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UNIVERSITY OF IBADAN



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(2012 - 2017)**

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IMPORTANT TIPS TO KNOW AND NOTE ABOUT UNIVERSITY OF IBADAN POST UTME EXAMINATION

- Candidates who want to write the University of Ibadan Post UTME should please in their own best interest KNOW and NOTE the following:

- (i) It is a Paper and Pencil examination
- (ii) The Duration of the examination is 1 hours 30 mins (90 minutes)
- (iii) The same subjects that a candidate does in his/her UTME will be done in the Post-UTME
- (iv) Use of Calculator, or any form of mobile or electronic device will not be allowed in the exam hall
- (v) It has a total of 100 questions in all, with each question carrying 1 mark and it is 25 questions per subject. Total of 100 marks. e.g

SUBJECT	TOTAL NUMBER OF QUESTIONS	TOTAL NUMBER OF MARKS
ENGLISH	25	25
LANGUAGE		
BIOLOGY	25	25
CHEMISTRY	25	25
PHYSICS	<u>25</u>	<u>25</u>
	<u>100</u>	<u>100%</u>

- (vi) There is no negative marking
- (vii) The Post UTME is used as a final authority to determine cut-off for admission in the university (it is subject to be reviewed/changed later).

For more information, clarifications, enquiries, news, lesson/extramural classes, about U.I Post UTME, Call: 08037737245.

UNIVERSITY OF IBADAN
2012/2013 ADMISSIONS POST UTME
SCREENING EXERCISE

NAME: ADAMU BISI CHINEDU	DEPARTMENT: MEDICINE AND SURGERY
JAMB REG NO: 16249214JG	FACULTY: CLINICAL SCIENCES
VENUE: Social Science LLT	SEAT NO: 52
INSTRUCTION: Answer all questions	TIME: 1 HOUR 30 MINS

Subject Combination: English Language, Biology, Chemistry, Physics

ENGLISH LANGUAGE

1. He Not come now (a)needs (b)needed (c) need (d) will need
2. Janet To know that we are all here (a) suppose (b) supposes (c) is supposed (d) should suppose
3. Let it be that there was no King in Ayegun (a) know (b) knew (c) known (d) knows

PICK OUT THE ODD/WRONG EXPRESSION

4. (a) I heard his supposed apology (b) I heard his unconvincing apology (c) I heard his suppose apology (d) I heard he was supposed apology
5. (a) I suppose you know the way (b) I am supposed you know the way (c) I suppose he knows the way. (d) they suppose he knows the way.
6. We shall see you soon _____ (a) shall we? (b) shan't we? (c) shouldn't we? (d) should we?
7. We shouldn't eat today _____ (a) shall we? (b) shan't we? (c) shouldn't we (d) should we

Choose the option that most approximately expresses the idea in the underlined expression below

8. His contribution to the project is invaluable (a) extremely useful (b) of no value (c) of little value (d) cannot be valued.
9. That was a dawn-to-earth approach (a) Poor (b) Ordinary (c) Practical (d) immodest
10. Concerning my admission, I have to cross my fingers (a) wait and hope for the best (b) wait in frustration (c) wait confidently (d) take some risk.
11. On the matter of worship, some sit on the fence (a) go to the extreme (b) are decisive (c) are fanatics (d) are undecided.

Choose the option that is nearest in meaning to the words underlined.

12. Can you marry a lanky man? (a) tall and thin (b) sturdy (c) fat and short (d) short
13. The election system we adopted was his Brainchild (a) undoing factor (b) invention (c) power (d) fabrication.

Choose the option that is opposite in meaning to the words underlined

14. He always approaches issues optimistically (a) realistically (b) pessimistically (c) carelessly (d) unrealistically.

15. Her health deteriorated rapidly (a) worsened (b) improved (c) stagnated (d) declined.
16. Choose the option that sounds the same with bear (a) bare (b) beer (c) bared (d) beard.
17. Choose the option that is correctly spelled (a) acomodation (b)accommodation (c) accomodation (d) acommdation.
18. Neither of the presidential candidates _____ suitable (a) are (b) is (c) is been (d) are been.
19. Which of the sentence is correct? (a) a ten year old boy is missing (b) a ten –year-old is missing (c) a ten year old boy is missing (d) a ten – year – old boy is missing.
20. Ten miles _____ a great distance. (a) is (b) are (c) is been (d) was.
21. A noun phrase lacks one of the following. (a) noun (b) verb (c) adjective (d) adverb.
22. My friend, a brilliant lecturer, won many prizes. The underlined expression is a(n) (a) adjectival clause (b) relative clause (c) appositive phrase (d) subject of won.
23. Eve gave adam an apple. An apple in the sentence function as (a) subject of the verb 'gave' (b)direct object of the verb. (c) indirect object of the verb.(d) object compliment.
24. I passed very well because I studied hard. The underlined expression is a (a) relative clause introducer (b) linking verb (c) adverb of reason (d) subordinating conjunction.
25. Bello and I love each other (a) preposition (b) reciprocal pronoun (c) noun phrase (d) adjectival phrase

BIOLOGY

26. In spirogyra, the pyrenoid _____ (a) excretes waste products (b) is suspended by cytoplasmic strands (c) is mainly used for respiration (d) usually contains starch (e) makes the plant slimy
27. Each of the following is an arthropod EXCEPT the (a) crab (b) spider (c) snail (d) millipede (e) cockroach
28. A group of similar cells performing the same function is (a) an organ (b) a system (c) a tissue (d) an organelle (e) an enzyme
29. Which of the following represents the sequence of Protein hydrolysis? 1. Polypeptides 2. Aminoacids 3. Proteins 4. Peptones (a) 3→1→2→4 (b) 3→2→4→1 (c) 3→4→2→1 (d) 3→4→1→2 (e) 3→1→4→2
30. Partially digested food ready to leave the stomach is referred to as (a) chyme (b) curd (c) glycogen (d) paste (e) roughage
31. The vein which returns blood from the head and arms to the heart is called (a) aorta (b) Inferior vena cavae (c) superior vena cavae (d) pulmonary vein (e) pulmonary artery
32. If a child can receive blood from all donor, he belongs to the blood group (a) O. (b) A (c) B (d) AB (e) AS
33. The appendicular skeleton is made up of the (a) limbs (b) skull and limbs (c) phalanges (d) Ulna and radius (e) girdles and limbs.

34. The hereditary material of a cell is the (a) ADP (b) FAD (c) RNA (d) ATP (e) DNA
35. An old man is likely to be longsighted because age affects the (a) Optic nerves (b) retina (c) ciliary muscles (d) cornea (e) aqueous humor
36. Which of the following is NOT caused by Bacteria? (a) cholera (b) Gonorrhoea (c) Tuberculosis (d) Typhoid (e) Onchocerciasis
37. The male cockroach differs from the female by having (a) mandibles (b) a pair of styles (c) spiracles (d) a pair of cerci (e) antenna
38. Which of these is a trace element? (a) Iron (b) Copper (c) Calcium (d) Sulphur (e) Nitrogen
39. The severe deficiency of Vitamin C leads to (a) Kwashiorkor (b) Beriberi (c) Pellagra (d) Scurvy (e) Hemorrhages
40. Deamination occurs in the (a) Kidney (b) Pancreas (c) Spleen (d) Liver (e) Heart
41. Starch granule in plant is equivalent to _____ in Animal (a) Glucose (b) Glycogen (c) glucogen (d) glucagon (e) starch
42. Which of the following organisms lacks flagellum? (a) Euglena (b) Paramecium (c) Chlamydomonas (d) Bacteria
43. Nastic movement is (a) response to light stimulus (b) Non-directional (c) Directional (d) Phototropic (e) Response to internal stimulus
44. How many nuclei are found in the pollen tube after fertilization (a) 2 (b) 3 (c) 5 (d) 6 (e) 7
45. Which of the following is NOT associated with excretion in mammals (a) Glomerulus (b) Urea (c) Faeces (d) Carbon dioxide (e) Bowman's capsule
46. Spirogyra reproduces vegetatively by (a) Spore production (b) fragmentation (c) Multiple fission (d) Budding (e) binary fission
47. In which of the following plants is swollen shoot disease common? (a) Groundnut (b) Cocoa (c) Corn (d) Cotton (e) Rubber
48. Which of these is NOT a type of soil? (a) sand (b) granite (c) loam (d) clay (e) sandy loam
49. Plants that grow in an area that is neither too wet nor too dry are (a) hydrophytes (b) epiphytes (c) halophytes (d) mesophytes (e) xerophytes
50. In Mendelian inheritance, discontinuous characters are controlled by the (a) Centromeres (b) alleles (c) Chromosomes (d) Chromatids (e) Chiasmata

CHEMISTRY

51. The shape of carbon(IV) oxide molecule is (a) linear (b) angular (c) tetrahedral (d) planar (e) trigonal planar
52. A gas has a temperature of 20°C , if the volume and pressure are doubled, what is the new temperature? (a) 1192 (b) 899 (c) 20 (d) 56

53. What type of bond is found in $\text{Cu}(\text{NH}_3)_4^{2+}$? (a) Ionic (b) covalent (c) metallic (d) none of the above
54. Bronze is an alloy of (a) copper, zinc and nickel (b) aluminium and copper (c) copper and zinc (d) copper and tin
55. An element has 127 neutrons and 82 electrons, its atomic number is (a) 209 (b) 105 (c) 45 (d) 82
56. When a bottle of coca-cola is opened, bubbles of gas evolves. The gas is (a) Hydrogen (b) Carbonmonoxide (c) Carbondioxide (d) Oxygen
57. Methane is a member of Homologous series called (a) Alkenes (b) alcohols (c) alkynes (d) Alkanes
58. An example of strong electrolyte is (a) ethanol (b) ethanoic acid (c) ethyl acetate (d) formic acid (e) sodium formate
59. For iron to rust, there should be present (a) oxygen (b) moisture (c) carbondioxide (d) oxygen and moisture (e) oxygen, moisture and carbondioxide
60. If an organic compound decolourises bromine water, then the compound is (a) saturated (b) supersaturated (c) unsaturated (d) protonated
61. What mass of sodium carbonate is 500cm^3 of 0.1 molar sodium carbonate solution? [Na = 23, C=12, O=16] (a) 10.6g (b) 5.3g (c) 500g (d) 10g (e) 20g
62. An element X has two isotopes $^{20}_{10}\text{X}$ and $^{22}_{10}\text{X}$ present in the ration 1:3. The relative atomic mass of X would be (a)20.5 (b)21.0 (c)21.5 (d)22.0 (e) 22.5
63. In the manufacture of Ammonia by the reaction $\text{N}_{2(\text{g})} + 3\text{H}_{2(\text{g})} \rightarrow 2\text{NH}_{3(\text{g})}$ $\Delta H = -92.3\text{KJ}$. The amount of ammonia formed at equilibrium will increase if (a) the pressure decreases (b) the temperature increases (c) the temperature decreases (d) a catalyst is used (e) the physical states of the reactants are changed.
64. 0.16g of methane when burnt raises the temperature of 100g of water by 40°C . What is the heat of combustion of methane if the heat capacity of water is $4.2\text{Jg}^{-1}\text{C}^{-1}$? ($\text{CH}_4 = 16\text{gmol}^{-1}$) (a) 1,160 KJmol^{-1} (b) 1,180 KJmol^{-1} (c) 1,560 KJmol^{-1} (d) 1,600 KJmol^{-1} (e) 1,680 KJmol^{-1}
65. The I.U.P.A.C name of the compound is
- $$\begin{array}{c} \text{Cl} \\ | \\ \text{CH}_3 - \text{C} - \text{CH}_2 - \text{CH}_3 \\ | \\ \text{CH}_3 \end{array}$$
- (a) 2-chloro-isopentane (b) 3-chloro-isopentane (c) 2-chloro-2methyl butane
(d) 1 chloro – 2,2 dimethyl propane (e) 2 chloro-2-ethyl propane
66. What is the volume of 0.5M H_2SO_4 will exactly neutralize 20cm^3 of 0.1M NaOH solution? (a) 2.0cm^3 (b) 5.0cm^3 (c) 6.8cm^3 (d) 8.3cm^3 (e) 10.4cm^3
67. An example of a Neutral oxide (a) Al_2O_3 (b) NO_2 (c) CO_2 (d) CO (e) SO_2

68. The hybridization of the carbon atom in ethyne is? (a) sp^4 (b) sp^3 (c) sp^2 (d) sp (e) s
69. Water is said to be 'hard' if it (a) easily forms ice (b) has to be warmed before sodium chloride dissolves (c) forms an insoluble scum with soap (d) contains nitrites (e) contains sodium ions.
70. Sodium hydroxide (NaOH) pellets are (a) hydrated (b) deliquescent (c) hygroscopic (d) efflorescent
71. Hydrogen diffuses through a porous plug (a) at the same rate as oxygen (b) at a slower rate than oxygen (c) three times as fast as oxygen (d) four times as fast as oxygen.
72. What are the values of x, y and z respectively in the equation
$$xCu + yHNO_3 \rightarrow xCu(NO_3)_2 + 4H_2O + zNO?$$
73. The exhaust fumes from a garage in a place that uses petrol of high sulphur content are bound to contain (a) CO and SO_3 (b) CO and SO_2 (c) CO, SO_2 and SO_3 (d) CO and H_2S
74. Starch can be converted to ethyl alcohol by (a) distillation (b) fermentation (c) esterification (d) isomerization (e) cracking
75. A pure solid usually melt (a) over a wide range of temperature (b) over a narrow range of temperature (c) at a lower temperature than the impure one (d) at the same temperature as the impure one

UNIVERSITY OF IBADAN
2013/2014 ADMISSIONS POST UTME
SCREENING EXERCISE

NAME: CIROMA BISI NKECHI	DEPARTMENT: MEDICINE AND SURGERY
JAMB REG NO: 16249214PE	FACULTY: CLINICAL SCIENCES
VENUE: Law LLT 2	SEAT NO: 032
INSTRUCTION: Answer all questions	TIME: 1 HOUR 30 MINS

Answer all questions
ENGLISH LANGUAGE

- The student who went home without an exit has apologized _____ his misconduct (a) on (b) at (c) about (d) for
- The man has atoned _____ his sins (a) upon (b) on (c) for (d) at
- I am _____ seeing your family (a) forward to (b) forward on (c) ahead to (d) at
- These folktales have been landed _____ from generation to generation (a) in (b) at (c) over (d) on
- The young lovers first met _____ the university of Ibadan night dancer (a) in (b) at (c) inside (d) from
- I have not seen my house master _____ the beginning of this session (a) from (b) in (c) for (d) since
- Get _____ the untimely death of his son (a) off (b) by (c) through (d) over
- If you keep playing with this door handle, it will get (a) lose (b) loose (c) lost (d) loosing

In each of the following questions, choose the options nearest in meaning to the underlined word

- She was dressed in a gorgeous costume (a) richly coloured (b) loose (c) badly sewn (d) bad colour
- Obi's reaction is too subtle to be understood (a) real (b) clever (c) wild (d) cold
- Many people are often deceived by superficial knowledge (a) cheap (b) shallow (c) attractive (d) penetrating
- David is very versatile at scholar things (a) cheap (b) shallow (c) attractive (d) penetrating
- His subjects rejoiced in the end of his tyrannical rule (a) cruel (b) just (c) peaceful (d) ancient
- Nigerian sailors are very virile (a) strong and manly (b) vindictive (c) vicious and cunning (d) friendly
- I have to wade through that stream (a) toddle (b) walk up (c) walk hurriedly (d) walk with difficulty
- His rise to fame was meteoric (a) well deserved (b) very gradual (c) very swift (d) too slow

17. Martha came late this morning but she gave a plausible excuse (a) reasonable (b) very interesting (c) detailed (d) pathetic

In each of the following questions, choose the option opposite in meaning to the underlined word

18. A tentative date was given (a) definite (b) provisional (c) an amicable (d) convincing
19. Obi was the hero of the story (a) Assassin (b) Villain (c) Devil (d) Criminate
20. The man drew a sword as the people congregated round him (a) fled from (b) praised (c) gathered around (d) mobbed
21. The point you have made is quite apt. (a) helpful (b) irrelevant (c) illogical (d) insensitive
22. That little boy has become quite chubby (a) intelligent (b) tall (c) thin (d) huge
23. The action was premeditated (a) unplanned (b) unnecessary (c) catastrophic (d) uncoordinated
24. The boy made flippant remark (a) serious (b) well meant (c) correct (d) an expected
25. The weather is getting warmer, so the ice should thaw soon (a) frost (b) freeze (c) melt (d) escape

BIOLOGY

26. Which is the odd one out in the group? (a) mosquito (b) moth (c) beetle (d) tick (e) housefly
27. The enzyme that acts on cooked starch in the mouth is? (a) ptyalin (b) amylase (c) lipase (d) sucrase (e) protease
28. The ability of the cockroach to live in cracks and crevices is enhanced by the possession of (a) wings and segmented body (b) compound eyes (c) claws on the legs (d) dorso-ventrally flattened body
29. The caste of termite that lacks pigmentation is the (a) king (b) worker (c) soldier (d) queen
30. In a water culture experiment, a plant showed poor growth and yellowing of the leaves. These may be due to deficiency of (a) copper (b) iron (c) magnesium (d) calcium
31. In Adult mammalian blood, the cells that lack nuclei are the (a) erythrocytes (b) lymphocytes (c) leucocytes (d) phagocytes
32. The part of the Alimentary canal of a bird that contain small pebbles or stone is the (a) gizzard (b) crop (c) proventriculus (d) ileum
33. The most reliable estimate of growth is by measuring changes in (a) length (b) volume (c) surface area (d) dry weight
34. Which of the following is Poikilothermic? (a) rat (b) hen (c) toad (d) insect (e) bird
35. The enzyme that acts on milk is (a) pepsin (b) trypsin (c) erepsin (d) renin (e) lypsin
36. Which of the following is not needed for photosynthesis? (a) light (b) water (c) carbon(iv)oxide (d) chlorophyll (e) oxygen
37. Beriberi is caused by a deficiency of Vitamin ____ (a) A (b) B (c) C (d) D (e) K

38. Which of these is not present in an Animal cell? (a) cell wall (b) cell membrane (c) centriole (d) ribosomes
39. An organism with two nuclei is the _____ (a) amoeba (b) clamydomonas (c) Euglena (d) Paramecium (e) Hydra
40. Open circulatory system can be found in (a) birds (b) insects (c) worms (d) man (e) tadpoles
41. Chyme after leaving the stomach, it becomes a semi-liquid substance called? (a) bolus (b) chyle (c) bile (d) chime
42. The process whereby feaces is passed out of the body is known as? (a) secretion (b) ingestion (c) excretion (d) egestion
43. Four chambered heart can be found in the following (a) insects (b) frog (c) fish (d) rat (e) lizard
44. Gills is used for respiration in (a) bird (b) tadpoles (c) insects (d) flatworms (e) earthworms
45. Green grasses (autotrophs) in the Ecosystem are (a) primary producers (b) secondary consumers (c) primary consumers (d) tertiary consumers
46. Benedict's solution is used to test for (a) proteins (b) fats and oils (c) carbohydrate (d) vitamins
47. The similarity between reptiles and birds is the possession of (a) scales (b) feather (c) hair (d) claws (e) beak
48. Starch granule is to plant as _____ is to animal (a) glucose (b) glycogen (c) glycagon (d) insulin
49. Emulsification of fats in the body is carried out by the (a) Liver (b) gall bladder (c) pancreas (d) ileum
50. Possession of pinna is a characteristic feature that can be found in (a) Reptiles (b) birds (c) fishes (d) mammals (e) amphibians.

CHEMISTRY

51. What is the empirical formula of N_2O_4 ? (a) NO (b) NO_2 (c) N_2O (d) NO_3
52. What is the equivalent of $20^{\circ}C$ in Fahrenheit? (a) $212^{\circ}F$ (b) $68^{\circ}F$ (c) $52^{\circ}F$ (d) $32^{\circ}F$
53. Radioactivity involves _____ (a) the emission of radioactive particles (b) splitting of electrons (c) fusion of atoms (d) making of atomic bombs
54. Given that the volume of a gas is $30cm^3$ when the pressure is 5mmHg. Find the pressure when the volume is $10cm^3$ (a) 15mmHg (b) 25mmHg (c) 760mmHg (d) 40mmHg
55. The volume of 2.5moles of oxygen at STP is (a) $56.0dm^3$ (b) $84.0dm^3$ (c) $50.0dm^3$ (d) $20.0dm^3$
56. Elements X has atomic 11. What is the formula of its chloride (a) XCl_2 (b) X_2Cl (c) XCl_3 (d) XCl
57. The shape of methane molecule is _____ (a) trigonal plannar (b) octahedral (c) square plannar (d) tetrahedral
58. In Robert Milikan's oil drop experiment, he determined the (a) change to mass ratio of the electron (b) mass of electron (c) charge of electron (d) mass of proton

59. 200cm^3 of air was passed over heated copper in a syringe several times to reduce copper(II)oxide. When cooled the final volume of air recorded was 158cm^3 . Estimate the percentage of O_2 in the air (a)31% (b) 27% (c) 21% (d) 19%
60. What is the oxidation number of S in $\text{Al}_2(\text{SO}_4)_3$? (a)+6 (b) -6 (c) -2 (d) +3
61. Which of the following chemical reactions cannot be affected by change in pressure?
(a) $\frac{1}{2} \text{N}_{2(\text{g})} + \frac{1}{2} \text{O}_{2(\text{g})} \rightarrow \text{NO}_{(\text{g})}$ (b) $2\text{SO}_{2(\text{g})} + \text{O}_{2(\text{g})} \rightarrow 2 \text{SO}_{3(\text{g})}$ (c) $\text{CaO}_{(\text{s})} + \text{CO}_{2(\text{g})} \rightarrow \text{CaCO}_3$
(d)none
62. Soap lather is an example of a colloid in which (a) solid is dispersed in liquid (b) liquid is dispersed in gas (c) gas is dispersed in liquid (d) liquid is dispersed in liquid
63. Chlorine is usually added to water to _____ (a) kill germs (b) coagulate solid particles (c) control the pH of the water (d) make it colourless and odourless
64. The partial pressure of oxygen in a sample of air is 452mmHg and the total pressure is 780mmHg. What is the mole fraction of oxygen? (a) 0.203 (b) 0.579 (c) 2.03 (d) 5.790
65. What type of bond is found in $\text{Cu}(\text{NH}_3)_4^{2+}$ (a) ionic (b) dative (c) covalent (d) metallic (e) none
66. The name of the compound formed when H_2SO_4 is used on $\text{C}_2\text{H}_5\text{OH}$ is (a) ethane (b) ethene (c) ethyne (d) ethanoic acid
67. The furring of kettles is caused by the presence of water (a) calciumtrioxocarbonate(IV) (b) calcium tetraoxosulphate (VI) (c) Ammoniumtetraoxosulphate (d) Calciumhydrogentrioxocarbonate(IV)
68. The allotrope of carbon used as a constituent of lead pencil is (a) diamond (b) charcoal (c) lampblack (d) graphite
69. What is the reason why most element don't have whole number as the mass number? (a) allotropism (b) isomerism (c) isobarism (d) isomorphism
70. The gas that is most useful in protecting human's against solar radiation is (a) O_2 (b) O_3 (c) CO (d) CO_2
71. The colour change observed when testing for reducing agent using acidified Potassiumheptaoxodichromate(VI)solution ($\text{K}_2\text{Cr}_2\text{O}_7$) is (a) yellow to purple (b) orange to green (c) purple to yellow (d) green to orange
72. 0.16g of methane when burnt raises the temperature of 100g of water by 40°C . What is the heat of combustion of methane if the heat capacity of water is 4.2Jg^{-1} ? (a) $1,160\text{KJmol}^{-1}$ (b) $1,180\text{KJmol}^{-1}$ (c) $1,600\text{KJmol}^{-1}$ (d) $1,680\text{KJmol}^{-1}$
73. The gas that is the most dangerous pollutant to humans is (a) Carbon(II)oxide (b) Nitrogen(II)oxide (c) Hydrogen sulphide (d) Sulphur(IV)oxide
74. The reaction between ketones and Hydroxyamine produces (a) Alkanal (b) Alkanone (c) Alkanamide (d) none

75. A gas has a temperature of 20°C , if the volume and pressure are doubled, what is the new temperature? (a) 20K (b) 293K (c) 1172K (d) 556K

PHYSICS

76. A piece of rubber 10cm long stretches 6mm when a load of 100N is hung from it. What is the strain?
(a) 6×10^2 (b) 60 (c) 6 (d) 0.6 (e) 2×10^{-2}
77. Which of the following does not cause a reduction of the surface tension of water? (a) soap solution (b) alcohol (c) camphor (d) grease (e) solvent
78. The amount of heat required to raise the temperature of a body is (a) thermal capacity (b) thermal energy (c) specific heat capacity (d) heat lost (e) heat gain
79. Water shows anomalous behavior (a) below 4°C and 100°C (b) at exactly 4°C (c) between 4°C and 100°C (d) between 0°C and 4°C (e) above 100°C
80. Which of the following phenomena cannot be explained by the molecular theory of matter? (a) radiation (b) conduction (c) convection (d) evaporation (e) saturation
81. A gas occupies a volume of 300cm^3 at a temperature of 27°C , what is its volume at 54°C , when the pressure is constant? (a) 150cm^3 (b) 273cm^3 (c) 327cm^3 (d) 600cm^3 (e) 125cm^3
82. A man clapping his hands at regular intervals observes that the echo of a clap coincides with the next clap. If the reflecting cliff is 160m away and the speed of the sound is 320ms^{-1} . What is the frequency of the clapping? (a) 2Hz (b) 4Hz (c) 8Hz (d) 1Hz (e) 12Hz
83. Which of the following properties is/are common to all waves? I. Diffraction II. Refraction III. Frequency. (a) II only (b) I and II only (c) I, II and III only (d) I and III only (e) II only
84. Which of the following factors affects the speed of sound in air? I. Temperature II. Pressure III. Frequency (a) II only (b) I and II only (c) I only (d) II and III only (e) III only
- When white light is dispersed by a spectrometer, the component having the shortest wavelength is (a) orange (b) green (c) red (d) violet (e) black
85. Shadows and eclipses result from the (a) refraction of light (b) diffraction of light (c) rectilinear propagation of light (d) reflection of light
86. Which of the following media allow the transmission of sound waves through them I. Air II. Liquid III. Solid (a) I, II and III (b) I and II only (c) I and III only (d) II and III only (e) III only
87. The power dissipated in an A.C Circuit with an R.M.S of 5A , R.M.S Voltage of 10V and a phase angle of 60° is (a) 50W (b) 120W (c) 125W (d) 25W (e) 12W
88. A light energy of 5eV falls on a metal and the electrons with a maximum kinetic energy of 2eV are ejected. The work function of the metal is (a) 0.4eV (b) 7.0eV (c) 2.5eV (d) 3.0eV (e) 1.0eV
89. In semiconductors, the carriers of current and temperature are (a) Electrons only (b) Electrons and holes (c) Holes only (d) Electrons and ions (e) ions only.

90. The temperature at which water vapour present in the air saturates the air and begins to condense is known as (a) boiling point (b) melting point (c) dew point (d) triple point (e) steam point
91. Which of the following pairs is not part of the electromagnetic spectrum? I. radiowave II. Beta waves III. Gamma rays IV. Alpha rays (a) I and II (b) II and IV (c) III and IV (d) I and III (e) all of the above
92. A wave of frequency 10Hz forms a stationary wave pattern in a medium where the velocity is 20cm s^{-1} . The distance between the adjacent modes is (a) 15cm (b) 1.0cm (c) 2.0cm (d) 5.0cm (e) 6.0cm
93. The length of a displaced pendulum bob which passes its lowest point twice every second, assuming $g = 10\text{m/s}^{-2}$ is (a) 0.25m (b) 0.45m (c) 0.58m (d) 1.00m (e) 1.2m
94. The inner diameter of a small test tube can be measured accurately using a (a) micrometer screw gauge (b) metre rule (c) pair of vernier calipers (d) meter screw (e) pair of dividers
95. An object is projected with a velocity of 80m/s at angle of 30° to the horizontal. The maximum height reached assuming $g = 10\text{m/s}^2$ is (a) 20m (b) 80m (c) 160m (d) 320m (e) 40m
96. A cone in an unstable equilibrium has its potential energy (a) decreased (b) increased (c) oscillating (d) unchanged (e) undulating
97. A car of mass 800kg attains a speed of 25m/s in 20 seconds. The power developed in the engine is (a) 125KW (b) 25.0KW (c) 1.25KW (d) 2.5MV (e) 1MV
98. When a ship sails from salt water to fresh, the fraction of its volume above the water surface will (a) decrease (b) remain the same (c) increase (d) increase the decrease (e) all of the above
99. A machine gun with a mass of 5kg fires a 50g bullet at a speed of 100m/s . The recoil speed of the machine gun is (a) 0.5m/s (b) 3.5m/s (c) 1m/s (d) 2m/s (e) 4m/s

UNIVERSITY OF IBADAN
2014/2015 ADMISSIONS POST UTME
SCREENING EXERCISE

NAME: YUSUF AYO CHIKE	DEPARTMENT: MEDICINE AND SURGERY
JAMB REG NO: 162492140H	FACULTY: CLINICAL SCIENCES
VENUE: Zoology LLT	SEAT NO: 14
INSTRUCTION: Answer all questions	TIME: 1 HOUR 30 MINS

ENGLISH LANGUAGE

NOTE: Questions not available, candidates should expect questions from

- (i) A comprehension passage (a short passage)
- (ii) Antonyms-Opposite in the meaning
- (iii) Synonyms-nearest in meaning
- (iv) Sub-conjunctive verb forms
- (v) Question tags
- (vi) Correct spelling of words.

*All these, spans from Questions 1-25.

BIOLOGY

- 26. Which is the odd one in the group? (a) mosquito (b) moth (c) Beetle (d) Tick (e) Housefly
- 27. The enzyme that acts on cooked starch in the mouth is (a) ptyalin (b) Amylase (c) Lipase (d) Sucrase (e) Protease
- 28. The part of the alimentary canal of a bird that contain small stone/pebbles is the (a) gizzard (b) crop (c) proventriculus (d) ileum (e) esophagus
- 29. Which of the following is poikilothermic? (a) Rat (b) hen (c) Toad (d) Insect (e) bird
- 30. The enzyme that acts on milk is (a) Pepsin (b) Trypsin (c) Renin (d) Amylose (e) Lypsin
- 31. Which of the following is not needed for Photosynthesis? (a) Light (b) water (c) Carbon(iv)oxide (d) chlorophyll
- 32. Beriberi is caused by a deficiency of vitamin _____ (a) A (b) B (c) C (d) D (e) K
- 33. Which of these is not present in a Animal cell? (a) Cell wall (b) cell membrane (c) centriole (d) ribosomes (e) nucleus
- 34. An organism with two nucleus is the (a) Amoeba (b) Chlamydomonas (c) Euglena (d) Paramecium (e) Hydra
- 35. Chyme after leaving the stomach, it becomes a semi-liquid substance called? (a) bolus (b) chyle (c) bile (d) chyme

36. The Process where Faces is passed out of the body is known as? (a) Secretion (b) Egestion (c) Excretion (d) Metabolism (e) ingestion
37. Four chambered heart can be found in the following (a) insect (b) frog (c) fish (d) rat (e) lizard
38. Open circulatory system can be found in (a)birds (b) insects (c) man (d) tadpoles (e) None
39. Gills is used for respiration in (a) Bird (b) Tadpoles (c) Insects (d) Flat worm (e) Earth
40. Green grasses (autotrophs) in the ecosystem are (a) primary producers (b) secondary consumers(c) primary consumers (d) tertiary consumers.
41. Benedict's solution is used to test for _____ (a) proteins (b) fats and oil (c) carbohydrates (d) vitamins
42. The similarity between reptiles and birds is the possession of (a) scales (b) feather (c) hair (d) claws
43. Which of the following exhibit sexual mode of reproduction (a) Amoeba (b) Paramecium (c) Hydra (d) Chlamydomonas (e) Euglena
44. _____ helps in the emulsification of fats (a) lipase (b) diastase (c) bile (d) pancreas (e) liver
45. Possession of pinna is found in which of the following? (a) Mammal (b) Reptile (c) Fish (d) Amphibian (e) all
46. Starch granule is to plant as _____ is to animal (a) glucose (b) glyucose (c) glycogen (d) glucagon (e) starch
47. Short sightedness can be corrected by using a pair of _____ lens (a) diverging (b) converging (c) cylindrical (d) plano-converging
48. The theory of Natural selection was propounded by (a) Gregor Mendel (b) Charles Darwin (c) Jean Lamark (d) Hugo de vries
49. The hereditary material found in a cell is the (a) RNA (b) ADP (c) DNA (d) ATP (e) FAD
50. Deamination occurs in the (a) Kidney (b) Pancreas (c) Liver (d) Spleen (e) Heart
51. Quicklime is also known as (a) $\text{Ca}(\text{OH})_2$ (b) CaO (c) CaOH (d) CaC_2
52. Primary oxidation of _____ gives _____ (a) Ether, ester (b) Ester, ether (c) Alkanol, ether (d) Alkanol, alkanoic acid.
53. The gas that is the most dangerous pollutant to humans is (a) Carbon(ii)oxide (b) nitrogen(ii)oxide (c) hydrogen sulphide (d) sulphur(iv)oxide
54. 0.16g of methane when burnt raises the temperature of 100g of water by 400°C . what is the heat of combustion of methane if the heat capacity of water is 4.2Jg^{-1} (a) $1,160\text{kJmol}^{-1}$ (b) $1,180\text{kJmol}^{-1}$ (c) $1,560\text{kJmol}^{-1}$ (d) $1,600\text{kJmol}^{-1}$ (e) $1,680\text{kJmol}^{-1}$
55. In the chemical reaction $\text{A} + \text{B} \rightleftharpoons \text{C} + \text{D}$, more of D is formed (a) if the concentration of A is reduced (b) if the concentration of B is reduced (c) if the concentration of C is increased (d) if the concentration of C is reduced (e) if D is continuously removed from the reacting mixture

56. Water for town supply is chlorinated to make it free from (a) Bad odour (b) Bacteria (c) temporary hardness (d) permanent hardness
57. An Artificial method of producing an element is known as (a) Fission (b) Nuclear reaction (c) Transmutation (d) dating (e) fusion
58. The type of bond formed between hybridized orbitals is known as (a) Ionic (b) dative (c) hydrogen (d) covalent (e) metallic
59. The empirical formula of N_2O_4 (a) NO (b) NO_2 (c) N_2O (d) N_3O
60. Another form of oxygen (a) Water (b) Hydrogen (c) Ozone (d) Calcium trioxocarbonate
61. Starch can be converted to ethyl alcohol by (a) distillation (b) fermentation (c) isomerization (d) esterification (e) saponification
62. _____ is produced commercially from seawater (a) Fluorine (b) Bromine (c) Chlorine (d) Iodine
63. The arrangement of elements on the periodic table is in order of their (a) Atomic weights (b) Isotopic weights (c) Atomic numbers (d) Atomic masses
64. Which of the substances below is used as a Refrigerant? (a) Liquid Nitrogen (b) Liquid Ammonia (c) Methane (d) Propyne
65. A pure solid usually melts (a) over a wide range of temperature (b) over a narrow range of temperature (c) at a temperature lower than the impure one (d) at the same temperature as the impure one
66. The difference between colloids and suspensions is brought out clearly by the fact that while colloids (a) do not scatter light, suspensions do (b) can be separated by filtration, suspensions cannot be separated. (c) can be separated by a membrane, suspensions cannot (d) do not settle out on standing, suspensions do
67. The shapes of CO_2 , H_2O and CH_4 respectively are (a) bent, linear, and tetrahedral (b) bent, tetrahedral and linear (c) tetrahedral, linear and bent (d) linear, bent and tetrahedral.
68. A chemical equilibrium is established when (a) concentration of the reactants are less than those of the product. (b) concentration of the reactants and the product remain the same. (c) reactants in the system are completely used up. (d) reactants in the system stop forming the product.
69. 1F equals to _____ (a) 90600 (b) 19500 (c) one electron (d) one mole of electrons
70. What is the oxidation number of P in $\text{H}_2\text{P}_2\text{O}_7^{2-}$? (a) 1 (b) -3 (c) +3 (d) +5 (e) -5
71. The ideal gas equation is represented by (a) $PV = nRT$ (b) $PV = nK$ (c) $n = \frac{KT}{V}$ (d) $P^V/n K$
72. Ozone gas can be found in the _____ (a) upper atmosphere (b) inner atmosphere (c) stratosphere (d) Ionosphere

73. Clothes should be properly rinsed with water after bleaching because (a) the bleach decolorizes the clothes (b) chlorine reacts with fabrics during bleaching (c) the cloths are stenzlized during bleaching (d) hydrogen chlorine solution is produced during bleaching
74. Phenolphthalein in acid solution is (a) red (b) orange (c) colorless (d) yellow
75. The most abundant element in the earth's crust is (a) Nitrogen (b) Hydrogen (c) Oxygen (d) Fluorine

PHYSICS

76. Which of these is the function of a plane mirror not found? (a) Periscope (b) kaleidoscope (c) sextant (d) simple microscope.
77. Which is not a type of convex lens? (a) Bi – convex (b) Plano convex (c) converging meniscus (d) miniconvex.
78. The addition of impurities to produce an n – type semiconductor is known as (a) doping (b) fission (c) addition (d) transmutation.
79. A person suffers a more severe burn from steam than from boiling water because (a) steam is at a higher temperature than boiling water (b) steam spreads more easily over the skin than boiling water (c) steam penetrates more deeply into the skin than boiling water (d) steam possesses greater kinetic energy per unit mass of boiling water.
80. Which of the following is not a vector quantity (a) momentum (b) force (c) temperature (d) displacement.
81. A body rolls down a slope from a height of 100m. Its velocity at the foot of the slope is 20m/s. what is the percentage of its potential energy when converted into kinetic energy? (a) 40% (b) 35% (c) 20% (d) 15%
82. The point beyond which a stretch spring does not return to its original length is called the (a) breaking point (b) elastic limit (c) spring constant (d) elasticity point.
83. Which of the following arrangement in the sequence shown can be used to obtain a pure spectrum of white light? (a) source slit, converging lens, prison, converging lens, screen (b) source, slit, diverging lens prison diverging lens screen (c) source, converging lens prison diverging lens, screen (d) source slit diverging lens converging lens screen.
84. A man walks towards a plane mirror at a speed of 2ms^{-1} along a direction normal to the surface of the mirror. His image moves towards him at a speed of (a) 1ms^{-1} (b) 2ms^{-1} (c) 4ms^{-1} (d) 8ms^{-1}
85. A 0 – 10mA galvanometer of resistance 100Ω is to be converted to a 0-1A ammeter. This can be done by connecting (a) a 9.99Ω shunt resistor (b) a 9.99Ω series resistor (c) a 0.10Ω shunt resistor (d) a 0.10Ω series resistor.

86. The process through which free electrons leave the surface of hot metals is known as (a) photo emission (b) thermionic emission (c) photo emission (d) election emission
87. Given the progressive wave equation, $y = 5 \sin (2000[\pi t - 0.4x])$ Calculate the wavelength (a) 12.4m (b) 15.7m (c) 17.5m (d) 18.6m
88. Convex mirrors are used as driving mirrors because images formed are (a) erect, virtual and dimities (b) erect, real and diminished (c) erect, virtual and magnified (d) inverted, virtual and diminished.
89. A bullet fired horizontally upwards from a gun held 2.0m above the ground reaches its maximum height in 4.0s. Calculate its initial velocity (a) 10m/s (b) 8m/s (c) 40m/s (d) 80m/s
90. A lead bullet of mass 0.05kg is fired with a velocity of 200ms^{-1} into a lead block of mass 0.95kg. Given that the lead block can move freely, the final kinetic after import is (a) 50J (b) 100J (c) 150J (d) 200J
91. A temperature scale has a lower fixed point of 40mm and a upper fixed point of 40mm and an upper fixed point of 200mm. What is the reading on the scale when the thermometer reads 60°C (a) 33.3mm (b) 36.0mm (c) 96.0mm (d) 196mm
92. A substance has a half life of 3min. A 6min the count rate was observed to be 400. What was its count rate at zero time? (a) 200 (b) 1200 (c) 1600 (d) 2400
93. An organ pipe closed at one end is 80cm long. Determine the frequency of the fundamental note assuming the speed of sound in air is 340ms^{-1} (a) 106Hz (b) 213Hz (c) 318 Hz (d) 425 Hz
94. A pool of water appears to be 1.0m deep when viewed vertically from above. If the refractive index of water is 1.33. What is the actual depth of the pool? (a) 0.750m (b) 1.013m (c) 1.330m (d) 13.3000m
95. Shadows and eclipses result from the (a) refraction of light (b) diffraction of light (c) rectilinear propagation of light (d) reflection of light
96. When light is incident on an object which is magenta in colour, which of the following colours would be absorbed (a) red and blue (b) green only (c) red and green (d) red only
97. A boy timed 20 oscillations of a certain pendulum tree tunes and obtain 44.3s, 45.5s and 45.7s respectively. Calculate the mean period of oscillation of the pendulum (a) 0.13s (b) 2.22s (c) 2.26s (d) 44.30s (e) 45.17s
98. Which of the following have the longest wavelength (a) infra-red ray (b) gamma rays (c) x-rays (d) ultra-violet rays (e) radiowaves
99. Which of the following does not causes a reduction of the surface tension of water? (a) soap solution (b) Alcohol (c) camphor (d) Grease (e) solvent
100. In semiconductors, the carriers of current and temperature are (a) electrons only (b) electrons and holes (c) Holes only (d) electrons and ions (e) ions only

UNIVERSITY OF IBADAN
2015/2016 ADMISSIONS POST UTME
SCREENING EXERCISE

NAME: ALIU AINA CHIMA	DEPARTMENT: MEDICINE AND SURGERY
JAMB REG NO: 16249214AP	FACULTY: CLINICAL SCIENCES
VENUE: Social Science LLT	SEAT NO: 22
INSTRUCTION: Answer all questions	TIME: 1 HOUR 30 MINS

Subject Combination: English Language, Biology, Chemistry, Physics

ENGLISH LANGUAGE

Read the passage below and answer the questions that follow.

Primitive man was probably more concerned with fire as a source of warmth and as a means of cooking food than as a source of light. Before he discovered less laborious ways of making fire, he had to preserve it and whenever he went on a journey, he carried a fire brand with him. His discovery that the fire brand from which the torch may well have developed, could be used for illumination was probably incidental purpose of preserving a flame.

Lamps, too probably developed by accident. Early man may have had his first conception of a lamp while watching a twig of fibre burning in the molten fat dropped from roasting carcass. All he had to do was to fashion a vessel to contain fat and float a lighted reed in it. Such lamps, which were made of hollowed stones or seashells, have persisted in identical form up to quite recent times.

1. Primitive man carried a fire brand during his journeys mainly for (a) illumination (b) cooking of food (c) warmth (d) flame preservation.
2. According to the passage, the force probably developed from a (a) firebrand (b) twig (c) lamp (d) fibre.
3. Primitive man was least concerned with fire as a (a) means of cooking (b) source of warmth (c) source of light (d) the means of travelling
4. One way early man made a lamp was by putting a lighted reed in a (a) hollowed stone (b) sea shell (c) vessel (d) molten fat.
5. Primitive man preserved fire because (a) he used it for illumination during is travels (b) his method of making fire was laborious (c) he wanted to discover how to make a lamp (d) he wanted to develop the torch.

Choose the option that best complete the gap

6. Ten miles _____ a great distance (a) is (b) are (c) was (d) were
7. One _____ so if she had thought if necessarily (a) would have said (b) would say (c) may have said (d) could say

8. The _____ affairs officer is expecting all of us in the dinning room (a) student (b) student's (c) students (d) students'
9. One of the ladies who _____ in the premise _____ been asked to withdraw (a) sells/heve (b) sell/heve (c) sells/has (d) sell/has
10. A tale of two cities _____ the _____ we are studying for the examination (a) are/novels (b) was/novel (c) were/novels (d) is/novel.

Choose the options that most appropriately express the idea in the underlined expressions.

11. My father is indifferent to my choice of university (a) supports (b) opposes (c) not decided (d) not concerned
12. On the issue of praise worship, some sit on the fence (a) go to the extreme (b) are decisive (c) are fanatics (d) are undecided
13. Biola is a clinging child (a) he is a handsome young man (b) he is possessive (c) he likes to cling with his sister (d) he is a bully
14. Ramatu expressed her feelings in no uncertain terms (a) she expressed it clearly and strongly (b) she expressed it secretly and courageously (c) she expressed it quietly and cautiously (d) she expressed it feebly and sickly

Choose the option that is nearest in meaning to the words underlined.

15. Many people look into the future with trepidation (a) certainty (b) uncertainty (c) fear (d) faith
16. Ayodeji is an ardent supporter of education for the girl child (a) an optimistic (b) a cogent (c) a passionate (d) an ignorant
17. The scholar's epitaph was demolished (a) monument (b) embodiment (c) farmland (d) book
18. Nwankwo was on the verge of signing a two-year contract with the club (a) shore (b) brink (c) summit (d) height

Choose the option opposite in meaning to the word underlined

19. Peter always approaches issues optimistically (a) realistically (b) pessimistically (c) carelessly (d) unrealistically
20. The relationship between the couple has been frosty (a) fraudulent (b) cordial (c) amenable (d) frugal
21. The plebs can be found in every society in the world (a) indelible (b) laudable (c) deplorable (d) forgettable
22. The man's mordant wit is apparent to the entire village (a) kind (b) scathing (c) caustic (d) withering
23. Choose the word that is correctly spelled (a) Louvres (b) Luvers (c) Louvras (d) Louvers

24. My son, a brilliant lecturer, won many prizes. The underlined expression is a/an (a) adjectival clause (b) relative clause (c) appositive clause (d) nominal clause
25. Bello and I love each other (a) preposition (b) reciprocal pronoun (c) noun phrase (d) adjectival phrase

BIOLOGY

1. The part of the cell responsible for respiration is the (a) Nucleus (b) Nucleolus (c) Mitochondria (d) Golgi bodies
2. At what stage is the sex of an individual set? (a) conception (b) birth (c) fertilization (d) meiosis
3. The correct sequence of structures from the ovary to the vagina is (a) ovary → fallopian funnel → uterus → cervix → vagina (b) ovary → fallopian funnel → cervix → uterus → vagina (c) ovary → cervix → fallopian tube → fallopian funnel → vagina (d) ovary → cervix → uterus → fallopian tube → vagina
4. In photosynthesis, the following processes are part of the light reaction except (a) transfer of radiant energy which reduces a co-factor (b) absorption of radiant energy by chlorophyll (c) utilization of the energy in the electron transfer chain to form ATP (d) formation of glucose using energy from NADPH
5. Which of the following pairs are the products of sucrose hydrolysis (a) Glucose + glucose (b) fructose + fructose (c) Glucose + fructose (d) Galactose + glucose
6. Which of the following groups of factors is completely abiotic? (a) Salinity, tide, plankton, turbidity. (b) temperature, pH, soil, insect (c) wind, altitude, humidity, light (d) conifers, pH, rainfall, salinity
7. 28g of soil sample was heated to constant weight of 24g. When further heated to red hot and cooled, it weighed 18g. What is the percentage of humus in the soil? (a) 21.4 (b) 55.6 (c) 75.0 (d) 35.7
8. Two organisms of different species, living in close association but not dependent on each other are referred to as (a) parasites (b) commensals (c) symbiosis (d) saprophytes
9. Which of the following factors is not associated with aquatic habitat? (a) temperature (b) light intensity (c) humidity (d) turbidity
10. The theory of natural selection was developed by (a) Lamarck and Darwin (b) Darwin and Mendel (c) Wallace and Mendel (d) Mendel and Lamarck

QUESTION 11 – 25 (NOT AVAILABLE)

NOTE: FOR U.I POST UTME BIOLOGY. Read the following materials/Reference texts/notes

1. College biology by Dr Idodo Umeh
2. Modern biology for senior secondary schools by RT Ramalingam
3. Lamlard's SSCE and UTME Biology by G.A.O Arawomo

4. Explicit biology for schools and colleges by O.J. Olaoye
5. JAMB question pack/series.

CHEMISTRY

1. The average kinetic energy of the molecules of a gas (a) decreases with decrease in pressure (b) decrease at constant pressure (c) decrease with decrease In volume (d) decrease with decrease in temperature
2. What volume of 0.25 mol dm^{-3} hydrochloric acid would be required to dissolve 0.48 g of magnesium completely? ($\text{Mg}=24.0$) (a) 160 cm^3 (b) 200 cm^3 (c) 240 cm^3 (d) 320 cm^3
3. Why is carbohydrate charred when heated with concentrated tetraoxosulphate(vi) acid? Concentrated tetraoxosulphate(vi) acid is (a) a strong acid (b) an oxidizing agent (c) a reducing agent (d) a dehydrating agent
4. $a\text{E} + b\text{F} \rightarrow d\text{G}$ If the rate law obtained for the reaction above is $\text{rate} = k[\text{K}]^x[\text{F}]^y$, what is the overall order of the reaction? (a) $a+b$ (b) $a-b$ (c) $x+y$ (d) $x-y$
5. What amount of Aluminum would be deposited if the same quantity of electricity that deposits 2.07 g of lead is applied? ($\text{Al}=27$, $\text{Pb}=207$) (a) 0.09 g (b) 0.18 g (c) 0.27 g (d) 0.36 g
6. $2\text{H}_2\text{S}_{\text{g}} + \text{SO}_{2(\text{g})} \rightarrow 3\text{S}_{(\text{s})} + 2\text{H}_2\text{O}_{(\text{L})}$ The reducing agent in the reaction above is (a) H_2S (b) SO_2 (c) S (d) H_2S
7. A compound that will give a reddish – brown precipitate with ammoniacal copper(I) chloride solution is (a) $\text{CH}_3\text{CH}_2\text{C} \equiv \text{CCH}_3$ (b) $\text{HC} \equiv \text{CCH}_2\text{CH}_3$ (c) $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_3$ (d) $\text{CH}_3\text{CH}_2\text{COCH}_3$
8. Terylene is synthesized by copolymerizing benzene – 1,4 dicarboxylic acid (terephthalic acid) and ethane – 1,2- diol. The reaction involved in this synthesis is (a) substitution (b) addition (c) elimination (d) condensation
9. Which of the following compounds has the highest boiling point? (a) $\text{CH}_3\text{CH}_2\text{CH}_3$ (b) $\text{CH}_3\text{CH}_2\text{OCH}_3$ (c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ (d) $\text{CH}_3\text{CH}_2\text{CHO}$
10. A ketone reacts with hydroxy lamine to give (a) a hydrazone (b) a alkanonitrile (c) a nitroso compound (d) an oxime
11. $\text{NH}_3 + \text{H}_3\text{O}^+ \rightleftharpoons \text{NH}_4^+ + \text{H}_2\text{O}$ which of the following statements is correct about the above reaction? (a) NH_3 acts as an acid (b) NH_4^+ acts as a base (c) H_3O^+ acts as an acid (d) H_3O^+ acts as a base
12. 0.79 g of a gas at STP occupied a volume of 250 cm^3 . What is the relative molecular mass of the gas? ($\text{G.M.V at STP}=22.4 \text{ dm}^3$) (a) 17 (b) 32 (c) 64 (d) 71

QUESTIONS (13 – 25 NOT AVAILABLE)

NOTE: FOR U.I POST-UTME CHEMISTRY, Read the following materials /Reference texts

1. Understanding Chemistry for Schools & Colleges by Dr Ojokuku
2. New School Chemistry for Senior Secondary Schools by Y.O Ababio

3. Lamlard's SSCE & UTME Chemistry by Prof F.O.I Asubiojo et. al.
4. JAMB questions pack/series (1990 – 2004)

PHYSICS

Questions not AVAILABLE, However, candidates are expected to focus on the following topics:

- (i) Equilibrium of forces
- (ii) Elasticity (i.e hooke's law)
- (iii) Expansitivity (i.e linear, cubic etc)
- (iv) Motion
- (v) Newton's law of Universal gravitation
- (vi) Alternating currents (i.e. R.L.C Circuit)
- (vii) Waves (i.e. progressive wave equation)
- (viii) Electrostatics (i.e. Calculation on coulomb's)
- (ix) Electricity (Electrical energy & power)
- (x) Nuclear & Atomic Physics

NOTE: FOR U.I POST UTME PHYSICS. Read the following materials/References.

1. New School Physics by Dr M.W. Anyakoha
2. Science Physics by J.R. Afolabi

OR

Lamlard's Physics for SSCE & UTME by H.B Olaniyi

UNIVERSITY OF IBADAN
2016/2017 ADMISSIONS POST UTME
SCREENING EXERCISE

NOTICE: POST UTME SCREENING EXERCISE which usually involves PAPER AND PENCIL TEST (PPT) was not conducted due to the abolishment of POST UTME as ordered by the Federal Government and declared by the then Minister of Education Mallam Adamu Adamu.

Points from SSCE (O'LEVEL) result which could either be WASSCE or NECO was used. Under this point scoring system, Five subjects relevant to a candidate course of study was used.

For example, a candidate who wants to study Microbiology will have Mathematics, English Language, Biology, Chemistry and Physics of his O'Level result to be used.

Hence,

A1	6 points
B2	5 points
B3	4 points
C4	3 points
C5	2 points
C6	1 points
D7 – F9	0 points

A candidate with 5 A1's in his O'Level will then have : $30/30 \times 50$

So O'Level carries a total of 50 points

While UTME carries 50% too which is derived by dividing 100 (total obtainable marks) by 8

Hence $400/8 = 50$ points

So, 50 points from O'Level and 50 points from UTME is used to finally arrive at an aggregate which will be used to fix cut-off for a particular course

NOTE: Cut-off marks is NOT fixed, It varies year to year due to candidates general performance.

UNIVERSITY OF IBADAN
2017/2018 ADMISSIONS POST UTME
SCREENING EXERCISE

NAME: ALIU AINA CHINAZA	DEPARTMENT: MEDICINE AND SURGERY
JAMB REG NO: 16249214AP	FACULTY: CLINICAL SCIENCES
VENUE: Social Science LLT	SEAT NO: 089
INSTRUCTION: Answer all questions	TIME: 1 HOUR 30 MINS

Subject Combination: English Language, Biology, Chemistry, Physics

ENGLISH LANGUAGE

Questions not available, However, candidates are to know that questions for this particular year came from:

- (i) Comprehension (2 passages) which is a bit long
- (ii) Synonyms
- (iii) Antonyms
- (iv) Sub-conjunctive verb forms
- (v) Test of orals.

BIOLOGY

- 26. The part of a neurone that contains the nucleus is called _____ (a) cell body (b) dendrites (c) myelin sheath (d) Axon (e) Nerve
- 27. Tadpole respire with (a) Lungs (b) Nostril (c) Spiracles (d) Gills (e) Siphon
- 28. Mammals are characterized by the presence of _____ on their body (a) Hairs (b) Skin (c) Feathers (d) Scales (e) Spines
- 29. The type of joint that permits rotation in one plane is called (a) Ball and socket joint (b) Gliding joint (c) Pivotal joint (d) Hinge joint (e) Suture
- 30. The most important environmental factor which epiphytes in the rainforest compete for is (a) water (b) nutrient (c) space (d) light (e) host
- 31. Growing yam tendrils climb for support thus showing (a) haptotropism (b) geotropism (c) hydrotropism (d) phototropism (e) chemotropism
- 32. Which of the following is one of Lamarck's Theories? (a) Some variations are favourable to existence in a given environment than others (b) All living organisms are constantly involved in a struggle for existence (c) New species originate through the inheritance of acquire traits (d) The size of a given population remains fairly constant (e) New species arise as a result of adaption to the new environment.

33. A population is defined as the collection of _____ (a) Similar organism that are found in the same habitat (b) Similar organisms that breed in the same habitat (c) Similar organisms that interbred freely in the same habitat (d) Similar organism that eat the same type of food (e) Different organisms in the same habitat
34. Which of the following bacteria reduce nitrates in the soil to gaseous nitrogen? (a) Putrefying bacteria (b) Nitrifying bacteria (c) Denitrifying bacteria (d) Saprophytic bacteria (e) Parasitic bacteria
35. Parenchyma cells serve as supporting tissue when they (a) contain chloroplast (b) become flaccid (c) become turgid (d) have crystals (e) occur with chlorenchyma
36. The spores of mucor are dispersed by (a) water (b) air (c) wind (d) insects (e) explosive mechanism
37. Prokaryotes are distinguished from eukaryote on the basis of (a) lack of organelles (b) lack of cell membrane (c) lack of nucleus (d) lack of nuclear membrane (e) none of the above
38. In male reptiles, the penis is hidden in _____ (a) Hemipenes (b) Cloaca (c) Oviduct (d) Glands (e) Gonads
39. The mammalian egg has _____ coverings (a) 1 (b) 3 (c) 2 (d) 4 (e) 5

Questions 39 – 50 not available

CHEMISTRY

51. What is the concentration of a solution containing 2g of NaOH in 100cm^3 of solution?
(a) 0.40mol dm^{-3} (b) 0.50mol dm^{-3} (c) 0.05mol dm^{-3} (d) 0.30mol dm^{-3}
52. The final products of the reaction between Methane and Chloride in the presence of Ultraviolet light are Hydrogen Chloride and (a) dichloromethane (b) tetrachloromethane (c) chloromethane (d) trichloromethane
53. The compound that is used as an anaesthetic is (a) CHCl_3 (b) CH_2Cl_2 (c) CH_3Cl (d) CCl_4
54. The type of cell where oxidation-reduction takes place simultaneously is known as (a) Voltaic cell (b) Chemical cell (c) half cell (d) electrolytic cell
55. The force of attraction between proton and neutron is _____ (a) (b) (c) (d)
56. The particle with the highest penetrating power is _____ (a) γ (b) β (c) α (d) x-particle
57. A particle that contains 9 protons, 10 neutrons and 10 electrons is a (a) negative ion (b) positive ion (c) neutral atom of a non metal (d) neutral atom of a metal
58. The chemical used for the coagulation in water purification is (a) aluminium tetraoxosulphate(vi) (b) copper tetraoxosulphate(vi) (c) sodium tetraoxosulphate(vi) (d) calcium tetraoxosulphate(vi)
59. The ore of Aluminium is _____ (a) Haematite (b) Magnetite (c) Bauxite (d) Cassiterite

60. The solubility of Copper(II)tetraoxosulphate(vi) is 75g in 100g of water at 100°C and 25g in 100g of water at 30°C . What mass of the salt would crystallize, if 50g of copper(II)tetraoxosulphate(VI) solution saturated at 100°C were cooled to 30°C (a) 57.5g (b) 42.9g (c) 28.6g (d) 14.3g
61. In which of the following aqueous solutions of each of the substances correctly arranged in order of decreasing acidity (a) Ethanoic acid, Milk of Magnesia, Sodium Chloride, Hydrochloric acid and Sodium Hydroxide (b) Ethanoic acid, Hydrochloric acid, Milk of Magnesia, Sodium Chloride and Sodium Hydroxide (c) Hydrochloric acid, Ethanoic acid, Sodium Chloride, Milk of Magnesia and Sodium Hydroxide (d) Hydrochloric acid, Sodium Hydroxide, Sodium Chloride, Ethanoic acid and Milk of Magnesia
62. 0.1 Faraday of Electricity was passed through a solution of Copper(II)Sulphate. The maximum weight of copper deposited on the cathode would be (a) 64.0g (b) 32g (c) 16.0g (d) 6.4g
63. Five atoms T,W,X,Y,Z consists of the following particles:

	T	W	X	Y	Z
Proton	13	16	17	19	20
Electron	13	16	17	19	20
Neutron	14	16	35	20	20

Which of the five atoms can be described by the following properties: Relative atomic mass is greater than 30 but less than 40, It has odd atomic number and forms a uni-positive ion in solution (a) T (b) W (c) X (d) Y

64. The hybridization of Carbon atom in ethylene is (a) sp^4 (b) sp^3 (c) sp^2 (d) sp
- A pure solid usually melts (a) over a wide range of temperature (b) over a narrow range of temperature (c) at a lower temperature than the impure one (d) at the same temperature as the impure one.

Questions 65 – 74 not available

PHYSICS

76. As micro implement 10^{-6} , fento implies what? (a) 10^{-15} (b) 10^{11} (c) 10^{-21} (d) 10^{17}
77. An inventor makes a clock using a thin brass rod and a heavy mass as a pendulum. What happens during a very cold weather? (a) The pendulum would shorten and the clock gain time (b) The pendulum would lengthen and the clock gain time (c) The pendulum would shorten and clock lose time (d) The pendulum would lengthen and the clock lose time
78. A ladder of length 3m weighs 200N and has its centre of gravity 120cm from its bottom. A 50N weight is attached to its top. Calculate the amount of work required to raise the ladder from a horizontal position on the ground to a vertical position. (a) 390J (b) 240J (c) 150J (d) 750J

79. Complete the following statement: Today, the standard unit of time is defined in terms of (a) the electromagnetic waves emitted by cesium atoms (b) the motion of the moon around the earth (c) the average solar day (d) the speed of light
80. A force, 10N drags a mass 10kg in a horizontal table with an acceleration of 0.2ms^{-2} . What is the coefficient of friction between the moving mass and the table if the acceleration due to gravity is 10ms^{-2} (a) 0.02 (b) 0.08 (c) 0.80 (d) 0.20
81. If the specific latent heat of fusion of water is L J/kg, the energy required to convert 10kg of ice at 0°C to water at 0°C is: (a) $10L$ joule (b) $10/L$ joule (c) 105 joule (d) $100L$ joule
82. Which of the following physical quantities of a substance is not applicable in the making of thermometers (a) Volume of a fixed mass of a liquid (b) Electrical resistance of a metallic wire (c) Pressure of a fixed mass of a gas at constant volume (d) Mass of a fixed volume of a liquid
83. Heat supplied or removed from a system which causes a change of state without a change in temperatures is (a) Specific heat (b) Heat capacity (c) Latent heat (d) Boiling heat
84. The pressure of a gas when cooled at constant volume will decrease because the molecules (a) collide less frequently with the walls of the container (b) have the same average kinetic energy (c) break up into smaller molecules (d) decrease in number
85. To convert temperature from degree Celsius ($^{\circ}\text{C}$) to Fahrenheit ($^{\circ}\text{F}$), the conversion equation is (a) $F = \frac{5}{9}(C-32)$ (b) $F = 1.8C + 32$ (c) $\frac{9}{5}C - 32$ (d) $\frac{5}{9}(C+32)$
86. A uniform wave has a speed of 10m/s and a period of 0.5s . The distance between two nearest crests is (a) 0.2m (b) 20m (c) 2m (d) 5m
87. A blue object will appear black when illuminated by: (a) Blue light (b) Yellow light (c) Cyan light (a mixture of green and blue light) (d) Magenta (a mixture of red and blue light)
88. A boat at anchor is rocked by waves whose troughs are 100m apart and whose velocity is 25m/s . At what interval does the wave through reach the boat? (a) 4.00s (b) 2500.00s (c) 0.25s (d) 75.00s
89. Which of the following pairs of colours gives the widest separation in the spectrum of white light? (a) Green and yellow (b) red and violet (c) red and indigo (d) yellow and violet
90. The angle of incidence in a denser medium when the angle of refraction in the less dense medium is 90° is called a (a) critical angle (b) reflected angle (c) incident angle (d) emergent angle
91. Which of the following statements is true concerning the magnitude of the electric field at a point in space? (a) It is a measure of the total charge on the object (b) It is a measure of the electric force on any charged object (c) It is a measure of the ratio of the charge on an object to its mass (d) It is a measure of the electric force per unit charge on a test charge

92. A 0 – 10mA galvanometer with a coil resistance of 30 ohm can be converted to a 0 – 10A ammeter by using (a) 0.03ohm series resistor (b) 9.99ohm shunt resistor (c) 0.03ohm shunt resistor (d) 9.99ohm series resistor
93. A transformer has 400 turns in the primary coil and 200 turns in the secondary coil. If the primary coil is connected to 110V, what voltage will be obtained from the secondary coil? (a) 110V (b) 150V (c) 220V (d) 55V
94. If the cross sectional area of a resistor of resistance R ohms is halved and its length is doubled, its resistance becomes: (a) 4R ohms (b) 2R ohms (c) R ohm (d) $\frac{1}{2}$ R ohms
95. Which of the following methods will effectively demagnetized a bar magnet? I. passing an electric current through the magnet II. Bringing its north pole in contact with the north pole of a strong magnet III. Heating the magnet (a) I only (b) III only (c) I and III only (d) I, II and III only
96. A certain radioactive element has a half-life of 20years. How long will it take the activity to become $\frac{1}{4}$ of its original? (a) 20 years (b) 40 years (c) 60 years (d) 80years
97. Which one of the following pairs of symbols represent two isotopes? (a) $^{16}_8\text{O}$, $^{14}_7\text{N}$ (b) $^{12}_6\text{C}$, $^{14}_6\text{C}$ (c) $^{16}_8\text{O}$, $^{23}_{11}\text{Na}$ (d) $^{14}_7\text{N}$, $^{14}_6\text{C}$
98. Which of the following is correct about nuclear radiation? I. Alpha particles are deflected by both magnetic and electric field II. Gamma rays are deflected by both magnetic and electric fields III. Beta particles are not deflected by both magnetic and electric fields (a) I and II (b) I only (c) I, II and III (d) I and III
99. A nuclide $^{18}_9\text{X}$ decays by emitting an alpha particle. The daughter nuclide is (a) $^{17}_9\text{Y}$ (b) $^{14}_7\text{Y}$ (c) $^{18}_{10}\text{Y}$ (d) $^{22}_{11}\text{Y}$
100. A metal having a work function of 5.76 eV is illuminated with a radiation of 7.88eV. The kinetic energy of the electrons emitted from the surface is (a) 2.12eV (b) 4.24eV (c) 6.82eV (d) 13.64eV