YABATECH
Post UTME
Past
Questions and Answers

Compiled by
www.myschoolgist.com

ART, DESIGN AND PRINTING

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words which best completes each of the following sentences.	
1	When the little girl hurt herself she ------ her mother for sympathy. (a) looked up (b) forced (c) appealed for (d) turned to	D
2	The ---------- applauded the lecturer. (a) crowd (b) congregation (c) spectator (d) audience	D
3	The new Eko Bridge in Lagos should help to greatly ease the terrible traffic---------- (a) compression (b) conversions (c) congestion (d) convergence	C
4	Able and ----------, he eventually reaped his reward. (a) awkward (b) industrial (c) officious (d) industrious	D
5	The lecturer felt that it would be---------- to let women compete for posts normally filled by men. (a) inadequate (b) impolite (c) inferior (d) in appropriate	D
	From the list of words or group of words lettered A to D below each of the following sentences, choose the word or group of words which is nearest in meaning to the underlined expression as it is used in the sentences.	
6	The discussion became animated. (a) robust (b) unruly (c) intellectual (d) lively	D
7	John did four years in the University without obtaining his degree, and his scholarship had to be withdraw (a) recovered (b) postponed (c) cancelled (d) re-allocated	C
8	The driver failed to obey the speed-limit regulations in the college compound, and was summarily dismissed. (a) answer (b) understand (c) notice (d) observe	D
9	The rebels were forced to surrender. (a) give off (b) give out (c) give in (d) give way	C
10	Prospective students for admission must be eligible. (a) clever (b) fluent (c) smart (d) qualified	D
	MATHEMATICS SECTION	
11	Simplify $\sqrt{3} + \frac{1}{\sqrt{3}}$ A. $\sqrt{3}\left(1+\frac{\sqrt{3}}{3}\right)$ B. $\sqrt{3}\left(1+\frac{1}{\sqrt{3}}\right)$ C. $\frac{4\sqrt{3}}{3}$ D. $\frac{5\sqrt{3}}{3}$	C
12	Evaluate Cos 45° + Sin 225° A. $\sqrt{2}$ B. 0 C. $\frac{\sqrt{2}}{2}$ D. $2\sqrt{2}$	B
13	If SCR, then A. $S \cap R = R$ B. $S \cap R = S$ C. $S \cup R = S$ D. $S \cap R = S'$	B
14	Convert 35 to a number in base two. A. 1011_2 B. 10011_2 C. 100011_2 D. 110010_2	C
15	The nth term of a sequence is represented by $3 \times 2^{2-n}$. Write down the first three terms of the sequence A. $^3/_2$, 3, 6 B. 6, 3, $^3/_2$ C. $^3/_2$, 3, $^1/_3$ D. $^2/_3$, 3, $^8/_3$	B
16	Simplify $\left(\frac{1}{4}\right)^{-1\frac{1}{2}}$ A. 8 B. 4 C. ¼ D. ⅜	A
17	Simplify $\frac{8^{\frac{2}{3}} \times 27^{-\frac{1}{3}}}{64^{\frac{1}{3}}}$ A. -3 B. $^1/_9$ C. ⅓ D. $^{27}/_8$	C
18	Solve the equation $5x^2 - 4x - 1 = 0$ A. -1, $^1/_5$ B. -1, $^{-1}/_5$ C. 1, $^1/_5$ D. 1, $^{-1}/_5$	D
19	P and q are two positive numbers such that $p > 2q$. Which one of the following statements is not true? A. $-p < -2q$ B. $-p > -2q$ C. $-q < 2p$ D. $q < \frac{1}{2}p$	B
20	For what values of x is the expression $\frac{x-5}{x^2-2x-3}$ not defined? A. 3, 1 B. -1, -3 C. - 1, 3 D. 3, -2	C
	FINE ART SECTION	
21	Another name for a non-realistic drawing is ------A. Baroque B. Impressionism C. Abstract D. Realism	C
22	The equipment used for weaving in textile is referred to as ---------- A. Spinning B. Warp C. Loom D. Weft	C
23	----- is the most durable material for sculptural work. A. Clay B. Soap C. Bronze D. Wood	C
24	The modelling of the upper part of the human figure is referred to as a ------- A. Half body B. Portrait C. Bust D. Profile	C
25	An arrangement of different forms or shapes in creating pattern is known as ---------- A. Rhythm B. Texture C. Motif D. Design	C
26	-------- is the best material suitable for modelling. A. saw-dust B. Clay C. Plasticruise D. Sand	B
27	Which of these sculptural materials has the lightest weight of product? A. clay B. Ivory C. Papier-mache D. Store	C
28	Moral design is a good examples of ---------- A. Pattern design B. Relief C. Wall decoration D. Wall painting	C
29	As a painter you need of these combination for your work. A. Pigment/Brush/Chisel B. Pigment/Palette/Brush C. Mallet/Palette/Knife D. Brush/Hammer/Palette	B

30	A drawing or design on a flat surfaces will possess ---------- and ---------- A. breadth/dept B. dept/length C. Length/breadth D. Height/volume	C
	CURRENT AFFAIR SECTION	
31	The appointment, promotion and discipline of civil servants are the responsibility of the (a) Electoral Commission (b) Civil Service Commission (c) Judiciary service commission (d) Civil Service Union	B
32	Red tapism in the civil service refers to (a) The politicization of the civil service (b) The co-operation between civil servants and politicians (c) Slowness of action (d) The use of red tapes on legal documents	A
33	The grant of the right to vote is called (a) Participation (b) Prohibition (c) Disqualification (d) Enfranchisement	D
34	The system which allows private individuals and companies to own and control the means of production is known as (a) Communism (b) Capitalism (c) Fascism (d) Socialism	B
35	Which of the following factors may work against a representative system of government? (a) Rigging of elections (b) Independent electoral commission (c) The introduction of universal adult suffrage (d) High literacy of the electorate	A
36	The powers allocated to the central government in a federation are contained in the (a) Concurrent legislative list (b) Residual legislative list (c) Exclusive legislative list (d) Central legislative List	C
37	The Nigerian Federal legislature is called the (a) House of Representatives (b) National Assembly (c) Congress (d) Senate	B
38	Nigerian's FIRST constitution was the (a) Independence constitution (b) Macpherson Constitution (c) Clifford constitution (d) Lyttleton Constitution	A
39	The Nigerian Macpherson constitution of 1951 was significant for (a) Establishing the supreme court (b) The creation of states (c) Providing for the office of the Prime Minister (d) The introduction of electoral college	D
40	The concept of regionalism in Nigeria was FIRST introduced by the (a) Lyttleton Constitution (b) Richard's Constitution (c) Macpherson Constitution (d) Independence Constitution	B

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	Instructions: In each of the following sentences there is one word underlined and one gap from the list of words A to D choose the word that is most nearly opposite in meaning to the underlined word and which will correctly fill the gap in the sentences.	
1	Adebayo had felt <u>sure</u> of winning the election but as the officials countered the voters, he felt really---------- (a) ambiguous (b) uncertain (c) disturbed (d) insecure	B
2	People who are normally ---------- often turn out to be <u>dauntless</u> heroes in the face of real danger. (a) unsteady (b) cowardly (c) colourless (d) bashful	B
3	After an <u>exciting</u> life aboard in the army he found farming at home extremely--------- (a) difficult (b) repulsive (c) unprofitable (d) boring	D
4	His <u>conceited</u> altitude after the victory contrasted sharply with his friends---------- (a) humiliation (b) disgrace (c) shame (d) modest	D
	From the words or group of words lettered A to D, choose the word or group of words which best completes each of the following sentences.	
5	Please could you---------the radio so that it's not quite so loud. (a) turn out (b) turn down (c) turn in (d) turn off	B
6	Kola wore his national---------- which was made up of flowing garment with beautifully embroidered trousers. (a) outfit (b) suit (c) costume (d) uniform	C
7	Tom and Mabel -------the wedding as guests of the bridegroom. (a) Called on (b) attended (c) avoided (d) witnessed	B
8	This is a ---------- venture in which everyone shares in the work, and in the profit. (a) limited (b) corporal (c) friendly (d) cooperative	D
9	The train ---------- speed after rounding the corner. (a) picked over (b) picked on (c) picked off (d) picked up	D
10	The two countries refused to compromise on their border dispute and all efforts at a settlement ended in a ---------- (a) cessation (b) suspension (c) recess (d) stalemate	D
	MATHEMATICS SECTION	
11	An arc of a circle of radius 7cm is 14cm long. What angle does the arc subtend at the centre of the circle (Take $\pi = {}^{22}/_{7}$). A. 9.1cm B. 7.8cm C. 8.7cm D. 9.9cm	D
12	A chord subtends an angle of 34° at the centre of a circle of radius 4cm find the length of the chord (Take $\pi = {}^{22}/_{7}$). A. 3.75cm B. 4.76cm C. 5.85cm D. 6.12cm	C
13	Calculate, to three significant figures, the length of an arc which subtends an angle of 70^{o} at the centre of the circle of radius 4cm (Take $\pi = {}^{22}/_{7}$). A. 4.56cm B. 3.85cm C. 4.89cm D. 3.56cm	C
14	What is the length of the arc of a circle radius 1.4cm which subtends an angle of 110^{o} at the centre of the circle (Take $\pi = {}^{22}/_{7}$). A. 2.69cm B. 3.56cm C. 4.51cm D. 2.84cm	A
15	Find the perimeter of a circle of radius 7.5cm (Take $\pi = {}^{22}/_{7}$). A. 12.35cm B. 47.14cm C. 38.53cm D. 34.34cm	B
16	XY is a chord of a circle of radius 6cm, subtending an angle of 60^{o} at the centre, find the length of the arc XY, correct to 3 significant figures. A. 6.29cm B. 5.28cm C. 7.25cm D. 5.96cm	A

17	Find the 8th term of the A.P, -3, -1, 1, ……A. 13 B. 11 C. -8 D. -11	B
18	Express the product of 0.06 and 0.09 in standard form A. 5.4×10^{-3} B. 5.4×10^{-1} C. 5.4×10^{-4} D. 5.4×10^{-4}	A
19	A group of students took a test and the following frequency table shows the scores Scores 0 1 2 3 4 5 Frequency 2 3 4 2 7 2 The median score is A. 0, B. 2.5 C. 3 D. 5	C
20	If Cos 60° = ½ which of the following angles has a cosine of ½? 30° B. 120° C. 150° D. 300°	D
	FINE ART SECTION	
21	Arial perspective shows distance in ----------A. Time B. Space C. Colour D. Line	C
22	---------- is a tertiary colour A. Yellow B. Purple C. Red D. Black	B
23	---------- is not a drawing tool among the followings A. Pencil B. Pen C. Pallet D. Erazer	C
24	---------- can be referred to as colour A. Pencil B. Pigment C. Pen D. Primary colours	B
25	Dark and light shade is called ----------A. Hue B. Tint C. Shading D. Chiaroscuro	C
26	Croache is also called ----------A. Powder colour B. Poster colour C. Water colour D. Oil colour	B
27	Firing is a process in ----------A. Textile B. Graphic C. Ceramics D. Painting	C
28	In graphics ---------- is a modern tool A. CDS B. Computers C. Internet D. Television	B
29	---------- is an element of design A. Duration B. Balance C. Length D. Peace	B
30	In ceramics tools are called ---------A. Shaping tools B. Grafting tools C. Modelling tools D. Branding tools	C
	CURRENT AFFAIR SECTION	
31	Which of the following Military regimes in Nigeria played a prominent role in the liberation of colonized African States? (a) Ibrahim Babarigida (b) Muhammadu (c) Murtala/Obasanjo (d) Aguiyi Ironso	C
32	Traditional rulers appointed by the British to implement indirect rule in Eastern Nigeria were called (a) Crown Chiefs (b) Warrant chiefs (c) Village Chiefs (d) Palace Chiefs	B
33	The bill introduced by a member of the legislature is known as (a) A political parties bill (b) A state bill (c) An executive bill (d) A private member's bill	D
34	In the Federation of Nigeria, states are equally represented in the (a) National Population Commission (b) Judiciary (c) House of Representatives (d) Senate	D
35	In pre-colonial Igboland, administrative meetings were presided over by the (a) Okpara (b) Ozo title holder (c) Ogbuefi (d) Mazi	B
36	Checks and balances was a features of pre-colonial political administration of the (a) Fulani (b) Igbo (c) Yoruba (d) Hausa	C
37	Which of the following groups had the BEST egalitarian traditional political system? (a) Edo (b) Igbo (c) Yoruba (d) Hausa/Fulani	B
38	In the pre-colonial Hausa/Fulani system, the appointment of an Emir in the caliphate was approved by the (a) Sultan of Sokoto and the Emir of Gwandu (b) Shehu of Borno and the Galadima (c) Galadima and the Waiziri (d) Sarduana of Sokoto and the Alkali	A
39	The French policy of Assimilation in West Africa was a form of (a) Monarchy (b) Democracy (c) Direct rule (d) Indirect rule	C
40	The world organization which existed before the United Nations Organization was (a) The commonwealth of Nations (b) The organization of Africa unity (c) The European Economic Community (d) The League of Nations	D

TECHNOLOGY (COMPUTER SCIENCE)

S/No.	QUESTIONS	
	ENGLISH LANGUAGE SECTION	
	Choose the word that is spelt correctly from the options lettered a – d	
1	(a) ceremony (b) cerimoney (c) ceremony (d) ceremony	
2	(a) commitee (b) comittee (c) committe (d) committee	
3	(a) veternary (b) veterinary (c) vetinary (d) vitenary	
4	(a) seperated (b) seprated (c) separated (d) separated	
5	(a) communiqué (b) communieque (c) communiqué (d) comninique	
	Choose a word substitute for each of the following statements/description from the option lettered a-d.	
6	Monument put in memory of a person buried elsewhere (a) memorial (b) cenotaph (c) obelisk (d) pyramid	
7	Imitation of a book for the purpose of making fun of it or amusing people (a) parody (b) mimicry (c) burlesque (d) sative	
8	Gathering of people taking part in religious worship (a) synagogue (b) congregation (c) consistory (d) audience	
	From the words Lettered A-D, choose the word that has the same consonant sound(s). as the one represented by the letter(s) underlined.	
9	Sand (a) dance (b) sandwich (c) Handkerchief (d) Adjective	
10	Tea (a) cared (b) flogged (c) nursed (d) slammed	
	MATHEMATICS SECTION	
11	If P = $\{3,5,6\}$ and Q = $\{4,5,6\}$ then $P \cap Q$ equals A. $\{3,4\}$ B. $\{4,5\}$ C. $\{4,6\}$ D. $\{5,6\}$	
12	A and B are two sets. The number of elements in $A \cup B$ is 49, the number in A is 22 and number in B is 34. How many elements are in $A \cap B$? A. 105 B. 27 C. 15 D. 7	
13	A student found the approximate value of 0.02548 correct to two places of decimal instead of two significant figures. Find the percentage error. A. 0% B. 13⅓% C. $15^5/_{13}$% D. $16^2/_3$%	
14	Simplify $\log_3 9 + \log_3 15 - \log_3 5$ A. $\log_3 19$ B. $\log_3 17$ C. 3 D. 1	
15	Solve the equation $\frac{2}{3}(x+5) = \frac{1}{4}(5x - 3)$ A. $1\frac{1}{7}$ B. $1\frac{8}{23}$ C. 3 D. 7	
16	Which of the following equations has its roots as 4 and 5. A. $x^2 + 4x - 20 = 0$ B. $x^2 + x + 20 = 0$ C. $x^2 + x - 20 = 0$ D. $x^2 - x + 20 = 0$	
17	Solve the equations: $4x - y$ A. $x = 6, y = 13$ B. $x = -2, y = -3$ C. $x = -2, y = 3$ D. $x = 2, y = -3$	
18	Make q the subject of the relation $t = \sqrt{\frac{pq}{r} - r^2 q}$ A. $q = \frac{rt^2}{p-r^3}$ B. $q = \frac{t^2}{p-r^3}$ C. $\frac{rt}{p-r^3}$ D. $q = \frac{p-r^3}{rt^2}$	
19	One of the roots of the equation $6x^2 = 5 - 7x$ is A. $^{-1}/_2$ B. $^{-1}/_3$ C. ½ D. 1⅔	
20	P varies inversely as the square of W. When W = 4, P = 9. Find the value of P when W = 9. A. $\frac{729}{16}$ B. 6 C. 4 D. $^{16}/_9$	
	PHYSICS SECTION	
21	A body moves with a constant speed but has an acceleration. This is possible if it (a) Is osculating (b) Is in equilibrium (c) Moves in a circle (d) Moves in a straight line	
22	A body moving with uniform acceleration has two points C5, 15 and 20, 60) on the velocity – time graph of its motion. Calculate a. (a) $0.25ms^{-2}$ (b) $4.00ms^{-2}$ (c) $3.00\ ms^{-2}$ (d) $9.00ms^{-2}$	
23	An orange fruit drops to the ground from the top of a tree 45m tall. How long does it take to reach the ground? (g = $10ms^{-2}$) (a) 4.5s (b) 6.0s (c) 3.0s (d) 9.0s	
24	Power is defined as the (a) Capacity to exert aforce (b) Product of force and distance (c) Ability to do work (d) Energy expended per unit time	
25	A boatman facing north wants to cross a flowing river to a point directly opposite its position at the other bank. If the river is flowing eastwards, in what direction he row his boat? (a) East (b) North-West (c) North-East (d) West	
26	A wire, 20m long, is heated from a temperature of 5°C to 55°C. If the change in length is 0.020m, Calculate the linear exparistivity of the wire. (a) $1.0 \times 10^{-3}\ K^{-1}$ (b) $1.0 \times 10^{-6} K^{-1}$ (c) $2.0 \times 10^{-5} K^{-1}$ (d) $1.0 \times 10^{-5} K^{-1}$	
27	A fixed mass of gas of volume $600cm^3$ at a temperature of 27°C is cooled at constant pressure to a temperature of 0°C What is the change in volume? (a) $54cm^3$ (b) $546cm^3$ (c) $300cm^3$ (d) $600cm^3$	
28	A steam trap is a component of the apparatus used in determining the specific latent heat of vaporation of steam. In the steady state, the steam trap. (a) Stones the steam for future use (b) Ensures that only dry steam gets into the calorimeter (c) Prevents the steam from escaping (d) Allows condensed steam to go into the calorimeter	
29	What type of motion does the skin of a taking drum perform when it is being struck with the drum stick (a) Rotational (b) Circular (c) Translation (d) Vibratory	
30	The sound from a bell in an enclosed far gradually giants away while the far is being evacuated. Which of the	

	following explains this observation? (a) The sound waves are pumped out (b) The air is disturbed (c) There is no more material medium (d) The pressure is reduced	
	CHEMISTRY SECTION	
31	If magnesium is burned in a gas jar of air and excess water is then added, the product(s) will be ----------A. Magnesium hydroxide B. Magnesium oxide C. Magnesium hydroxide and ammonia D. Alkaline magnesium trioxonitrate IV	
32	Atmospheric nitrogen IV A. Denser than pure nitrogen B. Much more chemically reactive than pure nitrogen C. A mixture of the family of inert gases D. Higher in nitrogen content than pure nitrogen prepared from nitrogen – containing compounds.	
33	All nitrates ----------A. Decompose to nitrites on being heated B. Are insoluble in water C. Produce No_2 when heated with copper and tetraoxosulphate VI acid D. Decompose on heating to give off brown fumes of nitrogen dioxide	
34	Laughing gas is prepared by heating a mixture of sodium trioxonitrate V and ammonium tetraoxosulphate VI. What happens when a candle is placed in a gas jar of this gas? A. It burns with a yellow flame, producing carbon dioxide and nitrogen B. It burns with a blue flame C. It is extinguished immediately D. It continues to burn but the flame dims	
35	There are three main oxides of Nitrogen, N_2O, No and No_2. These oxides illustrates the ability to exist in valency states of -------- A. 1,2, and 3 B. 1,2, and 4 C. 2,3, and 4 D. 1,3, and 4	
36	Among the metals, mercury is an exception in that it is ----------A. A good conductor of electricity B. Fluid at room temperature C. Not attacked by dilute acids D. Not attacked by water or steam	
37	Which of the following non-metals is the most electronegative? A. F B. Cl C. O D. N	
38	Certain metals are malleable. The means that ---------A. They can be drawn into wires B. They split into fragments when struck with a hammer C. They can be hammered, pressed or rolled into sheets. D. They are good conductors of electricity	
39	Zinc reacts with dilute acids displacing hydrogen, but copper does not. This indicates that ----- A. Zinc is less electropositive than copper B. Zinc is more electropositive than hydrogen C. Zinc is more electropositive and copper less electropositive than hydrogen D. Copper is found above zinc in the electrochemical series	
40	Which of the following statements is true? When the potassium atom forms its ions? A. It gains one electron and becomes neutral B. It loses one proton C. It loses one neutron D. It achieves electronic configuration of argon	
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	From the words Lettered A-D, choose the word that has the same consonant sound(s). as the one represented by the letter(s) underlined.	
1	Chance (a) sachet (b) starch (c) moustach (d) nonchalant	D
2	See (a) Wise (b) cows (c) His (d) peace	B
3	Was (a) Devise (b) Converse (c) Reverse (d) nice	D
4	Vision (a) Pension (b) Tension (c) Collusion (d) Attention	C
5	Barrage (a) Storage (b) Camouflage (c) Passage (d) Attention	C
	Instructions: In each of the following sentences there is one word underlined and one gap from the list of words A to D choose the word that is most nearly opposite in meaning to the underlined word and which will correctly fill the gap in the sentences.	
6	Bayo purchased various articles at the big sale the Trade Fair Complex, and surprisingly enough he ---------- all before he reached home that day. (a) destroyed (b) bought (c) sold (d) distributed	C
7	Petrol prices in Nigeria should be uniform throughout the whole country, but they ---------- from place to place. (a) alternate (b) modify (c) differ (d) adjust	C
8	The applicant got two jobs at once so he had to accept one and ---------- the other. (a) turn off (b) turn out (c) turn down (d) turn away	C
9	In this argument, Ade was my supporter, even though he is often my ---------- in other matter. (a) opponent (b) enemy (c) proposer (d) opposite	A
10	The store keeper was so dishonest that the manager revoked his appointment and ordered his ---------- (a) joblessness (b) disappointment (c) rejection (d) dismissal	D
	MATHEMATICS SECTION	
11	The lengths of the two parallel sides of a trapezium are 6cm and 10cm and the perpendicular distance between them is 5cm. Find the area of the trapezium. A. 21cm B. 40cm2 C. 80cm2 D. 150cm2	B
12	Solve the inequality $3x - 8 \geq 5x$ A. $x \leq 4$ B. $x \geq 1$ C. $x \leq -4$ D. $x \leq -1$	C
13	Divide 3.6721 by 4 A. 0.9180 B. 1.4180 C. 1.1680 D. 1.1680	B
14	Given that $\frac{1}{2}\log_{10} P = 1$, find the value of P. A. 104 B. 103 C. 102 D. 101	C
15	The eleventh term of an A. P. is 25 and its first term is -3. Find its common difference. A. 19/10 B. $2\frac{4}{5}$ C. 21/5 D. 23/11	B
16	Find the value of t for which 64/27 = $(3/4)^{t-1}$ A. -4 B. -2 C. -4 D. 2	B
17	If two triangles are similar which of the following is true? Their A. Corresponding sides are equal B. Corresponding angles are equal C. Corresponding attitudes are equal D. Areas are equal	B
18	Which of the following is not necessarily true of a rectangle? A. The diagonals are equal B.The diagonals bisect each other C. The diagonals are perpendicular D. Each diagonal divides the area of the rectangle equally	C
19	If Sin Θ = -1/2, find all the values of Θ between 0^o and 360^o A. 120o,240o B. 120o,180o C. 210o, 300o D. 210o, 330o	D

20	Cos 65o has the same value as A. Sin 65o B. Cos 25o C. Cos 295o D. Cos 115o	C
	PHYSICS SECTION	
21	A man standing 300m away from a wall sounds a whistle. The echo from the wall reaches him 1.8s later. Calculate the velocity of sound in air (a) 540.0ms-1 (b) 83.3ms-1 (c) 333.3ms-1 (d) 270.0 ms-1	C
22	Two objects of masses 80kg and 50kg are separated by a distance of 0.2m. If the gravitational consist is 6.6 x10-11 Nm2kg-2, Calculate the gravitional attraction between them. (a) 1.3 x 10-8N (b) 6.6. x 10-8N (c) 6.6 x 10 -6N (d) 2.6 x 10-5N	C
23	Which of the following is stored by a dry lechanche cell? (a) Solar energy (b) Heat energy (c) Chemical energy (d) Electrical energy	C
24	A 90W immersion heater is used to supply energy for 5 minutes. The energy supplied is used to completely melt 100g of a solid at its melting point. Calculate the specific latent heat of fusion of the solid. (a) 2.81jg-1 (b) 6.25jg-1 (c) 168.751sg-1 (d) 8.89jg-1	C
25	An induction coil is generally used to (a) Rectify an alternating current (b) Smoothen a pushing direct (c) Modulate oil incoming radio signal (d) Produce a large output voltage	D
26	The unit of stress is (a) Nm (b) N (c)Nm-2 (d) Nm2	C
27	Which of the following statements is not correct. Isotopes of an element have (a) The same number of electric charges on the nucleus (b) The same chemical properties (c) Different proton numbers (d) Different nucleon	C
28	Which of the following representation is correct for an atom x with 28 electrons and 30 neutrons? (a) $\frac{30x}{28}$ (b) $\frac{28x}{30}$ (c) $\frac{58x}{30}$ (d) $\frac{58x}{28}$	D
29	When a metal surface is irradiated, photoelectrons may be effected from the metal. The kinetic energy of the ejected electrons depends on the (a) Amplitude of the radiation (b) Detection device for the electrons (c) Frequency of the radiation (d) Source of the radiation	C
30	The half-life of a radioactive substance is 2 seconds. Calculate the decay constants. (a) 0.347s-1 (b) 0.576s-1 (c) 0.151s-1 (d) 0.035s-1	A
	CHEMISTRY SECTION	
31	Which one of these compounds will NOT give oxygen on heating? A. Manganese dioxide B. Hydrogen peroxide C. Zinc nitrate D. Ammonium nitrate	A
32	Which of the following statements applies during the electrolysis of sodium hydroxide solution using platinum electrodes? A. Na+ ions are discharged at the cathode B. Hydrogen ions are discharged at the anode C. The concentration of sodium hydroxide increases at the anode only D. The concentration of sodium hydroxide increases at the cathode only	C
33	Which of the following raw materials would be required for the smelting of iron ore in a blast furnace? A. CaCO3 B. Zn(NO3)2 C. CuSO4 D. AlCl3	A
34	Phosphorus burns in oxygen according to the equation P4 + 5O2→P4O10 . How many litres of oxygen will be required at S.T.P for complete oxidation of 12.4g of phosphorus? A. 5.20 B. 11.20 C. 44.8 D. 24.8	C
35	The reaction 3C(s) + 2Fe2O3(s) → 4f\Fe + 3CO2(g) ΔH = -46KJlmole is: A. Adiabatic B. Isobaric C. Exothermic D. Endothermic	C
36	The equation that best represents the decomposition of lead II trioxonitrate V is: A. 2Pb(NO3)2(s) →2PbO(s) + 4NO2(g) + O2(g) B. Pb(NO3)2(s) →PbO(s) +NO2(g) +O2(g) C. Pb(NO3)2(s) →PbO(s) + N2 O(g) + 2O2(g) D. 2Pb(NO3)2(s) →2PbO(s) + 4NO2(g) + 3O2(g)	A
37	The dissolution of potassium iodide in water is an endothermic process but occurs spontaneously because the ------A. Entropy change is negative B. Free energy change is zero C. Free energy change is positive D. Entropy change is positive	D
38	Mixable fluids X and Y of boiling points 78oC and 100oC can be separated by A. distillation and collection of Y as distillate B. distillation and collection of X as distillate C. Fractional distillation and collection of X as distillate D. Fractional distillation and collection of Y as distillate	C
39	In electrolysis, the passage of the current is always solely responsible for --------A. The migration f ions towards the electrodes B. The original ionization of the solution C. The original dissolution of the electrolyte D. The liberation of two gases	A
40	When any metallic ion is discharged at an electrode A. It loses more electrons B. It receives one electron from the electrode C. It receives electrons from the electrode until it is electrically neutral D. It donates its electrons to the electrode	C

ENGINEERING

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	Choose a one-word substitute for each of the following descriptions or statements from the options lettered a-d.	
1	A person who speaks in favour of somebody or something. (a) pleader (b) advocate (c) mediator (d) agent	B
2	A group of small islands. (a) isle (b) islet (c) rivulet (d) archipelago	D
3	Art and science of flying in aircraft. (a) motivation (b) navigation (c) aviation (d) deviation	C
4	Lawyer who has the right to speak and argue as an advocate in higher law-courts (a) solicitor (b) attorney (c) legislator (d) barrister	D
5	List of books and writings by one author or about one subject. (a) anthology (b) catalogue (c) critique (d) bibliography	D
	Choose the correct clause from the options to complete each of the following sentences:	
6	You will have reached home before: (a) the rain was setting in (b the rain set in (c)the rain sets in (d) the rain have stopped	C
7	It is almost five years since: (a) my brother had left for America (b) my brother left for America (c) my brother has been leaving for America (d) my brother will be leaving for America	B
8	I have not seen him since; (a) we left school (b) we are going to leave school (c)we had left school (d) we have left school	A
9	It is nearly ten years since: (a) I saw him (b) I have seen him (c) I had seen him (d) I will have seen him	A
10	We shall have left this place by the time: (a) he will come (b) he comes (c) he has come (d) he had come	B
	MATHEMATICS SECTION	
11	What value of x will make the function x (4-x) a maximum A. 4 B. 3 C. 2 D. 1	D
12	Given a triangle ABC, with BC = 10cm , AD = 7cm and AD is the altitude of the triangle. Find the area of ΔABC A. $30cm^2$ B. $32cm^2$ C. $33cm^2$ D. $128cm^2$	C
13	Given a triangle ABC, with BC = 7cm , AD = 7cm and AD is the altitude of the triangle. Find the area of ΔABC A. $21cm^2$ B. $20cm^2$ C. $25cm^2$ D. $22cm^2$	A
14	The distance between the parallel sides AB, DC of a trapezium ABCD is 4cm. Find DC, if AB ≡ 8cm and the area of the trapezium is $26cm^2$ A. 3cm B. 5cm C. 4cm D. 6cm	B
15	The length of two sides of a trapezium are 6cm and 10cm, the perpendicular distance between them is 5cm. Find the area of trapezium A. $20cm^2$ B. $80cm^2$ C. $40cm^2$ D. $30cm^2$	C
16	An arc AB subtends an angle of 36^o at the centre 0 of a circle of radius 7cm. Calculate the area of the minor sector AOB. A. $14⅓cm^2$ B. $15cm^2$ C. $15⅔cm^2$ D. $16¼cm^2$	C
17	The angle of a sector of a circle radius 2.5cm is 108^o. Find the area of the sector A. $5.12cm^2$ B. $5.89cm^2$ C. $4.35cm^2$ D. $2.38cm^2$	B
18	Find the volume of a triangle prism 8cm high with its base 10cm and length 9cm. A. $240cm^2$ B. $300cm^2$ C. $260cm^2$ D. $360cm^2$	D
19	What is the surface area of the sphere with radius 3cm ($\pi = {}^{22}/_{7}$) A. $112cm^2$ B. $113.14cm^2$ C. $110cm^2$ D. $190cm^2$	B
20	Calculate the volume of the sphere with radius 3.2cm A. $93.5cm^2$ B. $100.23cm^2$ C. $128.7cm^2$ D. $97.5cm^2$	C
	PHYSICS SECTION	
21	An object weighs 10.0N in air and 7.0 in water. What is its weight when immersed in a liquid of relative density 1.5? (a) 4.50N (b) 4.67N (c) 8.50N (d) 5.50N	D
22	Dry hydrogen is trapped by a pellet of mercury in a uniform capillary tube closed at one end. If the length of the column of hydrogen at 270^oC is 1.0m, at what temperature will the length be 1.20m? (a) 22.5^oC (b) 32.4^oC (c) 87.0^oC (d) 360^oC	C
23	How much heat is given out when a piece of iron of mass 50g and specific heat capacitor $460jkg^{-1}k^{-1}$ cools from 85^oC to 25^oC? (a) 1.38×10^6J (b) 7.66×10^3J (c) 2.53×10^4J (d) 1.27×10^3J	A
24	Heat transfer by convection in a liquid is due to the (a) Translatory motion of the molecules of the liquid (b) Increased vibration of the molecules of the liquid about their mean positions (c) Expansion of the liquid as it is heated (d) Ability of the liquid to evaporate at all Temperatures	A
25	Which of the following is not a suitable method for reducing loss of heat from a piece of hot iron? (a) Wrapping it in cotton wool (b) Placing it in a vacuum (c) Painting it black (d) Placing it on the rubber supports	C
26	When the direction of vibration of the particles of a medium is perpendicular to the direction of travel of a wave, the wave transmitted is known as: (a) Sound wave (b) Mechanical wave (c) Stationery wave (d) Transverse wave	D
27	A bat emits a sound wave at a speed of $1650ms^{-1}$ and receives the echoes 0.15s later. Calculate the distance of the bat from the reflector. (a) 87.75m (b) 16.50m (c) 123.75m (d) 330.00m	C
28	Which of the following is/are necessary for the production of interference with two wave trans? (i) The sources must be close to each other (ii) The waves must have the same frequency (iii) The waves must have the same amplitude (iv) The waves must travel with the speed on light (a) II, III and IV only (b) I and II only (c) I, II, III, and IV (d) I, II, and IV only	C

29	A parallel bean of light is to be obtained from the headlamp of a car. At hich of the following positions should the source of light be placed from the pole of its spherical minor? (a) Between the focal point and pole (b) Between the focal point and the centre of curvature (c) At the focal point (d) At the centre of curvature	C
30	A simple microscope forms an image twice the size of the object. If the focal length of the lens of the microscope is 20cm. how far is the object from the lens? (a) 20m (b) 40m (c) 60m (d) 10m	D
	CHEMISTRY SECTION	
31	$\Delta 6^{\theta} = \Delta H^{\theta} - T\Delta S^{\theta}$ If ΔH^{θ} and ΔS^{θ} are both negative, there will be ----------A. increase in entropy B. a decrease enthalpy C. an increasing in entropy D. an increasing in enthalpy	A
32	What is the product formed at the anode during the electrolysis of molten lead II chloride? A. Chloride gas B. Lead C. Hydrogen gas D. Oxygen gas	A
33	As the distillation of a mixture of ethanol and water progresses, the boiling mixture contain ----- A. More vapour B. More ethanol C. Less water D. More water	D
34	Which of the following is used as fuel in aeroplane jet engines? A. Petrol B. Butane C. Diesel D. Kerosene	D
35	The alkanoate found in banana is --------A. Methylethanoate B. Perthylethanoate C. Amylbutyrate D. Ethylethanoate	D
36	The functional groups found in amino acids are ----------A. Carboxyl and alkyl groups B. Acyl and amino groups C. alkyl and acyl groups D. Amino and carboxyl groups	D
37	What volume will 1.51 x 10^{23} molecules of carbon IV oxide occupy at S.tp? A. 5.60dm^3 B. 8.96dm^3 C. 11.2dm^3 D. 89.60dm^3 [N_A = 6.02 x $10^{23}mol^{-1}$, M.V – 22.4dm^3]	A
38	The ion which is isoelectronic with neon is ----------A. $A1^{3+}$ B. Cl^- C. K^+ D. P^{3-}	A
39	One of the products of condensation polymerization is ----------A. Polyethene B. Polyvinylchloride C. Nylon D. Synthetic rubber	C
40	The cation that is insoluble in excess sodium hydroxide is ----------A. Pb^{2+} B. Zn^{2+} C. Ca^{2+} D. $A1^{3+}$	C
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	Choose the question to which each of the given sentences is the appropriate answer.	
1	JOKE bakes fine cakes (a) Who bakes fine cakes? (b) Does Joke sew fine dresses? (c) What type of cakes does Joke bake? (d) Does Joke eat fine cakes?	A
2	The book is On the table. (a) Where is the book? (b) Is the bag on the table? (c)Is the book on the shelf? (d) What is on the table?	A
3	John gave me a BLUE pen. (a) Did John give me an exercise book? (b) Who gave me a blue pen? (c) Did John give me a black pen? (d) Did I give John a blue pen?	C
4	The old man left YESTERDAY (a) Did the young man leave yesterday? (b) Did the old man arrive yesterday? (c) When did the old man leave? (d) Who left yesterday?	C
5	My SISTER lives in London. (a) Does my brother live in London? (b) Does his sister live in London? (c) Has my sister left London? (d) Does my sister live in America?	A
	Choose the word that contains the sound represented by this phonetic symbol:	
6	\ʃ\ (a) Shore (b) chain (c) shoe (d) pleasure	B
7	\3:\ (a) search (b) tear (c) dear (d) bed	A
8	\S\ (a) cake (b) cite (c) shoe (d) choke	B
9	\a:\ (a) bat (b) cat (c) heart (d) rat	C
10	\k\ (a) cake (b) cite (c) chain (d) chase	A
	MATHEMATICS SECTION	
11	A solid is made up of a cylinder with a hemisphere on top. Calculate its surface area. A. 40.85cm2 B. 41.35cm2 C. 43.75cm2 D. 43.25cm2	C
12	Find the volume of a sphere with 30cm as diameter A. 15000cm2 B. 14235cm2 C. 15250cm2 D 14139cm2	D
13	Calculate the surface area of a sphere of radius 7cm (Take π = 22/7). A. 600cm2 B. 625cm2 C. 528cm2 D. 616m2	D
14	Find the surface area of a sphere whose volume is 48.72cm2.A. 64.5cm2 B. 58.7cm2 C. 53.5cm2 D. 61.25cm2	A
15	Find the total area of the surface of a solid hemisphere of diameter 6.6cm. A. 99.56cm2 B. 100.3cm2 C. 102.68cm2 D. 89.36cm2	C
16	Find the volume of a given triangular prism with a right-angled triangle 9cm by 12cm by 16cm and the length 18cm. A. 902cm2 B. 876cm2 C. 890cm2 D. 972cm2	D
17	The difference between the length and width of a rectangle is 6cm and the area is 135cm2. What is the length. A. 12cm B. 14cm C. 15cm D. 9cm	C
18	How many square tiles each of side 8cm are needed to tile a floor 22m 40cm long by 12m 80 cm wide A. 40,150tiles B. 44,800tiles C. 41,000tiles D. 45,150tiles	B
19	A rectangular pool 10m by 5m is surrounded by a path 1m wide. What is the area of the path A. 41cm2 B. 37cm2 C. 34cm2 D. 28cm2	C
20	The 6th term of a GP is -2 and its first term is 18. What is the common ratio? A. -1/2 B. -1/3 C. ¼ D. 2	B

	PHYSICS SECTION	
21	Given that the gravitational constant is 7x10-11 Nm2kg2, What is the force of attraction between 106kg mass of iron? (a) 7 x 10-20N (b) 7 x 10-8N (c) 7x 10 -2N (d) 7 x 103N	C
22	A rectangular coil of wire can rotate in a magnetic field. The ends of the coil are soldered to the two halves of a split ring. Two carbon brushes are made to press lightly against the split ring and when these are connected in circuit with a battery and rheostat, the coil rotates. This is a description of (a) An Induction coil (b) A d.c generator (c) An electric Motor (d) A moving – cell ammeter	C
23	How long will it take to heat 3kg of water from 28oC to 88oC in an electric taking a current of 6A from e.m.f source of 220V? (Take the specific heat capacity of water = 4180J-1 K-1) (a) 96s (b) 1.20s (c) 570s (d) 600s	C
24	Which of the following particles conduct electricity through salty water? (a) Ions (b) Electrons (c) Molecules (d) Neutrons	A
25	Which of the following statements about the atom is/are correct (I) Energy is needed to remove electrons from an atom (II) Particles in the nucleus of an atom are bound together by strong forces (III) A large amount of energy us required to separate the particles in the nucleus of an atom (IV) When the nucleus of a uramum atom is split, the energy released accounts for the difference in the masses of the products and the parent nucleus (a) I, II, III and IV (b) I and III only (c) I and II only (d) I only	A
26	Water does not drip through an open umbrella of sick material unless the inside of the umbrella is touched. Which of the following phenomenon is responsible for this? (a) Diffusion (b) Surface tension (c) Osmosis (d) Viscosity	C
27	Viscosity is a liquid does not depend on the (a) Nature of the liquid (b) Relative velocity between the liquid layers (c) Normal reaction between the liquid layers (d) Temperature of the liquid	C
28	What is the difference between a crystalline and an amorphous (a) Has cubic structure while amorphous solid has hexagonal Structure (b) Has regularly-repeating pattern while an amorphous solid has not (c) Is white amorphous solid is yellow (d) Melts on heating while an among hens solid sublimates on heating	B
29	Which of the following is not an evidence of the particle nature of matter? (a) Diffusion (b) Brownian matron (c) Crystal structure (d) Diffraction	D
30	Which of the following is a fundamental quantity? (a) Length (b) Impulse (c) Speed (d) Density	A
	CHEMISTRY SECTION	
31	The test used to distinguish between primary, secondary and tertiary alkanols is A. Tollen's test B. Gygnand test C. Lucas test D. Sabatier's test	C
32	The product of a reaction of bromine water and ethane is ---------- A. 1, 1-dibiomoethane B. 1,2-dibiomoethane C. 2-biomoethanol D. 2,2-dibiomoethane	B
33	Reduction of alkanals produces ---------- A. phenols B. primary alkanols C. Secondary alkanols D. Tertiary alkanols	B
34	Which chlorine is passed into hot concentrated sodium hydroxide solution, the products formed are -------A. NaClO and H2O B. Naclo3, NaClO and H2 C. NaClO, Nacl and H2O D. NaClO3, NaCl, and H2O	D
35	CaCO3(s) + 2HCl(aq) →CaCl2(aq) + H2O(L), + CO2(g) In the reaction above, the rate of reaction may be increased by ----------A. Using powdered CaCO3 B. Using lumps of CaCO3 C. Applying high pressure D. Using dilute hydrochloric acid	A
36	The industrial gas used as a food preservative and a bleach for wool and wood pulp in industries is ---------- A. CO2 B. NO2 C. NH3 D. SO2	D
37	The colour formation of transition metal ions is associated with partially filled -------- A. 3s orbitals B. 3p orbitals C. 3d orbitals D. 3f orbitals	C
38	An organic compound contains 0.188g carbon, 0.062g hydrogen and 0.25g oxygen. What is empirical formula of the compound? A. CH2O B. CH3O C. CH4O D. CHO	C
39	Consecutive members of an alkane homologous series differ by --------A. CH B. CH2 C. CH3 D. CnH2n+2	B
40	The flame used by welders in cutting metals is ----------A. Butane gas flame B. Acetylene flame C. Kerosene flame D. Oxy-aletylene flame	D

ENVIRONMENTAL STUDIES

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words which best completes each of the following sentences.	
1	By their persistent arguments, they finally succeeded in --------- me to stay. (a) requesting (b) forcing (c) persuading (d) begging	C
2	George remained cheerful during his illness and never ---------- despair. (a) renounced (b) took up (c) adhered to (d) gave in to	D
3	The speaker tried to -------the emotions of his audience. (a) work round (b) work through (c) work up (d) work in	C
4	The inspector said to the criminal "I can ---------- your tricks, you know. You can't deceive me" (a) see through (b) look into (c) iron out (d) dig up	A
5	Our new baby is a welcome ---------- to the family. (a) supplement (b) complement (c) addition (d) inclusion	C
	For each of the sentences below a word is provided, printed in capitals, and in each sentence, there are four gaps A to D. choose the one gap into which the given word correctly fits.	
6	IMMDIATELY the other teams goal –A- followed-B- after the player had been –C- sent off – D-	B
7	WITH THE TILED ROOF The large, white, two-storeyed-A-house-B- at the end the street –C- was burnt down – D- yesterday	B
8	JUST The examination –A- had –B- only –C- started – D- when I arrived.	C
9	RELATIVELY Though the weather was very fine –A- the winner of the race –B- produced – C- a –D – slow time	D
10	WITH A BATTERED AND STAINED FACE There was – A- an old grandfather clock tall, solid and –B- standing –C- in the hallway –D-	B
	MATHEMATICS SECTION	
11	What is the probability of having an odd number in a single toss of a fair die? A. $\frac{1}{6}$ B. ¼ C. ½ D. $\frac{3}{6}$	C
12	What is the probability of having a prime number in a single toss of a fair die? A. ½ B. $\frac{1}{6}$ C. ¼ D. $\frac{2}{6}$	A
13	What value of k makes the given expression a perfect square? $m^2 - 8m + k$ A. 2 B. 16 C. 4 D. 8	B
14	Evaluate $\log_{10} 6 + \log_{10} 45 - \log_{10} 27$ without using logarithm table A. 0 B. 1 C. 1.1738 D. 10	B
15	If $\log_{10} a = 4$, What is a ? A. 0.4 B. 1000 C. 10000 D. 400	C
16	A student measured the length of a room and obtained the measurement of 3.99m. If the percentage error of his measurement was 5% and his own measurement was smaller than the length, what is the length of the room? A. 3.78m B. 3.80m C. 4.18m D. 4.20m	D
17	When an aeroplane is 800m above the ground its angle of elevation from a point P on the ground is 30^0. How far is the plane from P by line of sight? A. 1600m B. 1700m C. 400m D. 1500m	A
18	If Q = (all perfect squares less than 30) and P = (all numbers from 1 to 10). Find Q ∩ P A. {1, 4, 9, 16, 25} B. {1, 9} C. φ D {1, 3, 5, 7, 8}	B
19	If the second and fourth terms of a GP are 8 and 32 respectively, what is the sum of the first four terms? A. 28 B. 40 C. 48 D. 60	D
20	If 3 loga + 5 loga – 6 loga = log 64. What is a ? A. 4 B. 6 C. 8 D. 32	C
	ECONOMICS SECTION	
21	A major problem facing all economies is how to A. increase consumption of imported goods B. improved trade among nations C. transform from a developing to a developed nation D. allocate scarce resources	D
22	If the arithmetic mean if 1, 2, 5, 6, X, 16 and 18 is 8 find the value of X A. 7.0 B. 6.0 C. 8.5 D. 8.0	D
23	The fixing of the price of an item above or below the equilibrium price is most likely to take place in a: A. centrally planned economy B. free market economy C. developed economy D. mixed economy	B
24	A consumer's scale of preference is an arrangement of his A. scarce resources in order of importance B. needs in order of importance C. sources of income and their importance D. requirement and how to satisfy them	B
25	A firm's shut down point is reached when the average revenue fails to cover the A. average variable cost B. marginal cost C. average total cost D. average fixed cost	A
26	Internal economies of scale are expected to bring about A. an increase in short-run average cost B. an increase in long-run average cost C. a decrease in long-run average cost D. a decrease in short-run average cost	C
27	In the long run, a monopolist maximizes his profit when the marginal cost equals A. total revenue B. marginal revenue C. average cost D. price	B
28	The long run is a period during which a firm A. sells inputs to purchase fixed assets B. varies all its inputs C. sources all its inputs from within D. replaces all its inputs	B
29	A production function relates A. cost to output B. wage to profit C. cost of input D. output to input	D
30	Which of the following is an example of a fixed costs? A. fuel cost B. electricity bill C. rent on building D. transportation cost	C
	GEOGRAPHY SECTION	
31	British Columbia, Iceland and Norway are noted for ----------A. Mining B. Fishing C. Lumbering D. Power generation	C

32	In which of the following countries is land reclaimed from the sea intensively used for cultivation? A. Holland B. Finland C. Belgium D. England	A
33	The leading wheat producing region of the world is the ----------A. Veldt of South African B. Downs of Australia C. Prairie of North America D. Pampas of Argentina	B
34	Transhumance is the seasonal migration of live-stock ----------A. in search of water and pasture B. in the semi-arid steppes C. from the north to the south following the rains D. from the lowlands to the uplands	D
35	Most of the industries located in rural areas are ----------A. transport oriented B. raw material oriented C. high energy consumers D. market oriented	B
36	In recent years, many industrial firms in the advanced countries have established branches in parts of South East Asia mainly because of the ----------A. Warmer and more equable climate B. Cheaper and more steady supply of energy C. Cheaper production costs D. Ready market for their products	D
37	Which of the following is NOT correct in terms of the country's major product for international trade? A. Cote d'Ivoire; diamond B. Zambia; copper C. Libya; petroleum D. Mauritius; sugar	A
38	What is the sea of Japan noted for? A. Naval training B. Recreation C. Fishing D. Mining	C
39	Which of the following countries is famous for dairy farming? A. Denmark B. Netherland C. Switzerland D. Argentina	A
40	Which of the following is an important producer of iron ore? A. Ghana B. Burkina Faso C. The Gambia D. Liberia	D
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words which best completes each of the following sentences.	
1	It is most likely that most of the constitutional---------- will be accepted by the people. (a) schemes (b) suggestions (c) commendations (d) proposals	D
2	He often brings ---------- the same old stories of my childhood. (a) down (b) on (c) up (d) round	C
3	The rich should never ---------- the needy who are in trouble. (a) deter (b) shun (c) displace (d) abolish	B
4	Once your ---------- are frozen, you will find it difficult to spend money without the Government's approval. (a) belongings (b) valuables (c) assets (d) incomes	C
5	By their persistent arguments, they finally succeeded in --------- me to stay. (a) requesting (b) forcing (c) persuading (d) begging	C
	From the list of words or group of words lettered A to D below each of the following sentences, choose the word or group of words which is nearest in meaning to the underlined expression as it is used in the sentences.	
6	The personnel officer was sacked for incompetence. (a) laziness (b) inefficiency (c) dishonesty (d) carelessness	B
7	Because his plans to be changed by the sudden arrival of his opponent the ex-minister was very put out. (a) confused (b) upset (c) perplexed (d) hopeless	B
8	Kodjo waited until the salesman had made out the bill. (a) corrected (b) copied (c) explained (d) written	D
9	The boat yard superintendent complained that their machines for hauling timber had all been destroyed. (a) pulling (b) sawing (c) rolling (d) felling	A
10	Prospective students for admission must be eligible. (a) clever (b) fluent (c) smart (d) qualified	D
	MATHEMATICS SECTION	
11	What is the difference in longitude between P (Lat 50o N, Long 50o W) and Q (Lat 50o N, Long 150o W)? A. -300o B. -200o C. -130o D. -100o	D
12	The number 186047 was corrected to 186,000. Which of the following can correctly describe the degree of approximation made? I to the nearest hundred II to the nearest thousand III to 3 significant figures IV to 4 significant figures A. I and III only B. I and IV only C. II and III only D. All of them	C
13	Points P and Q are respectively 24m North and 7m East of point R. Calculate PQ in metres A. 25 B. 24 C. 20 E. 84	A
14	If Sin Θ = [illegible] find tan Θ for Θ < 90o A. [illegible] B. ¾ C. ½ D. ⅜	B
15	Simplify (27⅓)2 A. 4½ B. 6 C. 9 D. 18	C
16	From the data below, find the mode Scores 0 1 2 3 4 5 Frequency 2 3 4 2 7 2 A. 2 B. 0 C. 7 D. 4	D
17	Points P and Q are respectively 24m North and 7 East of point R. What is the bearing of Q from P to the nearest whole degree? A. 16o B. 164o C. 17o D. 108o	B
18	A group of students took a test and the following frequency table shows the scores Scores 5 4 3 2 1 0 Frequency 2 7 2 4 3 2 Find the mean score A. 1.75 B. 2 C. 2.5 D. 2.75	D
19	Find the quadratic whose roots are x = -2 or x = 7 A. x2 + 2x – 7 = 0 B. x2 - 5x – 14 = 0 C. x2 - 2x + 7 = 0 D. x2 + 5x + 14 = 0	B
20	A sales girl gave a balance of N1.15 to a customer instead of N1.25. Calculate her percentage error.	A

	A. 8.0% B. 10% C. 2.4% D. 8.7%	
	ECONOMICS SECTION	
21	If goods P and Q are purchased by a consumer, a fall in the price of P while the price of Q is unchanged will cause the budget line to A. rotate outwards away from the origin B. shift parallel inwards C. rotate inwards towards the origin D. shift parallel outwards	A
22	One of the reasons for an exceptional demand curve is the A. availability of credit facilities B. availability of substitute C. change in the price of the commodity D. expectation of a future change in price	D
23	The elasticity of supply of perishable goods is A. elastic B. zero C. inelastic D. unitary	A
24	A scientific approach in economic analysis entails A. a normative method only B. both inductive and deductives method C. a deductive method only D. both inductive and normative methods	B
25	A shift in supply curve indicates that a different quanatity will be supplied at each possible price because A. supply is facing competition B. consumers are willing to pay his/her prices C. price has changed D. other factors than price have changed	D
26	The demand for factors of production is an example of A. competitive demand B. derived demand C. composite demand D. joint demand	B
27	A student has N30.00 with which to buy a ruler costing N18.00 and an exercise book costing N25.00. If he buys the exercise book, his opportunity cost is A. the exercise book B. N25.00 C. N18.00 D. the ruler	D
28	The types, sources and used of government income are mainly concerned with A. public budget B. public finance C. public expenditure D. public revenue	B
29	The present privatization in Nigeria is aimed at A. reducing the prices of godos and services B. increasing efficiency in production C. poverty allenation D. reducing income inequality	B
30	Import substitution aims at A. substituting agricultural products with industrial ones B. substituting imports with agricultual exports C. improving the balance of payment D. the diversification of industries	C
	GEOGRAPHY SECTION	
31	The Enugu Nsukka Plateau in Nigeria is an example of -------A. Tectonic plateau B. Intermountain plateau C. Disserted plateau D. Volcanic plateau	B
32	The first railways line that was built in Nigeria was from ----------A. Kaduna to Jos B. Zaria to Kaura Namoda C. Lagos to Maiduguri D. Lagos to Kano	D
33	The best way to promote industrialization in Nigeria is through the development of --- A. Cassava processing B. Textile manufacturing C. Automobile manufacturing D. Iron and steel processing	D
34	The craft industry associated with the late Ladi Kwali in Nigeria is ---------A. Carving B. Dyeing C. Weaving D. Pottery	A
35	An area in Shaba province in the Democratic Republic of Congo, known for the production of copper is ---------- A. Lumumbasi B. Chibuluma C. Nchanga D. Ndola	C
36	A country in Africa with little or no potential for hydro-electricity generation is ---- A. Liberia B. Mauritania C. Sudan D. Mozambique	A
37	An example of man-made lake is -------A. Lake Volta B. Lake Tansanyika C. Lake Chad D. Lake Victoria	A
38	Which of the following system provides both irrigation water and hydroelectricity? A. Shiroro B. Volta C. Aswan D. Gezira	C
39	An African city located within the Mediterranean climatic zone is ------A. Addis Ababa B. Cape Town C. Mombasa D. Dakar	B
40	The main factor that is responsible for the relatively cool temperature in East Africa is A. Latitude B. Altitude C. Air-mass D. Ocean current	B

LIBERAL STUDIES

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	Choose the phrase or word which best completes the meaning of each sentence.	
1	One of the ---------- during the football match led to a fight between the teams. (a) incidence (b) incidences (c) incidents (d) occasions	C
2	He used to play tennis, but he doesn't ----------(a) as of now (b) any longer (c) again (d) presently	B
3	He was --------- he had no time to eat. (a) so busy that (b) very busy (c) very busy that (d) too busy that	A
4	It had been raining before the match started. (a) isn't it (b) hasn't (c) hadn't it (d) wasn't it	C
5	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	B
	In each of the questions 6-10, choose the most appropriate option nearest in meaning to the word(s) or phrase underlined.	
6	The young man's behavior showed that he was <u>at the top of the tree</u>. (a) at the highest position in his profession (b) confused (c) at a point of preparedness to show good example (d) arrogant	A
7	The Chairman's reaction was <u>a storm in a tea cup</u>. (a) suitable for the occasion (b) less serious than it appeared to be (c) more serious than necessary (d) greatly diminished in scope	C
8	Do this job while I am away, but <u>take your time</u>. (a) be careful (b) be thorough (c) be fast (d) don't be in a hurry	D
9	The judge <u>took issue</u> with the counsel who complained of double standards. (a) agreed with (b) argued with (c) criticized (d) supported	C
10	It was evident to whoever listened to his speech that he also had <u>an axe to grind</u>. (a) an account to settle with someone (b) a tool or something to sharpen (c) a bone to pick with someone (d) a personal objective to achieve	C
	MATHEMATICS SECTION	
11	Evaluate $0.009 \div 0.012$, leaving your answer in standard form A. 7.5×10^{-1} B. 7.5×10^{-2} C. 7.5×10^{2} D. 7.5×10^{1}	A
12	Factorize the following expression $2x^2 + x - 15$ A. $(2x + 5)(x-3)$ B. $(2x - 5)(x +3)$ C. $(2x-5)(x-3)$ D. $(2x + 5)(x + 3)$	B
13	An arc of a circle radius 7cm is 14cm long. What angle does the arc subtend at the centre of the circle? Take ($\pi = {}^{22}/_{7}$) A. 114.55^0 B. 25.7^0 C. 44^0 D. 98^0	A
14	Instead of recording the number 1.23cm of the radius of a tube, a student recorded 1.32cm. Find the percentage error correct to one decimal place. A. 6.8% B. 14.4% C. 7.3% D. 15.4%	C
15	The angle of elevation of X from Y is 30^0, If XY = 40m. How high is X above the level of Y? A. 20m B. 10m C. $20\sqrt{3}m$ D. 50	A
16	If 5 times a certain integer is subtracted from twice the squares of the integer, the result is 63. Find the integer. A. 21 B. 3 C. 7 D. 9	C
17	If $3^y = 243$. Find the value of y. A. 2 B. -2 C. 5 D. 4	D
18	The angle of a sector of a circle of diameter 8cm is 135^0. Find the area of the sector ($\pi = {}^{22}/_{7}$) A. ${}^{3}/_{7}\,cm^2$ B. ${}^{5}/_{7}cm$ C. ${}^{1}/_{7}$ D. ${}^{4}/_{7}$	B
19	Find the volume of a cone of radius 3.5cm and vertical height 12cm ($\pi = {}^{22}/_{7}$) A. $3.4cm^3$ B. $154.0cm^3$ C. $42.0cm^3$ D. $21cm^3$	B
20	Points X and Y are respectively 20km North and 9km East of a point O. What is the bearing of Y from X correct to the nearest degree? A. 024^0 B. 114^0 C. 204^0 D. 156^0	D
	ECONOMICS SECTION	
21	Some of the key indicators of underdevelopment in a country are A. poverty, low level of literacy and low income B. poverty, low income and low unemployment C. poverty, high level of literacy and low income D. low level of illiteracy, low income and poverty	D
22	One of the major factors militating against industrialization in Nigeria is the A. frequent breakdown of equipment B. failure to get foreign partners and supporters C. inadequacy of infrastructural facilities D. absence of government paricipation	C
23	One way of correcting the balance of payments problem of a country is to A. devalue the currency B. introduce import-promotion measures C. de-emphasize import-substitution industries D. buy investment abroad	A
24	One of the problems arising from the localization of industries is A. high prices of output B. structural unemployment C. the exportation of output D. the scarcity of foreign exchange	B
25	The major purpose of the African Development Bank is to A. educate peasant farmers in new techniques B. provide loans for development banks in distress C. provide loans for infrastructural development D. provide loans for trade develoment	C
26	As a country gets more developed, the percentage of labour engaged in agriculture tends to A. switch over to trading B. remain constrant C. increase steadily D. decrease steadily	D
27	A deficit budget can be used to A. starve the economy of funds for economic development B. protect the economy from inflation C. stimulate recovery from a trade expression D. provide meausres to remedy the balance of payment	C
28	Which of the following yields more revenue to Nigeria A. value added tax B. royalties C. direct tax D. indirect tax	D
29	The benefits that accrue to a firm as a result of an improvemetn in the industry it belongs to are called A. internal economies of scale B. market economies C. external economies of scale D. economies of scale	C
30	The economic policy of deregulation is aimed at encouraging A. a competititve market structure B. an oligopolistic	A

	market structure C. a dicopolistic market structure D. a monopolistic market structure	
	GOVERNMENT SECTION	
31	The highest stage of socialism is ----------A. Feudalism B. Fascism C. Communism D. Communalism	C
32	Communism was popularised by ----------A. Harold Laskl and Jean Bodin B. Plato and Socrates C. Max Weber and Aristote D. Karl Marx and Fredrick Engels	D
33	A classless society is obtained in ----------A. Plutocracy B. Feudalism C. Communism D. Capitalism	C
34	The Fascist state in Europe was ----------A. Britain B. Japan C. Italy D. Germany	D
35	Communalism ensures that everybody within the society is provided ----------A. A land to farm B. With a formal education C. With a chieftaincy title D. A means for transportation	A
36	The political way of life which is developed by the society is referred to as ----------A. Political socialisation B. Communalism C. Political culture D. Agency of socialization	A
37	A constitution that requires special procedures to amend is referred to as ------A. unwritten B. Rigid C. Federal D. Flexible	B
38	A politically aware and active society is said to have ----------A. Evaluative political culture B. Parochial political culture C. Participatory political culture D. Subjective political culture	C
39	Fundamental Human Rights can be defined as ----------A. Regulation about worker's welfare B. The provision of the local government constitution C. The provisions of the constitution of the ruling political party D. Freedoms enshrined in the constitution	D
40	A system of government that is made up of elected people is referred to as ---------A. Feudalist government B. Capitalist government C. Socialist government D. Representative government	D
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	In each of the questions 1-5, choose the most appropriate option nearest in meaning to the word(s) or phrase underlined.	
1	The principal asked the students to bear with him in their present situation since every dark cloud has a silver lining. (a) every school has its problem (b) every bad situation has something (c) good things always bring problems (d) difficulties often bring good things	D
2	The confused student found himself in a spot. (a) in a particular spot (b) in a normal situation (c) in a pleasant situation (d) in a difficult situation	D
3	The man who gave the closing remarks at the party spoke with his tongue in his cheek. (a) ironically (b) wisely (c) profusely (d) eloquently	A
4	New companies always put up classified advertisements in the dailies. (a) secret (b) small (c) outrageous (d) expensive	B
5	John's mother advised him to talk very little because still waters run deep. (a) his enemies may be listening (b) there is no pride talking too much (c) there is wisdom in a silence (d) talking too much could lead him into trouble.	C
	Choose the option opposite in meaning to the words underlined.	
6	Florence flogged the girl reluctantly. (a) eagerly (b) calmly (c) furiously (d) laboriously	A
7	Wilfred was a mindless criminal. (a) strong (b) mindful (c) feeling (d) memorable	B
8	The angry waves swallowed the boat. (a) gentle (b) unruffled (c) cool (d) serene	A
9	The judge blamed the plaintiff for misleading the court. (a) defendant (b) complainant (c) accused (d) prosecution	A
10	The demonstrators have refused to call off their strike. (a) consolidate (b) start (c) resume (d) end	C
	MATHEMATICS SECTION	
11	The greater of the two roots of the equation (2x – 5)(2x+10) = 0 A. - 56 B. - 10 C. -3 D. 2½	D
12	Find the value of K such that x2 + 5x + K is a perfect square A. 2½ B. 41/7 C. 61/4 D. 25	C
13	If 00 $\leq \theta \leq$ 1800 and $\cos\theta$ = - 0.5 then Θ A. 300 B. 600 C. 1200 D. 1350	C
14	Find x if x2 - 10x = 24 A. -3 or 4 B. -2 or 12 C. -1 or 24 D. 2 or -12	B
15	If x2 + kx - 9/16 is a perfect square then k = A. 3/8 B. ½ C. 3/2 D. ¾	C
16	Express 0.023696 correct to 3 significant figures A. 0.23 B. 0.029 C. 0.0237 D. 0.0286	C
17	The angles of a pentagon are x0, 2x0, (x + 30)0, (x-10)0 and x + 400, x = A. 800 B. 560 C. 600 D. 500	A
18	A two-digit number is such that the sum of its digit is 11. The number is 27 greater than the number obtained by interchanging the digit. Find the number. A. (7, 4) B. (4, 7) C. (-7, -4) D. (14, 2)	A
19	Calculate the tax paid on N750 at the rate of 40%. A. N200 B. N250 C. N300 D. N150	C
20	If €1 = N160, express £800 in N A. N2 B. N5 C. N20000 D. N128000	D
	ECONOMICS SECTION	
21	Under conditions of a perfect competition, a firms supply curve is determined by its A. fixed cost curve B. variable cost curve C. total cost curve D. marginal cost curve	D
22	The equilbrium wage in an economy is determined by the A. demand and supply of labour B. rate of inflation C. workers union D. public service	A
23	If the growth rate of available resources continuously outpaces that of the population, a country will eventually experience A. underpopulation B. maximum population C. optimum population D. overpopulation	A
24	The middlemen in the chain of distribution are A. wholesalers and retailers B. manufacturers and consumers C. consumers and wholesalers D. retailers and consumers	A
25	The Malthusian theory of population growth is often said to be A. oversimplified B. ambiguous C. optimistic D. perssimistic	D
26	Improved labour efficiency can be measured by A. the constancy of input-output ratio B. an increase in input-output ratio	C

	C. an increase in output-input ratio D. a decrease in output-input ratio	
27	National income estimates can be used to A. compare a country's growth rate with that of another over a period of time B. differentiate between the rich and the poor in a country C. prepare a country's annual budget D. project the level of a country's economic development	A
28	Creeping inflation implies that there is a A. rapid but not permanent increase in general price level B. gentle but not permanent increase in the general price level C. rapid and persistent increase in the general price level D. gentle and persistent increase in the general price level	D
29	In a closed economy, the MPC is 0.6 and the APC is 0.8. The value of the multiplier is A. 2.7 B. 2.6 C. 2.4 D. 2.5	D
30	Excess demand inflation can be controoled through A. contractionary trade policy B. expansionary monetary policy C. contractionary fiscal policy D. expansionary fiscal policy	C
	GOVERNMENT SECTION	
31	The type of government where the central authority is superior to the component authorities is ---------- A. Federal system of government B. Confederal system of government C. Representative system of government D. Parliamentary system of government	A
32	The primary function of the judiciary is to -------A. Maintain law and order B. Interpret laws C. Enforce laws D. Make laws	B
33	Obedience to the laws of the state is a part of one's --------A. Requirements B. Privileges C. Rights D. Duties	D
34	Establishment of an independent judiciary is a way of safeguarding citizen's ---------- A. Education B. Rights C. Privileges D. Obligation	B
35	An organised group that seeks the control of power in a state is a ---------- A. Political party B. Pressure group C. Cooperative society D. Social group	A
36	A one-party system is common to ----------A. Monarchical government B. Representative government C. Totalitarian government D. Democratic government	C
37	A government that is constituted by several parties after a general election is referred to as ---------- A. National government B. Elite government C. Fascist government D. Illegitimate government	A
38	Disenfranchisement means ----------A. Disallowing free and fair elections B. To be disqualified from voting C. Right to form government D. Right to vote and voted for	B
39	Which of the following is a major feature of an Electoral Commission? A. Political neutrality B. Privately funded C. Control by government D. Support for the ruling party	A
40	A popular British colonial system of administration in the protectorates in West Africa was ---------- A. Indirect rule B. Association C. Direct rule D. Assimilation	A

SCIENCE

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	Choose the best option that best completes each of the following sentences:	
1	The magazine was ---------- by the government for an offensive publication. (a) prescribed (b) proscribed (c) suspended (d) condemned	B
2	Many people reacted to the unlawful arrest of the human rights activist strong ---------- (a) indignation (b) autocracy (c) opposition (d) convention	A
3	The doctor ---------- the illness as yellow fever, not malaria. (a) prescribed (b) examined (c) discovered (d) diagnosed	D
4	Since the article didn't contain the writers name, the editor decided not to publish such ---------- material. (a) a libellous (b) a cowardly (c) an anonymous (d) a scandalous	C
5	The governor frowned at the ---------- which slowed down the implementation of policy decisions. (a) bureaucracy (b) autocracy (c) opposition (d) convention	A
	Choose in each of the following sentences with the word which best completes the sentence.	
6	He ----------his failure to bad luck. (a) described (b) prescribed (c) ascribed (d) subscribed	C
7	Those rooms have been ---------- to us. (a) designed (b) granted (c) resigned (d) assigned	D
8	Please------your remarks to the subject we are debating. (a) confine (b) limit (c) contain (d) hold	A
9	The bullet struck a wall and was ---------- from its course. (a) twisted (b) diverted (c) reflected (d) deflected	D
10	The new machinery ---------- with hand labour. (a) disengages (b) avoids (c) administers (d) dispenses	D
	MATHEMATICS SECTION	
11	If p is a real number, which of the following is more illustrated on the number line? A. $p < 4$ B. $p > -2$ C. $-2 \leq p 4$ D. $-2 < p \leq 4$	C
12	Mark p the subject of the formula $y = \frac{a+p}{a-p}$ A. $\frac{2a-1}{a+y} = p$ B. $\frac{ay-1}{y+1} = p$ C. $\frac{a(y-1)}{y+1} = p$ D. $\frac{2y-1}{y-1} = p$	B
13	The roots of a quadratic equation are $^{-1}/_4$ and 3. The quadratic equation is A. $4x^2 - 13x - 3 = 0$ B. $4x^2 - 11x - 3 = 0$ C. $4x^2 + 11x - 3 = 0$ D. $3x^2 - 11x + 3 = 0$	B
14	If $\tan x = 2^2/_5$, find the value of $\sin x$; $0° \leq x \leq 90°$ A. $^5/_{13}$ B. $^5/_{12}$ C. $^{12}/_{13}$ D. $^{144}/_{169}$	C
15	How many sides has a polygon if the sum of its interior angles is 1440°? A. 6 B. 7 C. 8 D. 10	D
16	Each interior angle of a regular nonagon (nine sided polygon) is equal to A. 140° B. 160° C. 36° D. 132°	A
17	Find, correct to 1 decimal place, the volume of a cylinder of height 8cm and base radius 3cm, if $\pi = ^{22}/_7$. A. 503.0cm^3 B. 300cm^3 C. 226.2cm^3 D. 150.90cm^3	C
18	The angle of a sector of a circle of radius 35cm is 288°. Find the perimeter of the sector (Take $\pi = ^{22}/_7$). A. 211cm B. 246cm C. 141cm D. 114cm	B
19	The cumulative frequency curve may be used to find the A. Variance B. Mode C. Standard deviation D. Median	D
20	What percentage of observations lie outside interquartile range of any distribution? A. 12½% B. 25% C. 50% D. 75%	C
	BIOLOGY SECTION	
21	The topographic factors in habitat refer to the (a) Aquatic organisms only (b) Climatic factors in the habitat (c) depth of water table (d) Structure of earth's surface	B
22	Which of the following is not released during the process of decomposition? (a) Hydrogen sulphide (b) Ammonia (c) Carbon-dioxide (d) Heat	A
23	If 80 grasshoppers are found in a field with a total area of 100^2 what is the population density of grasshoppers in the field? (a) 0.08 per m^2 (b) 80 per ms^2 (c) 0.8 per m^2 (d) 8000 per m^2	C
24	The tolerance of an organism refers to the (a) Sum total of its adaptive feature (b) Resistance of the organism to predators (c) Survival range of organism under un-favourable ecological condition (d) Number of males a female organism can pair with during courtship	C
25	Which of the following is not correct of fungi? (a) Fungi can be used in breweries for fermentation (b) Fungi can be used to produce starch (c) Some fungi are edible (d) Fungi cause decay of organic matter	B
26	What unique characteristic of finger prints makes them useful for identification of individuals by police? (a) Finger prints vary from person to person (b) Criminals have unique finger prints (c) Finger prints differ on the basis of sex (d) The lines are move prominent in illiterates	A
27	One of the advantages of cross-breeding is that (a) More offspring are produced (b) It improves the field and characteristics of the offspring (c) Lethal genes are never transmitted to offspring (d) It is a faster method of	B

	reproduction	
28	The seed coats conveying the seed after fertilization are formed from the (a) Ovary (b) Funicle (c) Endosperm (d) Integuments	D
29	Which of the following correctly defines the term species? (a) Animals in the same habitat (b) Special animals in a forest reserve (c) Organisms that cab interbreed (d) Organisms that belongs to the same food chain	C
30	One of the problems facing conservation of will life in Nigerian gam reserves is (a) emigration (b) Pollution (c) Poaching (d) Immigration	C
	CHEMISTRY SECTION	
31	Which of the following is a neutral oxide? A. Sulphur IV oxide B. Carbon II oxide C. Nitrogen IV oxide D. Hydrogen surlphide	C
32	Ethanoic acid is classified as a weak acid because it A. Does not react with silver, liberating hydrogen B. Reacts with zinc, displacing hydrogen C. Does not neutralize based D. Is only slightly ionized in water	D
33	Which of the following substances is an acid salt? A. $NaHSO_4$ B. Na_2S C. H_3Po_4 D. NH_4NO_3	A
34	Direct combination is most useful in the preparation of ---------- A. Tertiary salts B. Anhydrous chlorides C. Insoluble metallic sulphides D. Acid salts	B
35	The solubility of salts often determines the method used in their preparation. Which of the following salts could not be precipitated by simple double decomposition involving metallic salts? A. AgCl B. K_2CO_3 C. $PbSO_4$ D. $ZnCO_3$	B
36	The oxidation of propan-2-ol by acidified $kmn0_4$ yield A. Ppropanone B. Methylethanone C. Propanoic acid D.Methylpropanal	A
37	Which of the following represents ethylethanoate ? A. $CH_3CH_2CO_2CH_2CH_3$ B. $CH_3CO_2CH_2CH_3$ C. $CH_3CH_2COCH_2CH_3$ D. $(CH_3CO)_2O$	B
38	The gas responsible for most fatal explosions in coal mines is ------A. ethane B. methane C. Butane D. Propane	C
39	An organic acid that can be decarboxylated to benzene when strongly heated with soda lime is ---------- A. hexanoic acid B. Salicyclic acid C. Ethandioic acid D. Benzoic acid	D
40	The melting of ice at warm temperature is ----------. Spontaneous and exothermic B. Non-spontaneous and exothermic C. Non-spontaneous and endothermic D. Spontaneous and endothermic	D
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	Choose the best word that completes each of the following sentences:	
1	The book has been withdraw ---------- circulation. (a) by (b) for (c) from (d) in	C
2	He did not regain consciousness -----two hours after the accident. (a) till (b) for (c) until (d) since	C
3	We couldn't convince him ---------- his mistakes. (a) by (b) with (c) of (d) on	C
4	The programme ended ---------- the national anthem. (a) in (b) by (c) with (d) on	C
5	I advise you to keep a check ---------- your temper. (a) at (b) with (c) on (d) by	C
	Choose the best word or group of words that completes each of the following sentences:	
6	Neither Joseph his brother------present at the meeting yesterday. (a) was (b) were (c) is (d) has	A
7	Clement is one of the finest men who ---------- today in Abuja. (a) lives (b) lived (c) had lived (d) must have lived	A
8	"Gulliver's Travels" ----------abridged for the benefit of young children. (a) have been (b) has been (c) were (d) are being	B
9	Each of these boys ---------- table tennis regularly near my house. (a) plays (b) play (c) had played (d) have played	A
10	According to Dr. Johnson politics -------the last resort for scoundrels. (a) are (b) were (c) is (d) have been	C
	MATHEMATICS SECTION	
11	A bag contains 3 red, 4 black and 5 green identical balls. Two balls are picked at random, one after the other without replacement. Find the probability that one is red and the other is green. A. ⅔ B. 5/11 C. 5/22 D. 5/24	C
12	The marks obtained by pupils of a class are grouped as shown below; 0 - 4; 5 - 9 ; 10 - 14; 15-19. The class width is A. 2 B. 3 C. 4 D. 5	D
13	Find the 9th term of the AP, 18, 12, 6, 0, -6 .....A. - 30, B. - 54 C. 42 D. 66	A
14	W is directly proportional to U. If W = 5 when U = 3, find U when W = 2/7 A. 6/35 B. 10/21 C. 21/10 D. 35/6	A
15	If $P = \frac{\sqrt{rs^3}}{t}$ express r in terms of p, s and t A. $\frac{p^2t}{s^3}$ B. $\frac{p^2t}{s^{\frac{1}{2}}}$ C. $\frac{p^2t}{s^{\frac{3}{2}}}$ D. $\frac{pt}{s^3}$	A
16	A polynomial in x whose roots are 4/3 and -3/5 is A. 5x2 + 11x - 12 B. 12x2 - x - 12 C. 12x2 + 11x - 15 D. 15x2 - 11x - 12	D
17	If $\varphi = \begin{vmatrix} 9 & -2 \\ -7 & 4 \end{vmatrix}$ then $\lvert\varphi\rvert$ is A. - 50 B. -22 C. 22 D. 50	C
18	If P = $\begin{vmatrix} x+3 & x+2 \\ x+1 & x-1 \end{vmatrix}$ evaluate x If $\lvert P\rvert$ = - 10 A. -3 B. -2 C. 2 D. 5	D
19	A regular polygon has 150o as the size of each interior angle. How many sides does it have.	B

	A. 10 B. 12 C. 9 D. 8	
20	Find the value of Sin 45o - Cos 30o A. $\frac{2+\sqrt{6}}{4}$ B. $\frac{\sqrt{2}+\sqrt{3}}{4}$ C. $\frac{\sqrt{3}+\sqrt{3}}{2}$ D. $\frac{\sqrt{2}-\sqrt{3}}{2}$	D
	BIOLOGY SECTION	
21	The first scientist to describe the cell was (a) Theodor Schwann (b) Charles Darwin (c) Mathias Schleiden (d) Robert Hooke	D
22	The organ which is sensitive to light is euglena is the (a) Gullet (b) Chlorophyll (c) Eyespot (d) Contractile vacuole	C
23	Which of the following is a similarity between a typical animal cell and a typical plant cell? Presence of (a) Cellulose cell wall (b) Chlorophyll (c) Centrally – placed nucleus (d) Cell membranes	C
24	Which of the following is the medium of transportation of nutrients within unicellular organism? (a) Blood (b) serum (c) Protoplasm (d) Plasma	C
25	The respiratory organ found in the cockroach is the (a) Air sac (b) Trachea (c) Gill (d) Lung	A
26	Which of the following organs is associated with deamination of proteins (a) Lung (b) Stomach (c) Liver (d) kidney	C
27	The groups of sensory cells found on the upper surface of the tongue are called (a) Ampullae (b) Taste buds (c) Nerve cells (d) Tactile cells	B
28	Which of the following diseases is caused by deficiency of insulin in the body? (a) Hepatitis (b) Malaria (c) Diabetes mellitus (d) Cholera	C
29	Hypermetropia can be corrected by use of (a) Biconcave lens (b) Convex lens (c) Concave lens (d) Surgical operation	B
30	Which of the following is not a courtship behaviour exhibited by animals (a) Display (b) Territorialism (c) Hibernation (d) Pairing	C
	CHEMISTRY SECTION	
31	Which of the following processes is used in the extraction of less electropositive metal? A. Reducing their oxides B. Froth-floatation C. Electrolysis D. Passing their ores through a separator	A
32	Which of the allotropies of tin exists at room temperature? A. Rhombic tin B. Monoclinic tin C. White tin D. Grey tin	C
33	The main difference between benzene and aliphatic hydrocarbons is that benzene A. Does not undergo elimination reaction B. Undergoes polymerization reaction C. Is insoluble in water D. Does not undergo substitution reaction	A
34	In the electrolytic extraction of aluminium, the component that is continuously replaced is the ---------- A. Electrolyte B. Salt bridge C. Anode D. Cathode	C
35	In which of the following processes is the enthalpy change negative? A. Dissociation of ammonium chloride B. Decomposition of calcium trioxocarbonate (IV) C. Decomposition of water into hydrogen and oxygen D. Reaction between acid and base	D
36	Trioxocarbonate VI ions are detected when they react with dilute acids by evolution of ---------- A. Hydrogen gas B. Oxygen gas C. Carbon II oxide D. Carbon IV	D
37	The lightest gas in the universe is ----------A. Argon B. Helium C. Fluorine D. Hydrogen	D
38	If 2.0 x 1020 atoms of an element x have a mass of 0.03g, the atomic mass of element is ------- A. 45gmol-1 B. 80gmol-1 C. 90gmol-1 D. 40gmol-1 [NA = 6 x 1023mol-1]	C
39	A mixture is made up of two or more pure substance in ----------A. Variable proportions B. Reciprocal proportions C. Definite proportions D. Constant proportions	A
40	What is the simplest formula of a compound which contains 40% sulphur and 60% oxygen? A. SO4 B. SO3 C. SO2 D. S2O3	B

MANAGEMENT AND BUSINESS STUDIES

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words that best completes each of the following sentences.	
1	The seeds ---------- in the nursery before they were transplanted last week. (a) germinate (b) had germinated (c) have germinated (d) would germinated	B
2	By this time next year, I ---------- here for ten years. (a) have worked (b) had been working (c) would have worked (d) will have been working	D
3	It is hoped that the new house ---------- completed next year. (a) has been (b) is being (c) had been (d) will be	D
4	I can't see him anywhere so he ---------(a) can have gone (b) shall have gone (c) must have gone (d) would have gone	C
5	I wish Bola ---------- at the birthday party yesterday. (a) would have been (b) is (c) have been (d) were	D
	From the words lettered A to D, choose the word that best completes each of the following sentences.	
6	The ---------- programme against childhood diseases has ended. (a) injection (b) vaccination (c) immunization (d) harmonization	C
7	The accused stated ---------- that he was innocent of the crime. (a) unequivocally (b) feebly (c) ashamedly (d) excitedly	A
8	The doctor's ---------- was that the patient was suffering from cancer. (a) analysis (b) prediction (c) verdict (d) diagnosis	D
9	I was advised to open a -----account with the bank if I wanted to pay in cheques. (a) savings (b) deposit (c) loans (d) current	D
10	The Pastor addressed his ---------- in a sonorous voice. (a) audience (b) masses (c) spectators (d) congregation	D
	MATHEMATICS SECTION	
11	A woman is 3 times as old as her son. 8 years ago the product of their age was 112. Find their present age A. 12, 36 B. 11, 33 C. 10, 30 D. 13, 39	A
12	A woman is 4 times older than her child. 5 years ago the product of their age was 175. Find their present age A. 12, 48 B. 11, 44 C. 13, 52 D. 10, 40	D
13	Solve the following equation: $6x^2 - 7x - 5 = 0$ A. $x = 1^2/_3$ or $^{-1}/_2$ B $x = ½$ or $-2½$ C. $x =$ ⅚ or -1 D. $x = ⅓$ or $^{-1}/_2$	A
14	Calculate the surface area of hollow cylinder which is closed at one end, if the base radius is 3.5cm and the height 8cm (Take $\pi = {}^{22}/_7$) A. $165cm^2$ B. $126.5cm^2$ C. $2146cm^2$ D $253.5cm^2$	C
15	For a class of 30 students, the scores in Mathematics test out of 10 marks were as follows: 4, 5, 7, 2, 3, 6, 5, 5, 8, 9, 5, 4, 2, 3, 7, 9, 8, 7, 7, 7, 3, 4, 5, 5, 2, 3, 6, 7, 7, 2. What is the range of the distribution. A. 2 B. 7 C. 8 D. 9	B
16	Given this data below:- 2, 4, 2, 5, 6, 4, 7, 8, 2, 2, 4, 4. The nature of the mode is A. multi-modal B. Bi-modal C. No mode D. Mono-modal	B
17	Which of the following is not measure of location A. Mean B. Mode C. Mean deviation D. Harmonic mean	C
18	The table gives the scores of a group of students in an English language test – Scores 2 3 4 5 6 7 No of students 2 4 7 2 3 2 If a student is chosen at random from the group, what is the probability that the scored at least 6 marks? A. $^3/_{20}$ B. ¼ C. $^1/_5$ D. $^3/_{10}$	B
19	What is the probability that 3 customers waiting in bank will be served in the sequence of their arrival at the bank? A. ⅙ B. ⅓ C. ½ D. ⅔	A
20	If $\sin\theta = ½$ and $\cos\theta = \frac{-\sqrt{3}}{2}$. What is the value of θ? A. 150^0 B. 60^0 C. 90^0 D. 30^0	A
	ECONOMICS SECTION	
21	Which of the following factors does not cause a change in demand? A. taste and fashion B. vagaries of weather C. price of other commodities D. price of the commodity	D
22	If goods P and Q are jointly demanded, an increase in the price of P will likely A. leave the demand for Q constant but reduce the quantity demanded of P B. reduce the quantity demanded of P but increase the price of Q C. increase the quantity supplied of Q D. decrease the quantity demanded of Q	D
23	The gap between demand and supply curves above the equilibrium price is A. normal demand B. excess supply C. equilibrium quantity D. abnormal demand	B
24	A major function of the price mechanism is that it determines the A. allocation of resources B. amount of national savings C. population of the country D. number of goods to be taxed	A
25	Which of the following determinants of supply cannot be predicted easily? A. price of the commodity B. new techniques of production C. national emergencies D. mobility of labour	C
26	If the co-efficient of elasticity of demand is 1.5, then the demand is A. fairly inelastic B. perfectly elastic C. elastic D. inelastic	C

27	Small scale enterprises are important in a country because A. they usually produce goods for the dependants B. they provide after sales service only to the rich C. the price of their products are fixed D. they render personalized services to the consumers	D
28	In the long run all factors of production are A. expensive B. variable C. durable D. fixed	B
29	The transformation curve slope indicates the A. opportunity cost of producing one commodity for another B. opportunity cost of producing two commodities at a time C. sale of the plant to other investors D. decrease in the cost of production	A
30	Which of the following is regarded as a fixed cost? A. expenditure on raw materials B. expenditure on fuel C. expenditure on power D. rent on land	D
	GOVERNMENT SECTION	
31	Colonial constitutions were always ----------A. Flexible B. Written C. Federal D. Confederal	A
32	The highest court of appeal under the independence constitutions of the West African states was the ----------A. Magistrate court B. Country court C. District Tribunal D. Judicial Committee of Privy Council	D
33	The official members in the legislative councils of the British colonial government were ----------A. Majority Africans B. Minority white C. All white D. All Africans	C
34	The pre-independence political parties in British West African were largely concerned about ----------A. Political emancipation of Africans B. Adoption of fascism C. Prolonged colonialism in Africa D. Settling themselves with political offices	A
35	Military governments rule by ----------A. Bye-laws B. Decrees C. Proclamation D. Laws	B
36	Which of the following countries is a member of the Economic Community of West African States (ECOWAS)? A. Burkina-Faso B. Kenya C. Libya D. Congo D.R	A
37	Which of the following countries was a member of the Monrovia group? A. Sierra Leone B. Cameroon C. Niger D. Chad	A
38	Which of the organs of the United Nations Organisation (UNO) is responsible for appointing staff of the organisation? A. The Economic and Social Council B. The Secretariat C. Security Council D. International Court of Justice	B
39	The organ of the UNO responsible for the affairs of the mandated territories was the A. General Assembly B. Economic and social council C. Trusteeship Council D. International Court of Justice	C
40	Totalitarianism implies the control of government by ----------A. A dictator B. A few elite C. Parties in succession D. Coalition parties	A
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words that best completes each of the following sentences.	
1	The intervention forces have successfully -----the rebels supplies. (a) cut in (b) cut off (c) cut up (d) cut away	B
2	She ---------- to his overtures after much delay. (a) gave out (b) gave up (c) gave away (d) gave in	D
3	He ---------- not retort when I am speaking (a) dare (b) dares (c) dared (d) will dare	A
4	It is you and John who ---------- wanted. (a) is (b) are (c) was (d) will	B
5	Please go on I ---------- you. (a) am hearing (b) hear (c) can hear (d) was hearing	C
	In each of the following sentences, there is one word or group of words underlined and one gap. From the list of words or group of words lettered A to D, choose the one that is most nearly opposite in meaning to the underlined word or group of words and that will, at the same time, correctly fill the gap in the sentence.	
6	The leader of the delegation was commended for the manner in which he handled the matter, while their hosts were ---------- (a) applauded (b) praised (c) criticized (d) sanctioned	C
7	Musa is very frugal, where as his friend Audu is ----------(a) miserly (b) thrifty (c) precocious (d) extravagant	D
8	People enjoy stories with ---------- settings rather than those with far-fetched backgrounds. (a) practical (b) realistic (c) artificial (d) undefined	
9	We were asked to reach a compromise and not start another ------ (a) accusation (b) concession (c) controversy (d) issue	C
10	Taiwo's flamboyance and Kehinde's ---------- often keep people wondering if they are really twins. (a) modesty (b) arrogance (c) timidity (d) pretention	A
	MATHEMATICS SECTION	
11	Find the value of x for which the expression $\frac{a}{x} - \frac{b}{b^2+6x-7}$ is not defined A. 1, 6, -7 B. 0, 1, 6 C. 0, 1, -7 D. 0, -3, 4	C
12	Find the value of x for which the expression $\frac{1}{x^2-8x+7}$ is not defined A. 1, 3 B. 2, 3 C. 1, 2 D. -1, 3	C
13	Find the value of x for which the expression $\frac{18}{x} + \frac{x^2+1}{x^2-9}$ is not defined A. 1, -3 B. 0, ±3 C. -3, 2 D. 0, ±2	B
14	Find the value of x for which the expression $\frac{x^2+10}{x^2+4x-5} - \frac{2x-1}{x^2+8x+5}$ A. 1, -3, -5 B. 1, 3, 5 C. 1, 3, -4 D. 0, 3, -5	A
15	If X : Y = 9 : 1, evaluate $\frac{11x+y}{x+y}$ A. 12 B. 11 C. 10 D. 14	C
16	Solve $\frac{5}{a+4} - \frac{2}{a-7} = 0$ A. 7 B. 8 C. 6 D. 4	C
17	Simplify $\frac{5}{a+4} - \frac{2}{a-2}$ A. $\frac{3}{a-2}$ B. $\frac{a+2}{(a+4)(a-2)}$ C. $\frac{a-6}{(a+4)(a-2)}$ D. $\frac{3(a-6)}{(a+4)(a-2)}$	D
18	Simplify $\frac{3x+2}{3} - \frac{x-1}{4} - \frac{5}{12}$ A. $\frac{3}{3x+2}$ B. $\frac{3x+2}{4}$ C. $\frac{3x+2}{12}$ D. 3	B
19	Find two number whose difference is 5 and whose product is 266 A. 38 or -7 B. 133 or -2 C. 14 or -19 D. 19 or -14	D
20	Find two numbers which differ by 4 and whose product is 4 A. 3, 15 B. 5, -9 C. -3, 9 D. 5, 9	D

	ECONOMICS SECTION	
21	If budget deficits are financed by borrowing, the crowding-out effect can be offset by an increase in A. savings B. interest rate C. government expenditure D. exchange rates	A
22	The difference between payments and receipts for visible trade is called A. current balance B. balance of trade C. balance of payments D. bilateral trade	B
23	One of the causes of the present high rate of inflation in Nigeria is A. increasing factor costs B. exchange rate depreciation C. increasing budget surplus D. high capacity utilization	A
24	A major reason for having national development plan is to A. involve people in national programmes B. make government spend more on production C. ensure that more citizens are involved in plannin D. ensure efficient use of available resources	D
25	When the importation of a commodity is limited to a definite quantity, the trade control means used is known as A. quotes B. tax relief C. devaluation D. exchange control	A
26	The main concern of economists is to A. allocate scarce resources to satisfy human wants B. satisfy all human wants C. redistribute income between the rich and the poor D. control the growth of population	A
27	Productive resources can also be called A. principle of production B. factors of production C. items of production D. labour and material resources	B
28	Production covers all the following except when A. utility is created B. a good is manufactured C. a commodity is consumed D. individual wants are satisfied	D
29	Data presented in tables are usually arranged in A. charts and graphs B. rows and columns C. graphs and rows D. columns and charts	B
30	The theory of dinimishing marginal utility states that as more untis of a commodity are consumed. The A. satisfaction from an extra unit decreases B. satisfaction from an extra unit rises C. satisfaction from an extra unit remains constant D. total satisfaction from the good remains the same	A
	GOVERNMENT SECTION	
31	Which of the following is a type of political party? A. Dynamic party B. Conglomerate party C. Mass party D. Anomic party	C
32	A person who exercises franchise performs ------- A. An administrative duty B. A civic duty C. A legal function D. An executive function	B
33	A state with more than one dominant political party of nearly equal strength is operating ---------- A. A charismatic party B. An elistist party C. A multi-party system D. A mass party	C
34	One-party system is a feature of ----- A. A communist state B. Republican states C. Military regime D. Democratic states	A
35	Which of the following does NOT relate to elections? A. Printing voters' cards B. Impeachment of the president C. Registering voters D. Dividing the country into constituencies	B
36	When a pressure group is made up of people of the same profession, it is called --------A. A religious group B. An interest group C. A promotional group D. An occupational group	D
37	Anonymity in the civil service means that an officer ----------A. Remains in office indefinitely B. Does not take praise or blame for his performance C. Should not be heard or seen D. Should work without complaint	C
38	The main purpose of setting up public corporations is to ----------A. Provide essential services to the people at minimal cost B. Improve production of national crafts C. Create employment for all people in the state D. Make profit for the government	A
39	The British minister responsible for the administration of British territories in the crown colony system was the ---------- A. Secretary of Native Affairs B. Secretary of Treasury C. Secretary of state for the colonies D. Colonial Secretary	C
40	The headquarters of the French colonial government in West Africa was ------A. Niamey B. Cotonou C. Abidjan D. Dakar	D
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	From the words or group of words lettered A to D, choose the word or group of words that best completes each of the following sentences.	
1	I think she ---------- her mother (a) takes from (b) takes to (c) takes after (d) takes for	C
2	The next national leagues match will ---------- sometime next month. (a) come in (b) come along (c) come about (d) come off	C
3	With the recent police action we expect the high incidence of crime to ---------- (a) die down (b) die away (c) die off (d) die up	A
4	No matter how much a bully tries to intimidate you just ---------- him. (a) stand up before (b) stand up against (c) stand up to (d) stand up to	C
5	The two men ---------- each other. (a) fell out for (b) fell out with (c) fell out from (d) fell out on	B
	In each of the following sentences, there is one word or group of words underlined and one gap. From the list of words or group of words lettered A to D, choose the one that is most nearly opposite in meaning to the underlined word or group of words and that will, at the same time, correctly fill the gap in the sentence.	
6	He was promoted for his efficiency, while his colleague was demoted for ---------(a) ability (b) lateness (c) incompetence (d) capacity	C
7	Okon's business is flourishing while his father's is ---------(a) withering (b) declining (c) progressing (d) vanishing	B
8	You should be ---------- so as not to be caught . (a) serious (b) sober (c) ready (d) alert	B
9	The manager who was sacked last month has been --------- (a) retired (b) suspended (c) reinstated (d) promoted	C
10	The school authorities expected the contributions to be ---------- rather than compulsory. (a) willful (b) voluntary (c) deliberate (d) outright	B
	MATHEMATICS SECTION	
11	A fair coin is tossed once. What is the probability of getting a head or a tail A. 0 B. ¼ C. ½ D. 1	D
12	If the bearing of X from Y is 1040, What is the bearing of Y from X A. 2840 B. 0140 C. 0760 D. 1040	A
13	Simplify $\sqrt{27} \times \sqrt{50}$ A. $8\sqrt{6}$ B. $15\sqrt{6}$ C. $12\sqrt{6}$ D. $10\sqrt{6}$	B
14	Simplify $\sqrt{12} \times 3\sqrt{60} \times \sqrt{45}$ A. 51 B. 540 C. 380 D. 420	B

15	Simplify $(2\sqrt{5})2$ A. 7 B. $10\sqrt{5}$ C. $7\sqrt{5}$ D. 20	D
16	Simplify $\frac{1}{2-\sqrt{3}}$ A. $2+\sqrt{3}$ B. 5 C. $2-\sqrt{3}$ D. $\frac{1}{2+\sqrt{3}}$	A
17	Simplify $\frac{\sqrt{6}+\sqrt{2}}{\sqrt{6}-\sqrt{2}}$ A. $2-\sqrt{3}$ B. $2+\sqrt{3}$ C. 4 D. $\sqrt{6}+2$	B
18	Simplify $\frac{\sqrt{5}+3}{4-\sqrt{10}}$ A. 8 B. $\frac{\sqrt{5}+8\sqrt{10}-2+3\sqrt{2}}{4}$ C. $3\sqrt{2}$ D. $\frac{4\sqrt{5}+5\sqrt{2}+3\sqrt{10}+12}{6}$	D
19	The angle of elevation of X from Y is 300. If |XY| = 40cm. How high is X above the level of Y? A. 40m B. 30m C. 20m D. 5m	C
20	Find the value of x for which the expression $\frac{4x-3}{x(x+4)(x-9)}$ is not defined A. 0, 4, -9 B. 0, -4, 9 C. 0, -2, 3 D. 1, 4, -9	B
	ECONOMICS SECTION	
21	The primary objective of the NDIC is to A. provide regulations guiding the finance houses B. give protection to banks against fraud C. give protection to banks depositors D. give protection to the CBN against fraud	C
22	If the country's GNP in the current year is N365 billion and the GNP in the base year is N50 billion. The GNP deflator is A. 30.0 B. 130.0 C. 15.0 D. 1.3	B
23	Insurance companies invest mainly in instruments traded on the A. commodity market B. insurance market C. capital market D. money market	C
24	The solution to the problem of double coincidence of wants requires a buyer and a seller whose demands are precisely A. complementary B. supplementary C. composite D. Competitive	A
25	The stock exchange is a market for the buying and selling of A. existing shares B. monetary instruments C. new share D. treasury bills	A
26	In economic analysis, a statement is said to be normative if it A. relate to value judgement B. is incorrect C. can be tested scientifically D. is contradictory	A
27	Utility is the satisfaction derived from A. demand B. production C. distribution D. consumption	D
28	The price of a good rises from N5 to N8 and the quantity demanded falls from 200 to 190 units. Over this price range, the demand curve is A. perfectly inelastic B. fairly inelastic C. perfectly elastic D. fairly elastic	B
29	In a planned economy, the emphasis is on A. public ownership and control B. prices and competition C. individual choices and decisions D. private ownership and control	A
30	If there is an increase in demand without a corresponding increase in supply, there will be a A. rise in price B. shift in demand curve to the left C. fall in price D. shift in supply curve to the right	A
	GOVERNMENT SECTION	
31	A constitutional amendment that is cumbersome is usually described as ---------- A. Subtle B. Unitary C. Rigid D. Flexible	C
32	The head of government in a parliamentary system is the ----------A. Chancellor B. Prime Minister C. Governor D. President	B
33	An advantage of a federal system of government is that it ----------A. Encourages unity in diversity B. Is less expensive to operate C. Facilitates quick secession D. Promotes even economic development	A
34	The executive and ceremonial powers are exercised by the head of the state in a ------ A. Confederal system B. Presidential system C. Federal system D. Unitary system	B
35	Residual powers in a federation are exercised by the ----------A. Federal and local governments B. Federal and state governments C. State governments D. Federal government	C
36	When two or more parties join to form a government, we have a ----------A. Coalition government B. Plural government C. United government D. Mixed government	A
37	The leader of the opposition in a parliament belongs to the ----------A. Electorate B. Minority party in parliament C. Majority party in parliament D. Ruling party	B
38	Which of the following protects the liberties of individuals in the state? A. Cabinet B. Legislature C. Executive D. Judiciary	D
39	The main obligation of a citizen is ----------A. The right to life B. To serve in the army C. Allegiance to the state D. To register for election	C
40	A group that presents candidates for elections is a--------- A. Cooperative society B. Vigilante group C. Pressure group D. Political party	D

TECHNOLOGY

S/No.	QUESTIONS	A
	ENGLISH LANGUAGE SECTION	
	Choose the word that rhymes/sound alike with each of the following from the options lettered a-d.	
1	PREPARE (a) bar (b) there (c) tear (d) car	C
2	TOUR (a) four (b) poor (c) turn (d) bore	B
3	SHEEP (a) bit (b) quay (c) dine (d) red	B
4	GOAT (a) boat (b) looth (c) thought (d) rouse	A
5	BOTTLE (a) better (b) bitter (c) little (d) rider	C
	From the words lettered A to D below each of the following sentences, choose the word that is nearest in meaning to the under listed word as it is used in the sentence.	
6	The criminal was incarcerated. (a) –arrested (b) – pardoned (c) – imprisoned (d) – cautioned	C
7	The manager soon found out that my sister was a competent typist. (a) – patient (b) – capable (c) – hardworking (d) – careless	B
8	At the inception of his administration, the Governor was very popular. (a) – end (b) –peak (c) –dissolution (d) – beginning	D
9	The businessman anticipated the collapse of the bank (a) – prevented (b) – caused (c) –foresaw (d) – pre-empted	D
10	The plaintiff was dissatisfied with the decision of the court. (a) solicitor (b) accused (c) complainant (d) respondent	C
	MATHEMATICS SECTION	
11	Convert the decimal number 89 to a binary number. A. 1011001 B. 111001 C. 1001001 D. 1001101	A
12	Simplify $\left(2\frac{1}{6} - 1\frac{2}{3}\right) \div 2\frac{2}{3}$ A. $^3/_{16}$ B. $^7/_{16}$ C. $1\frac{13}{24}$ D. $2\frac{11}{24}$	A
13	Simplify $56x^{-4} \div 14x^{-8}$ A. $2x^{12}$ B. $3x^{-3}$ C. $4x^4$ D. $4x^{-4}$	C
14	Simplify $\log_{10}4 + \log_{10}25$ A. 1 B. 2 C. 3 D. 4	B
15	A boy measured the length and breadth of a rectangular lawn as 59.6m and 40.3m respectively instead of 60m and 40m. What is the percentage error in his calculation of the perimeter of the lawn? A. 10% B. 1.4% C. 0.7% D. 0.1%	D
16	Find the 9th term of the Arithmetic progression, 18, 12, 6, 0, -6……A. - 54 B. - 30 C. 30 D. 42	B
17	Expand (2x – 5)(x – 3) A. x^2 - x -15 B. $2x^2$ - 11x + 15 C. 2 x^2 - 5x - 13 D. x^2 - 5x – 15	B
18	Simplify $\frac{5}{x-3} - \frac{4}{y-4}$ A. $\frac{a}{x-3}$ B. $\frac{a}{y-3}$ C. $\frac{1}{x-3}$ D. $\frac{1}{y-3}$	A
19	If 3p – q = 6 and 2p+3q = 4, find q. A. 0 B. ½ C. ⅔ D. 1	A
20	Solve the equation $\frac{q}{a} + \frac{1}{5a} = 3$ A. $2^1/_5$ B. $1^2/_5$ C. $1^1/_3$ D. $1^4/_{15}$	B
	BIOLOGY SECTION	
21	Which of the following pairs of tissues is responsible for strengthening the plant? (a) Xylem and cambium (b) Collenchyma and Cambium (c) Collenchyma and Sclerenchyma (d) Phloem and Epidermis	C
22	The cell membrane of a cell is said to be semi-permeable because (a) It is actively selective in allowing substances pass through it. (b) Fatty acids are only the building blocks of the membrane (c) It actively allows all substances to pass through it by diffusion (d) It allows only large molecular substances to pass through it into the cell	A
23	The term "syncarpous" is used to describe a flower when the carpals are (a) Two only (b) Two and separate (c) Many and fused (d) Lying at different parts of a flower	C
24	Which of the following structures are characteristics of insect pollinated flowers? (a) Dull coloured flowers with no nectar (b) Stigma are large, feathery and having outside the flower (c) Brightly coloured petals, scent and nectar (d) Very light, numerous and pendulous stamen	C
25	The series of changes that occur in a seed by which the embryo develops into a seedling is known as (a) Fertilization (b) Germination (c) Pollination (d) Regeneration	B
26	At the end of photosynthesis the green leaf is tested for starch and not glucose, because (a) The glucose formed is immediately converted to starch (b) Starch is stored only in leaves (c) There are no chemicals for glucose test in leaves (d) It is easy to test for starch	A
27	The distribution of organisms in a fresh- water habitat like a stream or pond is determined by the following except (a) Rainfall (b) Temperature (c) Light penetration (d) pH of soil	D
28	Which of these is not applicable to the circulation of water in nature? (a) Plants lose water by transpiration and decay (b) Water removed from oceans are permanently lost (c) Water vapour rises, cools, condenses and precipitates as rain and dew (d) Water is absorbed by plants and animals from their external environment	B
29	Prevention of erosion could best be carried out by (a) Strip cropping and poaching (b) Bush fallowing and crop rotation (c) Contouring of sloping ground and afforestation (d) Grazing, terracing and slighting cultivation	C
30	Which of the following natural resources is most readily available to all organisms? (a) Air (b) Oil (c) Food (d) Water	A

	CHEMISTRY SECTION	
31	If 30cm^3 of oxygen diffuses through a porous pot in 7 seconds, how long will it take 60cm^3 of chlorine to diffuse through the same pot, if the vapour densities of oxygen and chlorine are 16 and 36 respectively? A. 9.3S B. 14S C. 21S D. 28S	C
32	Which of the following is not a member of the homoloyous series of the parafins (alkanes)? A. C_3H_8 B. C_5H_{12} C. $C_{24}H_{48}$ D. $C_{15}H_{32}$	C
33	The reaction between an organic acid and an alkanol in the presence of an acid catalyst is known as ---------- A. Saponification B. Esterification C. Hydrolysis D. Dehydration	B
34	Helium atoms are chemically unreactive because ----------A. There are no electrons around the nucleus B. The outer electron shell is completely filled C. There are equal members of protons and neutrons in the nuclear D. The atoms contain only protons	B
35	Starch can be converted to ethyl alcohol by ----------A. Distillation B. Fermentation C. Cracking D. Isomerisation	B
36	An alkane can be distinguished from a terminal alkyne by using ---------- an ammonia solution of copper I chloride B. a solution of bromine in tetrachloromethane C. acidified solution of potassium tetraoxxomangnate VII D. a solution of hydrogen bromide	A
37	When excess ethanol is heated to 145^{o}C in the pressure of concentrated tetraoxosulphate VII acid is ------ A. Diethylether B. Ethyne C. Acetone D. Ethanoic acid	A
38	Bronze is an alloy of ----------A. Copper, Zinc and Nickel B. Aluminium and Copper C. Tin and Copper D. Tin and Zinc	C
39	Hydrogenation may be effected by ----------A. The removal of hydrogen from an alkane in the pressure of a catalyst B. The addition of hydrogen to an alkane in the presence of a catalyst C. The addition of hydrogen to an alkyne D. The removal of hydrogen to an alkyne	C
40	Which of the following metals combines most readily with the active constituent of air to form a compound? A. Zinc B. Copper C. Aluminium D. Potassium	D
S/No.	**QUESTIONS**	**A**
	ENGLISH LANGUAGE SECTION	
	Choose from the options in each of the following, a word that is wrongly spelt.	
1	(a) airoplane (b) earoplane (c) aerial (d) air	A
2	(a) aerodrome (b) aerodrome (c) programme (d) Pronunciation	A
3	(a) writting (b) written (c) setting (d) sitting	A
4	(a) acquit (b) acquital (c) acquittal (d) acquisition	B
5	(a) prodigious (b) courageous (c) courage (d) courageos	D
6	(a) awkward (b) awe (c) awful (d) aweful	D
7	(a) independence (b) occurrence (c) appearance (d) occurrence	B
	Choose the best word/group of words that completes each of the following sentences:	
8	When we were at school, Bisi and Chioma were always together; they were_____ friends. (a) breast (b) bosom (c) check (d) blood	B
9	The trouble between the workers and the employers came to a_____and resulted in riots which caused much damage and many injuries. (a) Crown (b) Fist (c) hand (d) head	D
10	John is a very handsome fellow. And I must say he has _____ for a pretty girl too. (a) a heart (b) an eye (c) a lip (d) a head	B
	MATHEMATICS SECTION	
11	Make p the subject of the formula $y = \frac{a+p}{a-p}$ A. $\frac{2a-}{a+y}$ = p B. $\frac{ay-1}{y+1}$ = p C. $\frac{a(-1}{y+1}$ = p D. $\frac{ay}{y+1}$ = p	C
12	Factorize 32x3 – 8xy2 A. 4(4x+y)(2x-y) B. (16x-y)(2x+y) C. 8x(2x-y) D. 8x(2x+y)(2x-y)	D
13	The roots of a quadratic equation are -1/4 and 3. The quadratic equation is A. 4x2 - 13x - 3 = 0 B. 4x2 - 11x - 3 = 0 C. 4x2 + 11x - 3 = 0 D. 3x2 + 11x – 3 = 0	B
14	The graph of 2y = 5x2 - 3x - 2 cuts the y axis at the point A. (1, 0) B. (-2/5, 0) C. (0, -1) D. (0, -2)	C
15	If the hypothenuse of a right-angled isosceles triangle is 2, what is the length of each of the other sides? A. $\frac{1}{\sqrt{2}}$ B. $\sqrt{2}$ - 1 C. 1 D. $\sqrt{2}$	D
16	One side of a rectangle is 8cm and the diagonal is 10cm. What is the area of the rectangle? A. 80cm2 B. 48cm2 C. 40cm2 D. 36cm2	B
17	If Sin Θ = Cos Θ, for $\theta^o \leq \theta \leq 360^o$, find the value of θ A. 45^o, 225o B. 135o, 315o C. 45o, 315o D.135o, 225o	A
18	If tan x = 22/5, find the value of Sin x; $0 \leq x \leq 90^o$ A. 5/13 B. 5/12 C. $\frac{144}{169}$ D. $\frac{12}{13}$	D
19	If tan Θ = x What is the value of s ee x A. $\sqrt{1-x^2}$ B. $\sqrt{1-x}$ C. $\sqrt{1+x^2}$ D. $\sqrt{x^2-1}$	B

<table>
<tr><td>20</td><td>Express (0.0425/2.5) as a fraction A. $\frac{17}{10,000}$ B. $\frac{17}{1,000}$ C. $\frac{17}{250}$ D. $\frac{17}{100}$</td><td>D</td></tr>
<tr><td></td><td>BIOLOGY SECTION</td><td></td></tr>
<tr><td>21</td><td>Which of the following best describes a marine habitat? A large body of water (a) With high concentration of salt (b) With no water weeds (c) Which sustains no animal life (d) Which has no distinctive colour or taste</td><td>D</td></tr>
<tr><td>22</td><td>The following features of Northern Guinea savanna except (a) Bare soil with very few trees (b) Abundant herbivores (c) Predominance of woody trees (d) Presence of tall trees with thick bark</td><td>D</td></tr>
<tr><td>23</td><td>Which of the following explains the term pyramid of numbers? (a) The relation between plants in different trophic – levels (b) The number of predator in a habitat (c) Progressive decrease in the number of individuals from lower to higher trophic levels (d) The number of organisms in a trophic level</td><td>D</td></tr>
<tr><td>24</td><td>What of the following water pollutants many contain organisms that causes dysentery?
(a) Industrial waste (b) Crude oil (c) Sewage (d) Pesticides</td><td>C</td></tr>
<tr><td>25</td><td>The tables below indicates the result of an experiment during which grains of different colours in two maize cobs were counted
<table>
<tr><th>Maize cob</th><th colspan="3">Colours of Maize grains</th></tr>
<tr><td></td><td>White</td><td>Pink</td><td>Red</td></tr>
<tr><td>I</td><td>30</td><td>60</td><td>30</td></tr>
<tr><td>Ii</td><td>50</td><td>99</td><td>49</td></tr>
</table>
Which of the following ratios agrees with the result? (a) 2:1:1 (b) 1:3:1 (c) 1:2:1 (d) 2:3:2</td><td>C</td></tr>
<tr><td>26</td><td>Which of the following diseases or disorders can be prevented by the application knowledge of heredity through marriage counseling (a) Colour blindness (b) Haemophilia (c) Diabetes mellitus (d) Sickle cell anemia</td><td>D</td></tr>
<tr><td>27</td><td>Identical twins inherit their genes from (a) Many ova and many sperms (b) The same ovum and the same sperm
(c) The same ovum and different sperm (d) Different sperms and many ova</td><td>B</td></tr>
<tr><td>28</td><td>Which of the following organisms is ova called and free – living?
(a) Spirogyra (b) Rhizopus (c) Chlamydomonas (d) Volrox</td><td>C</td></tr>
<tr><td>29</td><td>Which of these could be regarded as an advantage of complexity in higher organisms? (a) There is no cellular differentiation (b) Cellular differentiation leads to internal structural specialization (c) Cellular differentiation occurs in few cells only (d) Cellular differentiation leads to loss of independence of the cells</td><td>B</td></tr>
<tr><td>30</td><td>Which of the following groups carry out similar functions in living things? (a) Sclerenchyma, cartilage and chitins (b) Vertebral column, chitin and guard cells (c) Tendon, Chitin and neurone (d) Blood vessels, lymph and shell</td><td>A</td></tr>
<tr><td></td><td>CHEMISTRY SECTION</td><td></td></tr>
<tr><td>31</td><td>The alkanol obtained from the production of soap is --------A. Ethanol B. Glycerol C. Glycol D. Methanol</td><td>B</td></tr>
<tr><td>32</td><td>The colour imparted to a flame by calcium ion is ----------A. green B. Blue C. Yellow D. Brick-red</td><td>D</td></tr>
<tr><td>33</td><td>If an element has the electronic configuration 1S22S22P63S23P4, it is----------
A. a metal B. an alkaline – earth metal C. P-block element D. S-block element</td><td>C</td></tr>
<tr><td>34</td><td>3.06g of a sample of potassium trioxocarbonate V was required to make a saturated solution with 10cm2 of water at 25oC. The solubility of the salt at 25oC is [k=39, Cl=35.5, O=16] A. 5 moldm-3 B. 3moldm-3 C. 1moldm-3 D. 2.5moldm-3</td><td>D</td></tr>
<tr><td>35</td><td>The cracking process is very important in the petroleum industry because it -------A. Gives purer products B. Yields more lubricants C. Yields more engine fuels D. Yields more asphalt</td><td>C</td></tr>
<tr><td>36</td><td>Which of these metals, Mg, Fe, Pb and Cu will dissolve in dilute HCl?
A. All the metals B. Mg, Fe and Cu C. Mg, Fe and Pb D. Mg and Fe only</td><td>D</td></tr>
<tr><td>37</td><td>Liquid x reacts with sodium trioxocarbonate IV to give a gas which turns calcium hydroxide solution milky. X is ----------A. Na2S04 B. KI C. An Acid D. An Alkaline</td><td>C</td></tr>
<tr><td>38</td><td>The oxidation state of chlorine in potassium trioxochlorate V A. +1 B. +2 C. +4 D. +5</td><td>D</td></tr>
<tr><td>39</td><td>Hypochlorous acid is used as a bleach because ----------A. It is a storing acid B. It is an oxidizing agent C. It is a weak acid D. It is a reducing agent</td><td>C</td></tr>
<tr><td>40</td><td>When ammonia and hydrogen ion bond together to form ammonium ion, the bond formed is called ----------A. Ionic bond B. Electrovalent bond C. Co-ordinate bond D. Hydrogen bond</td><td>C</td></tr>
</table>