. extreme
- B. moderate
- C. radical
- D. human

23. The lectures were advised to carry out a cursory survey of Nigeria languages

- A. detailed study
- B. careful teaching
- C. careful description
- D. partial consideration

24. Musa hates Hadiza for her constant bellicose behaviour

- A. violent
- B. gentle
- C. meek
- D. troublesome

25. Abdul is fond of his teacher through he sometimes makes derogatory remarks about him

- A. unpleasant
- B. complementary
- C. expressive
- D. inconsiderate

26. The policeman was sent to_____ allegation made by the man

- A. investigate
- B. examine
- C. probe
- D. enquire
- E. observe

In question 27 to 31 which of the options expresses the same idea as the one in quotes?

27. "To be in the red" is to be

- A. in debt
- B. rich
- C. a socialist
- D. red
- E. dressed in red

28. "To best down the price" is to

- A. flog the rice
- B. reduce the price
- C. beat the salesman
- D. attack the seller
- E. control the price

29. "To ask after a friend" is to

- A. ask questions about the friend
- B. inquire about the friend's welfare
- C. go after the friend
- D. like the friend
- E. take after the friend

30. "An open secret" means

- A. a fact that is very secret
- B. an open matter

- C. a secret known to everybody
- D. a confidential matter
- E. a secret told in the open air

31. "To put something aside" is to

- A. put it by one's side
- B. put in a side pocket for future use
- C. keep something for some special purpose
- D. keep in safety
- E. protect it

In question 32 to 39 choose the phrase or word which best completes the meaning of each sentence

33. He used to play tennis, but he doesn't_____

- A. as of now
- B. any longer
- C. again
- D. presently
- E. since

34. He was he had no time to eat

- A. so busy that
- B. very busy
- C. very busy that
- D. too busy that

36. The mechanic said that he mend my car before Saturday.

- A. can't
- B. couldn't
- C. can't be able to
- D. couldn't be able to
- E. won't be able to

37. There was a fire in the market last week which resulted a terrible destruction of property.

- A. in
- B. to
- C. from
- D. into
- E. with

38. At the end of the month we ____ each other for five years

- A. would know
- B. should have known
- C. should be knowing
- D. would have been knowing
- E. use to known

39. The body is sensitive to changes in velocity which, if too sudden, _____

- A. consciousness may be lost
- B. it may lose consciousness
- C. one may become unconscious
- D. may cause loss of consciousness
- E. may lose consciousness

Each of question 40 to 43 consists of a sentence with a phrase or word underlined. Select the option that best expresses the meaning of the phrase or word underlined

40. The thought of his admission to the university keyed Olu up to a state of great excitement

- A. stimulated Olu

- B. ushered Olu
- C. opened Olu
- D. frightened Olu
- E. allowed Olu

41. After a careful review of Adamu's last examination result, the principal concluded that his performance left much to be desired

- A. was very unsatisfactory
- B. was very satisfactory
- C. was very extremely desirable
- D. was very brilliant
- E. was extremely commendable

42. The President stood his ground because the committee members would not be persuaded to arrive at a compromise on the issue being debated

- A. yielded his position
- B. shifted his position
- C. maintained his position
- D. defended his position
- E. resisted his position

43. The lake home pay of many workers is such that they can hardly make both ends meet

- A. lived an honest life
- B. finish their schedule of work
- C. keep two jobs at a time
- D. lived within their income
- E. live on both ends

BIOLOGY

44. On what structure are the units of inheritance situated?

- A. Goigi bodies
- B. ribosomes
- C. chromosomes
- D. endoplasmic reticulum

45. Production of naked seeds is a distinctive feature of the group of plant called?

- A. grasses
- B. conifers
- C. legumes
- D. palms

46. In which of these features do bryophytes differ from pteridophytes?

- A. absence of flower
- B. alternation of generation
- C. dependence on water for reproduction
- D. presence of, a vascular system

47. _____ is common to both the sporophyte and the gametophyte of a fern

- A. Rhizoids
- B. roots
- C. chloroplasts
- D. leaves

48. In which of the, following organisms does a single cell perform all the function of movement, nutrition, growth, excretion and photosynthesis?

- A. paramecium
- B. euglena
- C. Amoeba
- D. spirogyra

49. In which of the following organisms would glycogen be stored?

- A. spirogyra
- B. Chlamydomonas
- C. Rattus
- D. magnifera

50. The most successful group of animals in terms of diversity of species is

- A. Mollusca
- B. Arthropoda
- C. mammalian
- D. Platyhelminthes

51. Flame cells are the _____

- A. excretory system of worm
- B. excretory and respiratory system of flatworms
- C. excretory system of flatworms
- D. excretory and respiratory flatworms

53. The main function of blood in mammals is to transport

- A. excretory materials from tissue
- B. carbon oxide from lungs to tissues
- C. digested food from all the body tissues
- D. oxygen to the lungs

54. Members of the phylum protozoa use the contractile vacuole

- A. to remove excess food
- B. for movement
- C. for digestion
- D. to remove excess water

55. The response shown by the tips of the root and shoot of a plant to the stimulus of gravity is

- A. haptropism
- B. phototropism
- C. hydrotropism
- D. geotropism

56. Which of the following is the correct order of the vertebrae along the spinal column?

- A. axis atlas thoracic lumber cervical sacral
- B. atlas cervical axis thoracic lumber sacral
- C. atlas axis cervical thoracic lumber sacral
- D. axis cervical thoracic sacral lumber

57. Which of the following is TRUE of the process of conjugation in paramecium?

- A. micronucleus disintegrates
- B. each exconjugant divides only once
- C. macronucleus undergoes division
- D. each micronucleus divides twice

58. The bright colours of the comb feather in the peacock are for _____

- A. sex differentiation
- B. beauty
- C. courtship
- D. defence

CHEMISTRY

59. What is the percentage by mass of oxygen in $\text{Al}_2(\text{SO}_4)_3 \cdot 2\text{H}_2\text{O}$?

- A. 14.29%
- B. 25.39%
- C. 50.79%
- D. 59.25%

(A = 27, S = 32, H = 1, O = 16).

60. The filler in a cigarette reduces the nicotine content by _____

- A. burning
- B. adsorption
- C. evaporating
- D. absorption

61. $3\text{Cu} + \text{pHISO}_3 \rightarrow 3\text{Cu}(\text{NO}_3) + 4\text{H} + \text{NO}$

In the equation above, the values of p and x respectively are

- A. 1 and 3
- B. 2 and 3
- C. 6 and 2

D. 8 and 2

62. Neutral, atoms: of neon with atomic number 10 have, the same number of electrons as

- A. O^{2+}
- B. Ca^{2+}
- C. K^{+}
- D. Mg^{+}

63. The noble gases owe their inactivity to

- A. octet configuration
- B. cyclic shape
- C. hexagonal shape
- D. obtuse configuration

64. According to the kinetic theory, an increase in temperature causes the kinetic energy of particles to

- A. decrease
- B. increase
- C. remain constant
- D. be zero

65. I. $H = 1s^1$

II. $N = 1s^2 2s^2 p^3$

III $HIO = s^2 s 2p^4$

IV $Zn = s^2 s^2 s 2s 2d^{10}$

From the above, which following pairs is likely paramagnetic?

- A. I and II
- B. I and III
- C. I and IV
- D. I and IV

67. A gas exerts pressure on its container because

- A. some of its molecules are moving faster than others
- B. of the mass of each other
- C. of the mass of the molecules of gas
- D. the molecules of a gas collide with walls of the containers

69. The weakest attractive forces that can be observed between two molecules is

- A. ionic

- B. covalent
- C. coordinate
- D. Vander Waals

70. A consequence of global warming is _____

- A. air pollution
- B. water pollution
- C. increased humidity
- D. flooding

71. Which of the following ions is acidic?

- A. 1C
- B. NO_3
- C. S_2
- D. HgO^+

72. The structural component that makes detergent dissolve more water than soap is

- A. $-\text{SO}_3\text{Na}^+$
- B. $-\text{COON}$
- C. $-\text{SO}^{4-}\text{Na}^+$
- D. $-\text{COOK}^+$

73. The structural component that makes detergent dissolve more water than soap is

- A. $-\text{SO}_3\text{Na}^+$
- B. $-\text{COON}$
- C. $-\text{SO}^{4-}\text{Na}^+$
- D. $-\text{COOK}^+$

74. A liquid that will dissolve fat is

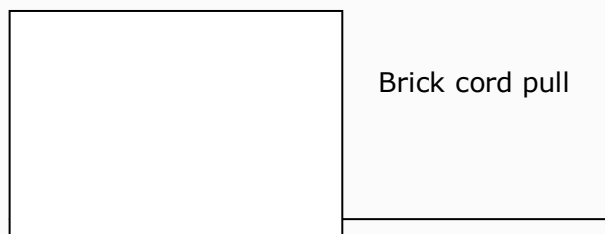
- A. hydrochloric acid
- B. calcium hydroxide
- C. kerosene
- D. water

75. What a mass K_2CrO_4 is required to prepare 250cm^3 of 0.020mol dm^{-3} solution?

- A. 0.97g
 - B. 9.70g
 - C. 19.42g
 - D. 97.10g
- ($\text{K}_2\text{CrO}_4 = 194.2\text{g mol dm}^{-3}$)

PHYSICS

76.



A brick at rest on horizontal table is pulled by a horizontal cord, as shown above. The force of friction on the brick.

- A. increase if the pull increases but the brick does not move
- B. is directly horizontal to the right
- C. decreases if an identical brick is placed on the first
- D. is zero if the brick is pulled hard enough to make it slide
- E. change if the brick is turned on its side

77. The force with which an object is attracted to the earth is called its

- A. acceleration
- B. mass
- C. gravity
- D. impure
- E. weight

78. The refractive index of a liquid is 1.5. If the velocity of light in the liquid is _____

- A. $1.5 \times 10^3 \text{ ms}^{-1}$
- B. $2.0 \times 10^8 \text{ ms}^{-1}$
- C. $3.0 \times 10^8 \text{ ms}^{-1}$
- D. $4.5 \times 10^8 \text{ ms}^{-1}$
- E. $9.5 \times 10^8 \text{ ms}^{-1}$

79. If the relative density of a metal is 19, what will be the mass of 20cm of the metal when immersed in water?

- A. 380g
- B. 400g
- C. 360g
- D. 39g
- E. 180g

80. Which of the following statements about liquid pressure is NOT correct? The pressure

- A. at a point in a liquid is proportional to the depth
- B. at any point in a liquid is the same at the same level

- C. is exerted equally in all directions at any point
- D. of a liquid at any point on the wall of its

81. Which of the following is NOT a vector quantity

- A. force
- B. altitude
- C. weight
- D. displacement
- E. acceleration

83. Which of the following statements about friction is NOT correct?

- A. the force of kinetic friction is less than the force of static friction
- B. the force of kinetic friction between two surfaces is independent of the areas in contact provided the normal reaction is unchanged
- C. the force of sliding friction between two surfaces is less than the force of static friction

- D. the angle of friction is the angle between the normal reaction and the force of friction
- E. friction may be reduced by lubrication

84. A ship travelling towards a cliff received the echo of its whistle after 3.5 seconds. A short while later received the echo after 2.5 seconds. If the speed of sound in air under the prevailing conditions is 350 m/s, how much closer is the ship to the cliff.

- A. 10m
- B. 125m
- C. 175m
- D. 350m
- E. 1,000m

85. Which of the following is NOT correct?

- I. The pitch of a sound note depends on the frequency of vibrations

II. The intensity of a sound note is proportional to the amplitude of vibrations

III. Beats are produced by two sources of sound because one wave is traveling faster than the other

IV. When two sources of sound of frequencies 500Hz and 50Hz are sounded together, a beat frequency of 2Hz is observed

V. The first harmonic of a note has double the frequency of the fundamental note

- A. I and II
- B. II and III
- C. I and II
- D. III and IV
- E. IV and V

86. Which of the following statements about defects of vision is/are CORRECT

- I. For a long-sighted person, close objects appear blurred
- II. For a short-sighted person, distant objects appear blurred

III. Short sighted is corrected by using a pair of converging lenses

- A. I only
- B. II only
- C. I and III only
- D. II and III only
- E. I, II and III

87. The range of wavelengths of the visible spectrum is 400nm, 700nm. The wavelength of gamma rays is

- A. longer than 700nm
- B. shorter than 700nm but longer than 400nm
- C. 550nm
- D. shorter than 400nm
- E. infinite

88. If the pressure in 100cm^3 of an ideal gas is doubled while its Kelvin temperature is halved, then the new volume of the gas will become

- A. 25cm^3
- B. 50cm^3

- C. 100cm^3
- D. 200cm^3
- E. 16m/s

89. A train has an initial velocity of 44m/s and an acceleration of 4m/s^2 its velocity after 10 seconds is

- A. 2m/s
- B. 4m/s
- C. 8m/s
- D. 2m/s

90. A man of mass 50kg ascends a flight of stairs 5m high in 5 seconds. If acceleration due to gravity is 10ms^{-2} the power expended is

- A. 100W
- B. 300W
- C. 250W
- D. 400W
- E. 500W

MATHEMATICS

91. Find the principal which amounts to

- A. $\text{N}5,000$
- B. $\text{N}4,900$
- C. $\text{N}4,800$
- D. $\text{N}4,700$

92. A car dealer bought a second hand car for $\text{N}250,000.00$ and spend $\text{N}70,000.00$ refurbishing it: He then sold the for $\text{N}400,000.00$. what is the percentage gain?

- A. 20%
- B. 25%
- C. 32%
- D. 60%

93. Evaluate $21.05347 - 1.6324 \times 0.43$, to 3 decimal places

- A. 20.351
- B. 20.352
- C. 20.980
- D. 20.981

94. Evaluate $(0.14)^2 \times 0.275$
 $7(0.02)$ correct to 3 decimal places

- A. 0.033
- B. 0.039
- C. 0.308
- D. 0.358

95. Given that $p = 1 + \sqrt{2}$ and $q = 1 - \sqrt{2}$, evaluate $(p^2 - q^3)2\pi A$

- A. $-2(2 - \sqrt{2})$
- B. $2(2 + \sqrt{2})$
- C. $-2\sqrt{2}$
- D. $2\sqrt{2}$

96. A cylindrical tank has a capacity of 3080m^3 what is the depth of the tank if the diameter of its base is 14m?

- A. 20m
- B. 22m
- C. 23m
- D. 25m

97. A sector of a circle of, radius of 7.2cm which subtends an angle

300° at the centre is used to form a cone. What is the radius of the base of the cone?

- A. 6cm
- B. 7cm
- C. 8cm
- D. 9cm

98. The chord ST of a circle is equal to the radius, r of the circle. Find the length of arc ST

- A. $\pi/2$
- B. $\pi r/3$
- C. $\pi/3$
- D. $\pi r/12$

99. A point P moves such that it is equidistant from the points Q and R. Find QR when $PR=8\text{cm}$ and $\angle PRQ=30^\circ$.

- A. 4cm
- B. $4\sqrt{3}$
- C. 8cm
- D. $8\sqrt{3}\text{cm}$

100. Find the locus of a point which moves such that its distance from the line $y=4$ is a constant, K

- A. $y = 4 + k$
- B. $y = k - 4$
- C. $Y = R + 4$
- D. $Y = 4 + k^{10}$

**SOLUTION TO ABSU
2012/2013 POST UTME
SCREENING EXERCISE**

**1. D 3. B 4. C 5. B 6. A 7. C 8. A
9. C 10. C 11. C 12. B 13. B 14.
A 15. B 16. B 17. C 18. A 19. D
20. A 21. A 22. C 23. B 24. D
25. D**

**26. A 27. E 28. A 29. A 30. B
31. B 32. C 33. C 34. C 35. B
36. A 37. C 38. A 39. B 40. B
41. D 42. A 43. A 44. C 45. D
46. C 47. B 48. B 49. A 50. B**

**51. B 52. B 53. C 54. D 55. B
56. D 57. D 58. A 59. D 60. C
61. D 62. B 63. D 64. B 65. A**

**66. B 67. D 68. D 69. A 70. D
71. A 72. D 73. A 74. C 75. B**

**76. A 77. C 78. C 79. A 80. B
81. B 82. E 83. A 84. C 85. D
86. C 87. B 88. D 89. B 90. E
91. D 92. A 93. B 94. D 95. B
96. B 97. A 98. A 99. A 100. A**

TIME ALLOWED: 1 HOUR

ENGLISH LANGUAGE

Comprehension: Read each passage carefully and answer the questions that follows it.

PASSAGE I:

Every artist's work, unless he be a hermit creating solely for his own satisfaction and with no need of sales, is to some extent socially conditioned: He depends upon the approval of his patrons. Social conditioning is, of course, part of the field of study of the social anthropologist, yet I am not aware that the social conditioning artists has ever been seriously studied.

That such study is needed for the proper appraisal of traditional African art is evident enough when we note that subject, that the carver's hand is so closely

controlled by the custom of centuries that the credit for any creative imagination which is apparent in his work is due, not to him, but to the long/succession of his predecessors.

Of course, there is an element of trust in this view of the tribal artist' as copyist, but is hardly more valid the African than for the European artist. in both cases the work of artist is the outcome of a dielectric between the informing tradition and the individual genius of the artist, and in both the relative strength of these two forces may vary almost infinitely. To assess the personal ingredient in an African carving is no easy matter, especially if one is confronted with a rare or unique piece in an unfamiliar style: but the considerations involved are much the same as those employed in European art criticism.

1. Most artists are strongly influenced by the ____

- A. desire for self-expression
- B. need to sell their works
- C. tastes wishes of the society
- D. creative imagination
- E. opinion of critics

2. A social anthropologist is someone who

- A. studies only social conditioning
- B. is interested in art and artist
- C. studies social conditioning and other things
- D. is interested in the community
- E. studies the original of man

3. It would be useful to study the social conditioning of artist because

- A. we know that African art is entirely influenced by tradition
- B. traditional art artist from the customs of the people
- C. An artist's predecessors solely determine the nature of this work

D. we do not know the extent to which an artist is influenced by his society

E. we do not know very much about how an artist's creative imagination works

4. The work of art is the outcome of a dialectic between the informing tradition and the individual genius of the artist means that

- A. the artist is influenced both by the society and his own creative imagination
- B. there is an irreconcilable conflict between an artist's creative and the demands that society makes on him
- C. the artist subordinates his individual talent to the demands of the society
- D. few works of art are entirely original
- E. the individual artist needs to be informed about the traditions of the society

5. Which of the following represents the writer's view about African art in relation to European art?

- A. The African artist is influenced by his society, but the European artist is not
- B. in both African and European art there is a blend of tradition and individual creativity
- C. few works of art are entirely original
- D. the individual artist needs to be informed about the traditions of the society
- E. African artists are more imitative than European artist

PASSAGE II:

One day, Alan, a friend of mine, who country life was fishing in a river, when he caught a trout. he tried to pull the fish in but it slipped off the hook, flew over his head and landed in a field behind him.

Alan put down his rod, went through the gate started searching of his trout. Some people, obviously from the city, were having a picnic in the field. one of the men shouted. "What on earth are you doing" thinking that it was a stupid question because they could see how was dressed,

Alan replied "fishing".

Don't be silly, the fish are down in the river, answered the manfish don't live in field! He turned to his friends laughing, thinking that had made a good joke.

Oh, but they do, said Alan. they jump out of the river to look for fillies and I catch them with my hands. At that moment he found his trout in the grass and picked it up and showed it to the picnickers. He put it in has basket and bent down, as if he was hunting for another one.

6. Why did the fish land in the field?

- A. it had wings
- B. it was a flying fish
- C. it was looking for food
- D. Alan pulled too hard
- E. it fell off the hook

7. The picnickers were

- A. farmers
- B. from the nearby village
- C. tourist
- D. people from the city
- E. anglers likes him people from the city

8. Where was Alan looking for his fish? He was looking for the fish

- A. in the grass
- B. down in the river
- C. in front of the gate
- D. in his basket
- E. among the picnicker

9. Alan made the picnickers believe that fish jump out of the river to look for flies by

- A. telling a story
- B. finding his trough and showing it to them
- C. taking them down to the river
- D. watching how trout catch fillies
- E. picking up a fish and looking for more

10. He laughs best who laughs last (proverb). It is true of his story because

- A. the picnickers were enjoying themselves
- B. finally he found his
- C. Alan played a good trick in the picnickers
- D. fishing is a pastime
- E. Alan likes country life

PASSAGE III:

In 1973 a Japanese sericulturist arrived Malawi with a batch of 40,000 silkworms eggs. They

were taken on the Bvumbwe Agriculture Research Station in Thyolo District. In this station, work is being done to determine favourable silkworm rearing conditions and areas where mulberry trees, whose leaves the worms feed on, could grow well.

According to researchers, the silk worms which eventually develop into cocoons from which raw silk is produced do well in areas with climatic conditions. Silk is one of the strongest of fibres.

In fact, for thousands of years, silk fabrics have been regarded as the most beautiful and durable materials woven by man. Many people call silk the cloth of kings and queens. The weaving of silk originated in China, an old Chinese book, believed to be written by Confucius, tell us that the wife of Emperor Huang-it was the first person to make fabrics of silk.

Around 2640 B.C., Emperor took some of the cocoons into the palace to see what they were made of. She dropped one and saw a cobweb like tangle separate itself from the cocoon. She picked up the gauzy mass and found that one of the threads could be unwound almost -without end from the cocoon. His ling-shih had discovered silk.

She was delighted with me discovery and even wove a ceremonial robe for the Emperor out of the cocoon threads. After that, the officials in the Emperor's court wore brightly dyed silk robes on important occasion occasions.

People in other countries regarded the new fibres as something rare and beautiful. A few traders went to China to learn about making cloth from silk, but the Chinese kept their silk worms a closely guarded secret.

11. Sericulture is _____

- A. carried out only in China
- B. the breeding of silk worms for the production for silk
- C. the research done on silk worms
- D. the making of cloth from the cocoons of silk worms
- E. the breeding of silk worms in Malawi

12. It is implied in this passage that silk was discovered

- A. after years of hard work and research by the empress
- B. by accident
- C. in the search for more durable fibre for making cloth
- D. after some experiments carried out by the Japanese Sericulturists

13. According to sericulturist, silkworms

- A. cannot survive in a warm climate
- B. may be reared on any tree

C. do well in areas with a warm climate

D. produce the longest threads when they are fed leaves from the top of the mulberry tree

E. are destroyed by heat

14. The work carried out at the agricultural researcher station in Malawi on the silkworm eggs to

- A. try to breed cocoons which would produce more silk
- B. determine the survival rate of silkworms
- C. find out the most suitable areas and conditions for rearing silkworms
- D. search for better method of rearing silkworms
- E. find out how cocoons becomes silkworms

15. Choose the meaning which best fits the underline phrase from the passage closely guarded secret

- A. careful hidden from the knowledge of others
- B. secretly processed business with armed guards
- C. carefully hidden from the view of strangers
- D. scarcely known
- E. unknown

LEXIS AND STRUCTURE

In questions 16 to 28 choose the option nearest in meaning

16. The meeting was cancelled because of the convocation

- A. brought up
- B. called off
- C. broken off
- D. dropped out
- E. phased out

17. Our town is so small that we are always meeting our schoolmates accidentally

- A. coming across
- B. falling into

- C. knocking up
- D. running into
- E. running into

18. Can you give a good explanation for your behaviour?

- A. account for
- B. call for
- C. clear up
- D. make up
- E. give up

19. Be careful! We are approaching cross roads

- A. account for
- B. watch out
- C. lookup
- D. holdup
- E. looking

20. Thousands of students showed up for the examination but only very few pass.

- A. come into
- B. call for
- C. Go into

- D. enter for
- E. turn up for

21. He went through fire before he qualified as a doctor

- A. had a fire accident
- B. made a lot of fire
- C. suffer a lot
- D. underwent some purification
- E. required a lot of fire

22. Osaku started playing football because he thought it would develop him physically.

- A. took up football
- B. picked up football
- C. returned to football
- D. took up with football
- E. put in for football

23. Once I have finished all my homework, I am permitted to watch television

- A. I can watch television at any time

B. I can only watch television after doing my homework

C. television comes first, then homework second

D. I can only finish my homework, after permission to watch television

E. after watching television, I finished my home work

24. For all he cared, the game was as good as lost.

A. he did not care if the game was lost

B. he could not care less if the game was lost

C. he was almost certain that the game would be lost

D. he was afraid the game would be lost

E. the game was very good, and he cared very much about losing it

25. A basic objective in this respect is the attainment of self-sufficiency in food in about decade

- A. food will soon be sufficient of everybody
- B. mass production of food
- C. we should aim at producing food for sale and consumption in ten years
- D. we should be able to feed ourselves in five
- E. our aim is to provide enough food for our needs in ten years

26. In their desire to impress their friends and relatives, many young working bites off more than can chew in terms of financial obligations.

- A. have more money than sense
- B. eat more than they can digest property
- C. spend too much money on food
- D. care too much for their relatives
- E. take on more responsibility than they can afford

27. All the effort made to settle the quarrel were futile

- A. successful
- B. wicked
- C. reasonable
- D. remarkable
- E. fruitless

28. The new inspector decided that the culprits should be brought to book

- A. should have their names recorded in a book
- B. should be brought before him to show whether they could read or not
- C. should be booked
- D. should be jailed
- E. should be made to answer for the conduct

In question 29 to 30 select the word opposite in meaning to that underlined 29.

29. The long straight trunk of the tree is ideal for round wood uses like railway sleepers, rafters and fence posts.

- A. best
- B. perfect
- C. most unsuitable
- D. satisfactory poor

30. A book on style without abundant example seems to me as insufficient as a book on biology without abundant illustration.

- A. useless
- B. difficult
- C. interesting
- D. satisfactory
- E. attractive

In questions 31 to 32 choose the expression which best completes sentence 31.

31. My uncle told me, I have a large house and you are welcome to the protection it offers. My uncle told me that _____

A. he had a large house, and you are welcome to the protection it offers

B. he have a large house, and I was welcome to the protection it offered

C. he had a large house and he was welcomed to the protection it offers

D. he had a large house, and I was welcomed to the protection it offered

E. he has a large house. And I am welcome to the protection it offers

32. The manager side that unless the employees worked harder the factory would have to be closed. The manager said that

A. the employees were not working hard, and so the factory would be closed

B. the employees should not close early so that they could produce more

C. the factor was not productive because the employees were lazy

D. the factory would be shut if the employees did not increase their output

E. the factory was closed because the employees did not work hard enough

In questions 33 to 40 choose the expression or word which best completes each sentence.

33. The student who went home without an exit has apologized ___ his misconduct

- A. on
- B. at
- C. to
- D. for
- E. about

34. The man atoned ___ his sins

- A. upon
- B. on
- C. for
- D. at
- E. against

35. The headmaster was interviewed in connection ___ the expansion project

- A. to
- B. with
- C. for
- D. about
- E. at

36. What do you want me to do now? I'm ___ withdrawing and keeping quiet

- A. for
- B. with
- C. up
- D. off
- E. on

37. I am looking ___ seeing your family

- A. a head at
- B. forward to
- C. for to
- D. a head to

38. These folk tales have been handed _____ from generation to generation

- A. into

- B. over
- C. down
- D. up
- E. across

39. John arrived at the airport on time but he could not get ____ the plans

- A. into
- B. over
- C. down
- D. to enter
- E. to

40. The young lovers first met ____ the university of Ibadan Havana Night dance

- A. in
- B. at
- C. in course of
- D. on
- E. inside

BIOLOGY

41. In spirogyra, the pyrenoid____

- A. excrete waste products
- B. is suspended by cytoplasmic strands
- C. is mainly used for respiration
- D. usually contains starch
- E. makes the plant slimy to touch

42. In which of the following groups of animals are flagella and cilia found?

- A. flatworms
- B. annelids
- C. coelenterates
- D. protozoa
- E. nematodes

43. Which of the following is seed bearing?

- A. Mosses
- B. whistling
- C. Algal filaments
- D. liverwort
- E. fern fronds

44. Each of the following is an arthropod EXCEPT the

- A. crab
- B. operculum
- C. nostrils
- D. millipede
- E. cockroach

45. In fish the sense organs which detect movement in the water are located within the

- A. gills
- B. operculum
- C. nostril
- D. median fins
- E. cockroach

46. Euglena is an autotrophic organism because it

- A. has flagella
- B. has plant and animal feature
- C. is found in water
- D. can manufacture its food
- E. moves fast

47. Which of the following is not true of mucor? It _____

- A. contains chlorophyll

- B. grows saprophytically
- C. bears spores in sporangium
- D. consists of hyphae
- E. reproduces by conjugation

48. Bryophytes are different from flower because they

- A. live in moist habitats
- B. are small plants
- C. reproduce sexually and asexually
- D. have small leaves
- E. have no vascular tissues

49. At what stage in the life history of a toad is its mode of breathing similar to that of a fish

- A. tadpole stage
- B. external gill stage
- C. adult stage
- D. internal gill stage
- E. larval stage

50. In lower plants like mosses, the structure which performs the functions of roots of higher plants is called

- A. root hair
- B. rootlets
- C. hyphae
- D. rhizoids
- E. Thalli

51. In an angiosperm leaf, the xylem is

- A. beside the phloem
- B. surrounded by the phloem
- C. above the phloem
- D. around the phloem
- E. in separate bubbles from the phloem

52. A group of similar cells performing the same function is

- A. an organ
- B. a system
- C. tissue
- D. an organelle
- E. an enzyme

53. Which of the following is common to a dicotyledonous stem and a monocotyledonous root?

- A. medullary rays
- B. central pith
- C. wide cortex
- D. narrow cortex
- E. pericyclic fibres

54. Which of the following represents the sequence of protein hydrolysis?

- 1. Polypeptide
- 2. Ammo
- 3. protein
- 4. Peptones

- A. 3124
- B. 3241
- C. 3421
- D. 3412
- E. 3142

55. A food substance which produces red colouration with Sudan III contains

- A. Anaemia
- B. sugar
- C. starch
- D. cellulose

E. fat

PHYSICS

56. The distance travelled by a particle starting from rest is plotted against the square of the time elapsed from the commencement of motion. The resulting graph is linear. The slope of this graph is a measure of

- A. initial displacement
- B. initial velocity
- C. acceleration
- D. half the acceleration
- E. half initial velocity

57. An engine of a car of power 80kw moves on a rough road with a velocity of 2ms^{-1} the force required to bring it to rest

- A. 2.50×10^6
- B. 2.56×10^6
- C. 2.50×10^3
- D. 2.80×10^3

59. What volume of alcohol with density of $8.4 \times 10^2\text{kgm}^{-3}$ will have the same mass as 402m^3 of petrol whose density is $7.2 \times 10^2\text{kgm}^{-3}$

- A. 3.6m^3
- B. 3.6m^3
- C. 4.9m^3
- D. 5.0m^3
- E. 5.8m^3

60. For correcting long sight defects in human eye we require a

- A. converging lens
- B. diverging lens
- C. microscope
- D. periscope
- E. plain glass sheet

61. For a concave mirror to form a real diminished image the object must be placed

- A. behind the mirror
- B. between the mirror

- C. between the focus and the centre of curvature
- D. at the centre of curvature
- E. at a distance greater than the radius of curvature

62. The unit quantity of electricity is called

- A. the ampere
- B. the volt
- C. the coulomb
- D. the ammeter
- E. electromotive force

63. The resistance of a wire depends on

- A. the length of the wire
- B. the diameter of the wire
- C. the temperature of the wire
- D. the resistivity of the wire
- E. all of the above

64. An ammeter of resistance S has a full-scale deflection when a current of 50mA flows in it. The value of the resistor required to

adapt it to measure a current of 5A is

- A. 5.00
- B. 0.05
- C. 19.8Ω
- D. 0.25

65. Two cells each of e.m.f 1.5V and an internal resistance 2Ω are connected in parallel. Calculate the current flowing when the cells are connected to a 1Ω resistor.

- A. 0.75Ω
- B. 1.5Ω
- C. 0Ω
- D. 1.0Ω
- E. 0.60Ω

66. The capacitance of a parallel plate capacitor when in air is $3\mu\text{F}$ and in the presence of a dielectric material is $6\mu\text{F}$. The dielectric constant is

- A. 9
- B. 18

C. 3

D. 2

67. Which of the following may be used to determine relative humidity in a physics laboratory?

I. Manometer

II. Wet-and-dry bulb hygrometer

III. Hair hygrometer

IV. A hydrometer

A. I only

B. II and only

C. II only

D. III only

E. II, III and IV only

68. An electric heater with a p.d of 240V connected across its terminals has a total resistance of 960g find the power rating of the heater

A. 0.25W

B. 60.00W

C. 38AOW

E. A.OOW

69. The speed of light in vacuum is $3.0 \times 10^8 \text{ms}^{-1}$ if the refractive index of a transparent liquid is $\frac{4}{3}$ then the speed of light in the liquid is

A. $0.75 \times 10^8 \text{ms}^{-1}$

B. $2.25 \times 10^8 \text{ms}^{-1}$

C. $3.0 \times 10^6 \text{ms}^{-1}$

D. 4.0×10^4

70. If the force on a charge of 0.2 coulomb in an electric field is 4N, then the electric field intensity of the field is

A. 0.8

B. 0.8N/C

C. 20.0N/C

D. 4.0N/C

E. 20.0C/N

CHEMISTRY

71. X is crystalline salt of sodium. Solution of X in water turns litmus red produces a gas which turns lime water milky when added to sodium carbonate. With barium

chloride solution, X gives a white precipitate which is insoluble in dilute hydrochloric acid. X is

- A. Na_2CO_3
- B. NaHCO_3
- C. NaHSO_4
- D. Na_2O_3
- E. Na_2SO_4

72. The alcohol obtained from the production of soap is

- A. ethanol
- B. glycerol
- C. methanol
- D. propanol
- E. glycol

73. The flame used by welders in cutting metals is

- A. butane gas flame
- B. glycerol
- C. kerosene flame
- D. oxy-acetylene flame
- E. oxygen flame

74. Consecutive members of an alkane homologous series differ by

- A. CH
- B. CH_2
- C. CH_3
- D. C_0H_0
- E. $\text{C}_n\text{H}_{2n-2}$

75. If an element has the electronic configuration $1s^2, 2s^2, 2s^2 2p^6 3s^6$, it is

- A. metal
- B. an alkaline
- C. an s-block element
- D. A-block element
- E. A transition element

76. Some copper (II) sulphate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$), was heated at 120°C with the following results: wt of crucible = 10.00g; wt of crucible + $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ = 14.98g wt of crucible + residue = 13.54g. how many molecules of water of crystallization were lost?

(H=1, Cu=63.5, O=16.332)

- A. 1
- B. 2
- C. 3
- D. A
- E. 5

Question 78 – 80 are based on the following:

An unknown organic compound X has a relative molecular mass of 180 it is a colourless crystalline solid, readily soluble in water X contains the element C, H, and O in the atomic ratio 1:2:1. The compound has a sweet taste and melt on heating. In the presence of yeast and in the absence of air X is converted to compound Y in the absence of air, X is converted to compound Y and colourless gas. Compound Y react with sodium metal to produce a gas Z which gives a "pop" sound with a glowing splint. Y also reacts with ethanoic acid to give a sweet-smelling compound.

78. Compound W is

- A. A soap
- B. an oil
- C. An alkane
- D. an ester
- E. sucrose

79. The molecular formula of X is

- A. $C_{12}H_{22}O_{11}$
- B. $C_{16}H_{12}O_6$
- C. $C_3H_6AO_3$
- D. $C_2H_4O_2$
- E. $C_4H_3A_4$

80. Reaction of X formula the basic of the

- A. plastic industry
- B. textile industry
- C. brewing industry
- D. dyeing industry
- E. soap industry

81. A mixture of common salt, ammonium chloride and barium. Sulphate can best be separated by

- A. addition of water followed by filtration then sublimation
- B. addition of water followed by filtration the sublimation
- C. sublimation followed by sublimation then titration
- D. fractional distillation
- E. fractional crystallization

82. Which of the following relationship between the pressure p , the volume V and the temperature T , represents an ideal behaviour?

- A. $P \propto VT$
- B. $P \propto TN$
- C. $PT \propto V$
- D. $PV \propto VT$
- E. $P \propto V/T$

83. What is the molar mass of a substance, if 0.04 mole of the

- A. 62.5g
- B. 40.0g
- C. 6.3g
- D. 2.5g

84. The colour imparted of a flame by calcium ion

- A. green
- B. blue
- C. bricks
- D. yellow
- E. lilac

85. In the reaction $M + N \rightleftharpoons P + H + Q + R$, which of the following would increase the concentration product?

- A. decreasing the concentration N
- B. increasing the concentration P
- C. adding suitable catalyst
- D. decreasing the temperature

86. Find without using logarithm table, the value of $\log_3 27$, $\log_3 464$, $\log_3 81$

- A. $7/4$
- B. $7/4$
- C. $3/2$
- D. $7/3$
- E. $1/4$

87. A viable point $P(x,y)$ traces a graph in a two-dimensional plane $(0,-3)$ is one position of p . if x increase by 1 unit, Y increases by 4 units. The equation of the graphs is

- A. $3 = y + 4/x + 1$
- B. $4y = 3 + x$
- C. $y/x = -3/4$
- D. $Y + 3 = 4x$
- E. $4y = x + 3$

88. A trade in country where their currency MONT (M) is in base five bought 103(s) oranges at $M14(s)$ each. If the sold the oranges at $M12$, each, what will be his gain?

- A. $M103(s)$
- B. $M1030(s)$
- C. $M102(s)$
- D. $M2002(s)$
- E. $M3032(s)$

89. Simply $\frac{3n \times 3n-4}{3^3 \times 3^n \times 27 \times 3^{n-1}}$

- A. 1
- B. 0

- C. 1.27
- D. $2N-3N-1$

90. P varies directly as the square of q and inversely as r . if $p=36$, when $q=3$ and $r=p$, find p when $q=5$ and $r=2$

- A. 72
- B. 100
- C. 90
- D. 200
- E. 125. 2

91. Factorize $6x^2 - 14x - 12$

- A. $2(x+3)(3x-2)$
- B. $6(x-2)(x+1)$
- C. $6(x+2)(x-1)$
- D. $(3x+4)(2x+3)$

92. A straight line $y=mx$ meets the curves $y=x^2 - 12x + 40$ in two distinct points. If one of them is (5.5) , find the other

- A. (5.6)
- B. (8.8)
- C. (5.5)

D. (7.7)

E. (7.5)

93. The table below is drawn from a graph $y=x^2-3x+1$ from $x=2$ to $x=1$, the graph crosses the x-axis in the range(s)

X	-3	-2	-1	0	1	2	3
$Y=x^2-3x+1$	1	-1	3	1	-1	3	1

A. $1 < x < 0$ and $0 < x < 1$

B. $2 < x < 1$ and $0 < x < 1$

C. $12 < x < -1$ and $0 < x < 1$

D. $0 < x < 1$

E. $1 < x < 2$

94. In a racing competition. Musa covered a distance of $5x$ km in the first hour and $(x+10)$ km in the next hour. He was second to Ngozi who covered a total distance of 118 km in the two hours. Which of the following inequalities is correct?

A. $0 < -x < 15$

B. $3 < x < 3$

C. $15 < x < 18$

D. $0 < x < 35$

E. $0 < x < 18$

95. $2x+3y=1$ and $yx-2y=11$, find $(x+y)$

A. 5

B. 3

C. 8

D. 2

E. 2

96. Tuned and Shola can do a piece of work in 15 days. Tuned can do it alone in x days, whilst Shola takes 15 days longer

A. $x^2 - 5x - 18 = 0$

B. $x^2 - 20x + 360 = 0$

C. $x^2 - 21x - 270 = 0$

D. $xx-00$

E. $3x^2 - 31x + 150 = 0$

97. If $f(x)=2(x-3)+3(x-3)-4$ and $g(y)=y^5=y$, find $gf(3)$ and $G9f(4)>E$

A. 3 and 4

B. -3 and 4

- C. 3 and -4
- D. 3 and -4
- E. 0 and 5

98. Find a factor which is common to all three-binomial expression $4a^2-9ba+27/(4a+6)^2$

- A. $4a + 6b$
- B. $4a - 6b$
- C. $2z + 3b$
- D. $2a - 3b$
- E. none

99. What is the volume of the regular three-dimensional figure drawn above?

- A. 60cm
- B. 48cm^3
- C. 96cm^3
- D. 120cm^3
- E. 40cm^3

100. If $(x-2)$ and $(x-1)$ are factors of expression $x^2+px+qx+1$, what is the sum of p and q?

- A. 0

- B. 3
- C. 3
- D. $17/3$
- E. $2/3.1$

SOLUTION TO ABSU 2011/2012 POST UTME SCREENING EXERCISE

**1. C 2. C 3. D 4. A 5. B 6. E 7. D
8. A 9. E 10. C 11. B 12. B 13. C
14. C 15. A 16. B 17. E 18. A
19. B 20. D 21. C 22. A 23. B
24. C 25. E**

**26. E 27. E 28. E 29. C 30. D
31. E 32. D 33. D 34. C 35. A
36. E 37. D 38. C 39. A 40. A
41. D 42. D 43. B 44. B 45. D
46. D 47. A 48. E 49. D 50. D**

**51. A 52. C 53. D 54. D 55. E
56. A 57. A 58. C 59. C 60. B
61. C 62. C 63. E 64. C 65. B
66. B 67. C 68. D 69. D 70. A
71. C 72. B 73. D 74. B 75. C**

**76. C 77. D 78. D 79. B 80. C
81. B 82. A 83. C 84. D 85. B**

86. D 87. B 88. A 89. C 90. B
91. A 92. A 93. B 94. C 95. A
96. E 97. C 98. A 99. – 100. D

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ALLOWED: 1 HOUR**ENGLISH LANGUAGE****Passage I**

The young are not listening to their elders, and perhaps the, ever have. But now it happens that, with many of them, the reason may be medical. The young aren't listening because they can't hear.

Just as nagging parents have long suspected, topologists (hearing specialists) now report that youngsters are pilling dear is a result of blasting their ear drum with electronically amplified rock in roll. The hearing specialists used to worry about loud noise as a cause of deafness only in industrial and military situations. They knew that eight hours of daily exposure; year in and year out, to the proverbial boiler factory, would eventually result in

permanent hearing loss. Rivers were particularly susceptible. Then they learned that the same thing happened to aviators. After the advent of jets, the hazard applied to ground crews at airport and flight-deck personnel aboard aircraft carriers-hence the introduction of insulated noise-absorbing plastic earmuff.

In discotheques and rock in roll joints, the trouble is not much in the instruction themselves or the close quarters. The blame goes to the electronic amplifiers. An old-fashioned military band; playing a march in Ramat Park generated as much sound. But the sound was not amplified and was dissipated in the open air. A trombonist sitting in front of a tuba player might be a bit deaf for an hour or so after a concert; then his hearing returned to normal.

A microphone hooked up to a public address system did not appreciably increase the hearing hazard what he did was multiple microphone and speakers, and the installation of in international microphone in such instruments as guitars and bouzoukis.

1. The young are not listening to their elders because

- A. they never have
- B. their parent nag constantly
- C. they are permanently deaf
- D. they appear to be going deaf

2. Just as nagging parents have long suspected implies that

- A. their children did not listen to them
- B. children could not hear properly after listening to amplified music
- C. Otologists were always right
- D. children were disobedient because they did not listen to their parents

3. What is the result of being subjected to the din of the proverbial boiler factory for a prolonged length of time?

- A. loss of hearing which will never improve
- B. total deafness
- C. temporary deafness
- D. hearing loss which can be corrected by medical treatment

4. "The same thing happened to aviators". This according to the passage means

- A. that riveters were particularly susceptible
- B. industrial and military deafness
- C. that continued loud noise resulted in deafness
- D. that working in a boiler factory affected one's hearing

5. What is the difference between an old-fashioned military band on in one hand and discotheques and rock n roll joints on the other?

- A. one is old-fashioned while the other is modern
- B. one produces sounds for marching, the other for disco
- C. one has drums, the other has guitars
- D. one produces amplified sounds, the other does not .

Passage II

The preparation which a study of the humanities can provide, stems from three observations about education in our world of accelerating social and technological change.

First, with the rate of change, we cannot hope to train our students for specific technologies. That kind of vocational education is obsolescent. By the time the specific training will have been completed the world will have moved on-in our education of narrow training, we will not be prepared to change.

Second, and paradoxically, what our students desire from their education is preparation for specific careers, business, engineering, medicine, computer programming and the like, but we will not be able to train them for a life-long career. Their confronting the depressed job market gives our students a certain training is not sufficient.

Third, we sense in our students a narrowing materialism, with the good life defined in terms of material comforts education, then means learning to do a job which will make money. I see in this definition a limiting sense of what education and thus life offer, a definition which excludes joy and meaning. Our approach to the study of the humanities responds to these three related problems. In our changing, yet narrowing World, the teaching of the humanities finds one powerful justification-it teaches students how to think.

6. Our world of accelerating social and technological change means that

- A. our world is moving too fast socially and technologically
- B. our world is going through more rapid, social and technological change
- C. the social and technological change is more accelerating our world

7. What is the major weakness of training students for specific technologies?

- A. it trains the student for only one type of career
- B. it helps students to acquire money later when they employed
- C. it makes them anxious for a job in the market
- D. it cannot help students to cope with the rapid changes in the world

8. We sense in our students a narrowing materialism means that

our students' concept of education is one that

- A. prepares them for money, joy and meaning
- B. makes them ready to confront the depressed job market
- C. only prepare them to acquire material comforts
- D. trains them for a life-long career

9. According to the writer, a study of the humanities

- A. is accepted by present day students as essential
- B. prepares students for specific careers provides a missing link in the technological education of our students
- C. is the best solution to the problem of unemployment

10. What type of education does the writer advocate for our students?

- A. vocational as well as technological education
- B. business engineering, medicine and computer programming
- C. technological education only

LEXIS AND STRUCTURE

In each of questions 11 to 15, choose the option opposite in meaning to the word in the italics.

11. I am happy to inform you that your boys are *conscientious*

- A. industrious
- B. carefree
- C. careful
- D. corrupt

12. My father is very *prosperous* businessman

- A. ungrateful
- B. inscrupulous
- C. unskilled
- D. unsuccessful

13. The hostess greeted her guests in a very *relaxed* manner

- A. energetic
- B. athletic
- C. stiff
- D. perplexed

14. Ayo takes his studies rather *lightly*

- A. humorously
- B. tediously
- C. carefully
- D. seriously

15. The doctor was very *gentle* with his patients in the examining room

- A. harsh
- B. rude
- C. tough
- D. unkind

In each of questions 16 to 26, choose the option nearest in meaning to the word or phrase in italics

16. There is *no love lost* between Hassan and Hassana

- A. dislike each other
- B. are head over heels in love
- C. will love each other
- D. are still good friends

17. Whether the village head should identify himself with the activities of religious denomination has remained a *burning question*

- A. a subject of discord
- B. a perennial issue
- C. a matter of serious controversy
- D. a sensitive matter

18. I would *rather not attend* the party

- A. detest attending
- B. do not have the enthusiasm
- C. must not attend
- D. have a choice to attend or not to

19. If Garba has listened to advice, he *would not have had to be rushed to the hospital*.

- A. deliberately desired to be rushed
- B. was in position to have prevented the need to be rushed
- C. was rushed against his wish
- D. was given a cheque, but preferred to go

20. **Aduke:** Ngozi, let's visit the market

Ngozi: *if you insist.*

Ngozi _____

- A. is very willing to accompany Aduke
- B. must accompany Aduke
- C. is not taken on going with Aduke
- D. is pretending not be interested indulging with Aduke

21. The new leader *hands out an olive branch*

- A. sues for peace
- B. gives out branches of the olive tree
- C. challenges his opponents to a light
- D. blesses his supporters

22. When you go to a foreign country to study, you will discover that life there is not *a bed of notes*

- A. as pleasant as one thought
- B. a bed with roses
- C. an unmitigated disappointment
- D. as expected

23. Because our representative is immature and biased, he takes *jaundiced* view of our problems

- A. hazy
- B. unclear
- C. prejudiced
- D. bleak

24. The president has his *regrets*. He is unable to attend the meeting

- A. explanation
- B. anxieties
- C. unhappiness
- D. apologies

25. The woman acted *courageously* when she was attacked by thieves

- A. shyly
- B. fearlessly
- C. timidly
- D. carelessly

26. We all have both good and bad characteristics. Either is, however, easily *manifested* in time of crisis.

- A. demanded
- B. highlighted
- C. submerged
- D. determined

In each question 27 to 40, chose the word(s) or phrase(s) which best fills the gaps

27. The sea waves continue to ____ the cliff on the west coast constantly.

- A. impair
- B. rub
- C. knock
- D. crude

28. The college bus was travelling at a high ____ when the accident occurred

- A. velocity
- B. acceleration
- C. rapidity
- D. speed

29. Note that only senior members of staff have the ____ of using the toilet upstairs

- A. permission
- B. occasion
- C. privilege
- D. habit

30. The chief priest will ____ the men into the cull today

- A. indoctrinate
- B. usher
- C. convert
- D. initiate

31. Jimoh is noted for his ____ altitude to his seniors at school

- A. receptive
- B. respective
- C. respectful
- D. respectable

32. The girl that my brother introduced to us last week is pretty ____ ill mannered

- A. and
- B. but
- C. as well as
- D. respectable

33. The police report was ____ to that of the eye witness

- A. contrary
- B. inconsistent
- C. different
- D. congruent

34. The African extended family system gives security to ____ members

- A. his
- B. her
- C. its
- D. inch

35. I know I ____ read more, but I am tired

- A. may
- B. ought to
- C. would
- D. could

36. Insects can become ____ to insecticides

- A. immunized
- B. resistant
- C. reticent
- D. immobilized

37. The council chairman ____ the tension between the village and the tax collectors

- A. dispersed
- B. defused
- C. diffused
- D. disputed

38. If I had been told of the mailer earlier, I ____ there so late

- A. would not go
- B. should not go
- C. will not have gone
- D. would not have gone

39. Each of the candidates that came late ____ to complete ____

- A. have/this form
- B. are having/these forms
- C. have/these forms
- D. has/this form

The graph fig. 1 above describes the motion of a particle. The acceleration of the particle during the motion is,

- A. 0.00ms^2
- B. 0.25ms^{-2}
- C. 4.00ms^{-2}

- D. 8.00ms^{-2}
E. 10.00ms^{-2}

45. If a car starts from rest and moves with a uniform acceleration of 10ms^{-2} for ten seconds, the distance it covers in the last one second of the motion is

- A. 95m
B. 100m
C. 500m
D. 905m
E. 100ms

46. A block of mass 2.0kg resting on a smooth horizontal plane is acted upon simultaneously by two forces, 10N one North and 10N due East. The magnitude of the acceleration produced by the forces on the block is

- A. 10.00ms^{-2}
B. 7.05ms^{-2}
C. 10.00ms^{-2}
D. 14.10ms^{-2}
E. 20.00ms^{-2}

47. A metal block of mass 5kg lies on a rough horizontal platform. If a horizontal force of 8N applied to the block through its centre of mass just slides the block on the platform, the coefficient of limiting friction between the block and the platform is

- A. 0.16
B. 0.63
C. 0.80
D. 1.60
E. 2.00

48. Which of the following is NOT a force?

- A. friction
B. tension
C. upthrust
D. weight
E. impulse

49. Two masses 40g and 60g respectively, are attached firmly to the ends of a light metre rule. The centre of gravity of the system is

- A. at the mid-point of the metre rule
 - B. 40cm from the lighter mass
 - C. 40cm from the heavier mass
 - D. 60cm from the heavier mass
- indeterminate because the metre-rule is light

50. In fig. 2; above, MN is a light uniform metre rule pivoted at O, the 80cm mark. A load of mass 3.0kg is suspended on the, rule at L, the 1.0cm mark. If the rule is kept in equilibrium by a string p, fixed at p and attached to the rule at R, the 20cm mark, then the tension T in the string is

- A. 25N
- B. 50N
- C. 250N
- D. 5000N
- E. 25000N

51. A 0.05kg bullet travelling at 200ms horizontal strike; a thick vertical wall a load of mass 10kg is suspended on the rule at L, the 10cm mark. If the rule is kept in

equilibrium by a string p, fixed at p and attached to the rule at R, the 20cm mark, then the tension T in the string is

- A. 25N
- B. 50N
- C. 250N
- D. 5000N
- E. 25000N

52. A force of ICON stretches an elastic string to a total length of 20cm. if an additional force of ICON stretches the string 5cm further, find the natural length of the string.

- A. 15cm
- B. 12cm
- C. 10cm
- D. 8cm
- E. 5cm

53. Two drivers G and H are at depths 20m and 40m respectively below the water surface in a lake. The pressure on G is P while the pressure on H is P2. If the

atmospheric pressure is equivalent to 10m of water, the value of P/P_1 is

- A. 0.50
- B. 0.60
- C. 1.67
- D. 2.00
- E. 3.00

54. The areas of the effort and load pistons of a hydraulic press are 0.5m and 5m respectively. If a force F_1 of 100N is applied on the effort piston, the force F_2 in the load is

- A. 10N
- B. 100N
- C. 500N
- D. 1000N
- E. 5000N

55. A metal cube of volume 10mm^3 is lowered into a measuring cylinder containing water. If the internal cross-sectional area of the cylinder is $1.5 \times 10^2\text{mm}^2$ by how much does

the water level rise in the cylinder?

- A. $6.67 \times 10^3\text{mm}$
- B. $8.50 \times 10^2\text{mm}$
- C. $1.15 \times 10^3\text{mm}$
- D. $2.50 \times 10^3\text{mm}$
- E. $1.50 \times 10^5\text{mm}$

56. A uniform cylindrical block of wood floats in water with one-third of its height above the water. In a liquid of relative density 0.8. what fraction of its height will be above the liquid level?

- A. $1/6$
- B. $1/5$
- C. $1/3$
- D. $4/5$
- E. $5/6$

59. A quantity of gas occupied a certain volume when the temperature is 73°C and the pressure is increased to 4.5 atmospheres the volume is halved

at the same time, what will be the new temperature of the gas?

- A. 573°C
- B. 327°C
- C. 56°C
- D. 50°C
- E. 70°C

CHEMISTRY

60. 200ml each of 0.1M solution of lead (II) trioxonitrate (V) and hydrochloric acid were mixed. Assuming that lead (II) chloride is completely insoluble, calculate the mass of lead (II) chloride that will be precipitated

- A. 2.78g
 - B. 5.56g
 - C. 8.34
 - D. 11.0g
- (Pb=207, Cl=35.5, N=14, O=16)

61. 56.00cm of a gas at s.t.p weighted 0.1g. What is the vapour density of the gas?

- A. 11.00
- b) 22.00
- C. 33.00
- D. 44.00

(molar volume of a gas at s.t.p = 22.4dm^3)

62. Which of the following gasses will diffuse fastest when passed through a porous plug?

- A. propane
 - B. oxygen
 - C. methane
 - D. ammonia
- (H=1, C=12, N=14, O=16)

63. Which of the following will have its mass increased when heated in air?

- A. helium
- B. magnesium
- C. copper pyrites
- D. glass

64. What is the temperature of a given mass of a gas initially 0°C and 9 atm, if the pressure is

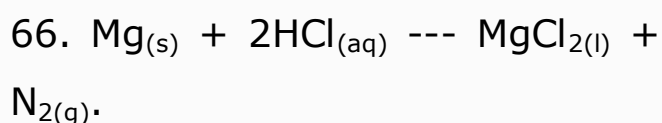
reduced to 3 atmosphere at constant volume?

- A. 91k
- B. 182k
- C. 273
- D. 819k

65.

In the diagram above, the mixture of the solids P and Q can be separated

- A. distillation
- B. fractional distillation
- C. crystallization
- D. fractional crystallization



From the equation above, the mass of magnesium required to react with 250cm² of MHCl is

- A. 0.3g
- B. 1.5g
- C. 2.4

D. 3.0
(M=27, Cl=35.5)

67. A gaseous molecule chloride MCl_x consist of 20.22% of M by mass. The formula of the chloride is

- A. MCl
- B. MCl₂
- C. MCl₃
- D. M₂Cl₁₆
(M=27, Cl=35.5)

68. In which of the following are water molecule in the most disorderly a management

- A. ice at -10°C
- B. ice at -0°C
- C. water at -100°C
- D. steam at -100°C

69. In order of remove one electron from 3 s-orbital of gaseous sodium atom, about 496KJ mol⁻¹ of energy is require. This energy referred to as

- A. electron affinity
- B. ionization energy
- C. activation energy
- D. electronegativity

70. Nitrogen obtained from the liquefaction of air a higher density than that obtained from nitrogen containing compounds because the former contains

- A. water vapour
- B. oxygen
- C. carbon(iv)oxide
- D. rare gases

71. The method that can be used to convert hard water to soft water is

- A. chlorination
- B. passage over activated charcoal
- C. the use of an ion exchange
- D. aeration

Use the table below to answer the question 73 and 74

72. The element that is likely to participate in covalent rather than ionic bonding is

- A. Z
- B. Y
- C. X
- D. W

73. The least reactive elements is

- A. W
- B. X
- C. Y
- D. Z

74. $1S^2 2S 2P 3S^6 3d^7 4S^2$.

An element with the electron configuration above is a

- A. non-metal
- B. metal
- C. transition element
- D. group two element

75. Given that electron negativity increases across a period and decreases down a group in the periodic table, in which of the

following compounds will the molecules be held together by the strongest hydrogen bond?

76. 0.25 mole of hydrogen chloride was dissolved in distilled water and the volume made up to 0.50dm^3 . if $15,00\text{cm}^2$ of the solution sodium trioxocarbonate (iv) for neutralization. Calculate the concentration of the alkaline solution.

- A. 0.30mol dm^{-3}
- B. 0.33mol dm^{-3}
- C. 0.50mol dm^{-3}
- D. 0.60mol dm^{-3}

77. The correct order of increasing oxidation number of the transition metal ions for the compound $\text{K}_2\text{Cr}_2\text{O}_7$, V_2O_5 and KMnO_4 is

- A. $\text{V}_2\text{O}_5 < \text{K}_2\text{Cr}_2\text{O}_7 < \text{KMnO}_4$
- B. $\text{K}_2\text{Cr}_2\text{O}_7 < \text{KMnO}_4 < \text{V}_2\text{O}_5$
- C. $\text{V}_2\text{O}_5 < \text{KMnO}_4 < \text{K}_2\text{Cr}_2\text{O}_7$

78. The set of pollutants that is most likely to be produced when petrol is accidentally spilled on plastic materials and ignited is

- A. CO , CO_2 and SO_2
- B. CO , HCl and SO_2
- C. SO_2 , CO_2 and HCl

BIOLOGY

79. What is observed when aqueous solution of each of tetraoxosulphate is formed (vi)acid, potassium trioxide(v) and potassium iodine are mixed together?

- A. white precipitate is formed
- B. a green precipitate is formed
- C. the mixture turns reddish-brown

80. Haemoglobin pairs of chromosomes separate during

- A. meiosis
- B. cytolysis
- C. mitosis

D. cleavage

81. An example of a caryopsis is

- A. coconut
- B. tomato
- C. guava
- D. maize grain

82. A limiting factor in a plant population near a chemical factory is likely to be

- A. humidity
- B. p^H
- C. wind
- D. light

83. The pioneer organisms in ecological succession are usually the

- A. lichens
- B. algae
- C. ferns
- D. mosses

84. Mycorrhiza is an association between fungi and

- A. roots and higher plants
- B. filamentous algae
- C. bacteria
- D. protozoan

85. A density dependent factor that regulates the population size of organisms is

- A. sudden flood
- B. disease
- C. fire outbreak
- D. drought

86. The most effective method of dealing with non-biodegradable pollution is by

- A. burying
- B. dumping
- C. incineration
- D. recycling

87. Soil fertility can best be conserved and renewed by the activities of

- A. microbes
- B. earthworms

- C. man
- D. rodents

88. The correct sequence of biomes from northern to southern Nigeria is

- A. estuarine - tropical rain forest - guinea savanna - Sahel savanna
- B. Sahel - Sudan savanna - guinea - tropical rain forest - estuarine
- C. Sahel savanna - tropical rain forest - estuarine - guinea savanna
- D. guinea savanna - Sudan savanna - tropical rainforest - Sahel savanna - estuarine

89. One example of fossil fuels is

- A. coral
- B. limestone
- C. firewood
- D. coal

90. If the pair of alleles for baldness, is given as Bb, female carrier will be denoted by

- A. XBxb
- B. XBXB
- C. XbY
- D. XBY

91. All organism that has been extensively used to test the chromosome theory of heredity except

- A. Homo sapiens
- B. drosophila
- C. zea mays
- D. muse domestica

92. A feature associated with the Y-chromosome in human is

- A. facial hairs
- B. prominent fingernails
- C. long eyelashes
- D. enlarged breast

93. A man and his wife are both heterozygous for the sickle-cell trait. The likely percentage of their offspring that will be either carriers of sicklers is

- A. 50%
- B. 25%
- C. 75%
- D. 100%

94. The type of reproduction that leads to variation in animal and plant populations is

- A. budding
- B. vegetative
- C. asexual
- D. sexual

95. If a DNA strand has a base sequence TCA, its complementary strand must be

- A. ATG
- B. GAT
- C. AGT
- D. TAG

96. Which of the following requires the use of carbon dating to prove that evolution has occurred?

- A. biochemical similarities

- B. molecular records
- C. fossil records
- D. comparative anatomy

97. The presence of sunken stomata and the folding of leaves are adaptations for

- A. prevent entry of pathogens
- B. prevent guttation
- C. remove excess water
- D. reduce water loss

98. Spines and shells on animals are adaptations for

- A. physical defence
- B. camouflage
- C. chemical defence
- D. mimicry

99. The inactive state exhibited by an animal during hot dry seasons is termed

- A. aestivation
- B. dormancy
- C. resting
- D. hibernation

**SOLUTION TO ABSU
2010/2011 POST UTME
SCREENING EXERCISE**

**1. D 2. B 3. A 4. A 5. D 6. B 7. D
8. C 9. C 10. C 11. – 12. D 13. A
14. D 15. B 16. B 17. C 18. C
19. B 20. C 21. A 22. A 23. D
24. C 25. B**

**26. B 27. B 28. D 29. C 30. D
31. C 32. B 33. A 34. B 35. C
36. B 37. C 38. D 39. D 40. D
41. E 42. A 43. E 44. D 45. C
46. B 47. C 48. D 49. A 50. D**

**51. – 52. – 53. A 54. D 55. D
56. A 57. C 58. B 59. B 60. E
61. A 62. D 63. C 64. B 65. A
66. C 67. A 68. C 69. C 70. C
71. D 72. C 73. D 74. D 75. C**

**76. C 77. D 78. D 79. A 80. A
81. A 82. D 83. B 84. D 85. A
86. C 87. D 88. B 89. B 90. D
91. A 92. C 93. A 94. A 95. D
96. A 97. C 98. D 99. A 100. A**

APPRECIATION

If you found these past questions **helpful**, here are some ways you can **contribute** to the exam success of other TOPPERS:

- **Correct an error** in this past question
- **Update** this past question
- **Submit a past question** for another school

Are you interested in contributing?

Yes, I am!

