

UNIVERSITY OF LAGOS

POST UTME TEST

2004/2005

INSTRUCTION

ANSWER ALL THE QUESTIONS FROM FOUR (4) SECTIONS ONLY

SECTION A (ENGLISH LANGUAGE) IS COMPULSORY.

SUMMIT YOUR ANSWER SHEET TOGETHER WITH YOUR QUESTION PAPER.

APPEND YOUR SIGNATURE ON THE REVERSE SIDE OF THE ANSWER SHEET AT THE LOWER PART OF THE SHEET.

SECTION A

(ENGLISH LANGUAGE)

Every artist's work, unless he be a hermit, creating solely for his own satisfaction and with no need of sales, is to some extent "socially conditioned" he depends upon the approval of his patrons. Social conditioning is of course part of the field of study of the social anthropologist, yet I am not aware that the social conditioning of artists has ever been seriously studied. That such study is needed for the proper appraisal of traditional African art is evident enough when we note the igneous assumption, current in many writings on the subject, that the curve's hand is so closely controlled by the custom of centuries that the credits for any creative imagination which is apparent in his work is due not to him but to the long succession of his predecessors.

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

- 1) Most artist are strongly influenced by the
 - a. Desire for self-expression.
 - b. Need to sell their works.
 - c. Taste and wishes of the society.
 - d. Creative imagination.
 - e. Opinions of critics.

- 2) A social anthropologist is someone who
 - a. Studies only social conditioning.
 - b. Studies social conditioning and other things.
 - c. Studies the origins of man.
 - d. Is interested in art and artists.
 - e. Is interested in the community.

- 3) It would be useful to study the social conditioning of artist because
 - a. We know that African art is entirely influenced by tradition
 - b. Traditional art arises from the custom of the people.
 - c. An artist's predecessors solely determine the nature of his work.
 - d. We do not know the extent to which an artist is influenced by his society.
 - e. We do not know very much about how an artist's creative imagination works.

- 4) "The work of art is the outcome of a dialectic between the informing tradition and the individual genius of the artist" means that
 - a. The artist is influenced both by the society and his own creative imagination.
 - b. There is an irreconcilable conflict between an artist's creativity and the demands that society makes on him.
 - c. The artist subordinates his individual talent to the demand of the society.
 - d. Few works of art are entirely original.
 - e. The individual artist needs to be informed about the traditions of the society.

- 5) Which of the following represents the writer's view about African art in relation to European Art?
 - a. The African artist is influenced by his society, but the European artist is not.
 - b. In both African and European art there is a blend of tradition and individual creativity.
 - c. African art is tribal, but European art is not

- d. Although traditional influences can be seen in European art, they are much less strong than they are in African art.
- e. African artist are more imitative than European artists.

In each of questions 6-9 fill each gap with the most appropriate options from the list provided.

- 6) The newly appointed _____ were sworn in at the capital city last week.
- a. Director generals
 - b. Director's general
 - c. Director generals'
 - d. Directors general
- 7) The old man hired Mr. Thomas and _____
- a. I
 - b. We
 - c. Me
 - d. Mine
- 8) The driver splashed water all over me as he drove _____
- a. Pass
 - b. Passed
 - c. Past
 - d. Passes
- 9) The race _____ before my parents arrived.
- a. Had began.
 - b. Has began.
 - c. Had begun.
 - d. Has begun.

Choose the option nearest in meaning to the word(s) or phrase in *italic*.

- 10) He reprimands his class even for the slightest *misdemeanor*.
- a. Crime

- b. Wrongdoing
- c. Achievement
- d. Feat

Choose the option **opposite in meaning** to the word(s) or phrase in italic.

11) The idea of having female president at this time sounds *preposterous*

- a. Absurd
- b. Unusual
- c. Silly
- d. Reasonable

Choose the option that **best conveys the meaning** to the sentence.

12) She took the cooking of the food in her stride in spite of the pressure on her.

- a. The food without special effort
- b. Left the cooking to her cooks.
- c. Cooked the food while walking around
- d. Was slow with the cooking.

Choose the option that has the same **vowel sound** as the one represented by the letter(s) **underlined**.

13) Match

- a. March
- b. Much
- c. Bate
- d. Pack

Select the word that has the same **consonant sound** as the one represented by the **underlined letter**.

14) Pressure

- a. Shortage
- b. Treasure

- c. Prestige
- d. Division

15) Select the word that has the same pattern of stress as the given word.

Particular

- a. Indelible
- b. Respected
- c. Determining
- d. Disrespectful.

UNIVERSITY OF LAGOS

POST UTMETEST

BATCH 'B' (SOCIAL SCIENCES)

2005/2006

INSTRUCTIONS:

ANSWER ALL THE QUESTIONS FROM FOUR (4) SECTIONS ONLY

SECTION A (ENGLISH LANGUAGE) IS COMPULSORY

SUMMIT YOUR ANSWER SHEET TOGETHER WITH YOUR QUESTION PAPER.

APPEND YOUR SIGNATURE ON THE REVERSE SIDE OF THE ANSWER SHEET AT THE LOWER PART OF THE SHEET.

SECTION A

(ENGLISH LANGUAGE)

In 1973, Japanese sericulturists arrived in Malawi with a batch of 40000 silkworm eggs. They were taken to the Bvumbwe Agricultural Research Station in Thyolo District. In this station, work is being done to determine the favourable silkworm rearing conditions and areas where Mulberry trees whose leaves the worms feed on, could grow well. According to researchers, the silkworms which eventually develop into cocoons from which raw silk is produced do well in areas with warm climatic conditions.

Silk is one of the strongest of the fibres. In fact, for thousands of years, silk fabrics have been regarded as the most beautiful and durable materials woven by man. Many people call silk "the cloth of kings and queens".

The weaving of silk originated in China. An old Chinese book, believed to be written by Confucius, tells us the wife of Emperor Huangi-ti was the first person to make fabrics of silk. Around 2640 B.C, Emperor Huangi-ti asked his wife His Ling-shih to study the worms that were destroying the mulberry trees in his garden. The Empress took some of the cocoons. She picked up the gauzy mass and found that one of the threads could be unwound almost without end from the cocoon. His Ling-shih had discovered silk! She was delighted with the discovery and even wove a ceremonial robe for the Emperor out of the cocoon threads. After that, the officials in the Emperor's court wore brightly dyed robes on important occasions.

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

- 1) Sericulture is
 - a. Carried out only in China
 - b. The breeding of silkworms for the production of silk
 - c. The research done on silkworms
 - d. The making of cloth from the cocoons of silkworms.
 - e. The breeding of silkworms Malawi.

- 2) It is implied in this passage that silk was discovered
 - a. After years of hard work and research by the Empress.
 - b. By accident
 - c. In the search for a more durable fibre for making cloth
 - d. After some experiments carried out by the Japanese
 - e. By design

- 3) According to sericulturists, silkworms
 - a. Cannot survive in a warm climate
 - b. May be reared on any tree
 - c. Do well in areas with a warm climate
 - d. Produce the longest threads when they are fed leaves from the top of mulberry tree.
 - e. Are destroyed by heat.

- 4) The work carried out at the Agricultural Research Station in Malawi on the silkworm egg was to

- a. Try to breed cocoons which would produce more silk
 - b. Determine the survival rate of silkworms
 - c. Find out the most suitable areas and conditions for rearing silkworms.
 - d. Find out how cocoons become silkworms.
- 5) Choose the meaning which best fits the underlined phrase from the passage, Closely guarded secret
- a. Carefully hidden from the knowledge of others.
 - b. Secretly processed business with armed guards.
 - c. Carefully hidden from the view of strangers.
 - d. Scarcely known
 - e. Unknown.

In each of questions 6-9, fill each gap with the most appropriate option from the list provided.

- 6) He _____ not absent himself from lectures.
- a. Dares
 - b. Dare
 - c. Didn't dare
 - d. Do dare
- 7) The conference turned out to be _____ enlightening experience.
- a. Five-days
 - b. Five-day
 - c. Five-day's
 - d. Five-days'
- 8) Ojo has an aversion _____ swimming
- a. To
 - b. For
 - c. In
 - d. With
- 9) The poor _____ our attention and kindness.
- a. Deserves
 - b. Does deserve

- c. Do deserves
- d. Deserve

Choose the option **nearest in meaning** to the word(s) or phrase in italic.

- 10) He will be *livid* if he finds out you are here.
- a. Extremely happy
 - b. Extremely angry
 - c. Very bitter
 - d. Very surprised

Choose the option **opposite in meaning** to the word(s) or phrase in italic.

- 11) Her *meteoric* rise to fame surprised everyone.
- a. Tardy
 - b. Swift
 - c. Gradual
 - d. Deserved

Choose the option that **best conveys the meaning** of the sentence.

- 12) An official has been appointed to show them the ropes.
- a. Assign duties to them
 - b. Train them
 - c. Assist them
 - d. Punish them

Choose the option that has the **same vowel sound** as the one represented by the letter underlined.

- 13) Goal
- a. Face
 - b. Boat
 - c. Park
 - d. More

Select the word that has the same consonant sound as the one represented by the underlined letter.

14) Suggest

- a. Great
- b. Judge
- c. Angle
- d. Gather

Select the word that has the same pattern of stress as the given word.

15) Particular

- a. Indelible
- b. Respected
- c. Determining
- d. Disrespectful.

POST UTME TEST

BATCH 'C' BUSINESS GROUP

2005/2006

INSTRUCTION: Answer all questions from four section only.

Section A (English Language) is compulsory. Submit your answer sheet together with your question paper.

Append your signature on the reverse side of the answer sheet at lower part of the sheet.

THE ENGLISH LANGUAGE

SECTION A: COMPREHENSION

The approach to the university is being restructured to ease the flow of traffic, give better security and provide an appropriate introduction to a seat of higher learning. The works and services complex is also under construction, and we intend to move into the completed (major) part of it within next few weeks.

All these projects are being executed with an eye to aesthetics for we recognize the important influence of a beautiful and healthy environment on its inhabitant and feel that cluster of building on a small space such as we have, should be so well designed as to have a beneficial psychology and sociological effect on all members of the community. I have gone to these lengths to itemize these current developments for two reasons.

Firstly, to advise you that the road diversions and other physical inconvenience currently being experienced will be on the increase because of intense development activity. We therefore appeal to you to bear with us in full knowledge and consolation that such inconvenience is temporary and will soon yield Final tangible results. Secondly, to demonstrate our capacity for executing approved projects with dispatch, and to assure Government that its ability to disburse funds to us will be more than matched by our capacity to collect and expend them on executing various worthy projects in record time.

- 1) From the passage, we can gather that
 - a. There is no much consideration for the health of inhabitants.
 - b. There is a deliberate effort to inconvenient the people.
 - c. Buildings are put up anyhow.
 - d. The inconvenience suffered by the inhabitants will be for a while.
 - e. Projects are carried our without approval.

- 2) Unless it can be shown that money voted for projects can be spent on them in good time.
 - a. The development activity will not be intense
 - b. It will not be easy to convince the government of our executive ability.
 - c. It will not be difficult to ask Government for funds
 - d. Our final result will be unreliable.
 - e. The road diversions and other inconveniences will continue.

- 3) An eye to aesthetics in the passage means
 - a. Regard for space
 - b. Beneficial psychology effects
 - c. Regard for health
 - d. Consideration for beauty
 - e. A cluster of buildings

- 4) In this passage, the author tries to explain why
 - a. It is necessary to establish the works and services complex in University
 - b. Beauty should not be taken into consideration when buildings on such a small space as we have.
 - c. The gateway to university is being rebuilt.
 - d. A major part of the project should be complete in the next few weeks.
 - e. We should be debarred from using the gates in the meantime.

- 5) Which of these is NOT among the reasons given by the author for enumerating the examples of current development?
 - a. To show that we are capable of executing approved projects.
 - b. To convince the Government that we can be trusted with the task.
 - c. The inconvenience currently being experienced will go on indefinitely.

- d. We are fully aware of the inconvenience being caused but we do not want you to complain.
- e. We have the capacity to complete worthy projects within schedule time.

In each of the following questions 6-9, fill each gap with the most appropriate option from the list provided.

- 6) I had to _____ a loan to my children's school fees.
- a. Takeout
 - b. Take on
 - c. Take to
 - d. Take off
- 7) The man as well as his son _____ in the band
- a. Plays
 - b. Play
 - c. Are playing
 - d. Have played
- 8) _____ escalating food prices, government seems to have no solution.
- a. As regard
 - b. With regards to
 - c. As regards to
 - d. With regard to
- 9) It is believed to be _____ who defrauded the bank.
- a. She
 - b. Her
 - c. Herself
 - d. Hers

Choose the option nearest in meaning to the word or phrase in italics.

- 10) After thorough investigation the students were absolved of the responsibility for the damage.
- a. Abolish

- b. Cleared
- c. Extricated
- d. Exempted

Choose the option that is **opposite in meaning** to the word or phrase in *italics*.

- 11) He takes a more *sanguine* view of the future of our country.
- a. Optimistic
 - b. Casual
 - c. Pessimistic
 - d. Critical

Choose the option that **best conveys the meaning** of the sentence.

- 12) Had the neighbours not intervened, Mrs. James would have been dead by now. This means
- a. The neighbours did not intervene so Mrs. James died.
 - b. Mrs. James died because the neighbor intervened.
 - c. The neighbour intervened because Mrs. James is alive.
 - d. Mrs. James is alive because the neighbour intervened.

Choose the option that has the **same vowel sound** as the one represented by the underlined letter.

- 13) Regal
- a. Earn
 - b. Bill
 - c. Bean
 - d. Bread

Select the word that has **the same consonant sound** as the one represented by the underlined letter.

- 14) Laugh
- a. Half
 - b. Wolf

- c. Walk
- d. Talk

Select the word that has the same pattern of stress as the given word.

- 15) Understand
- a. Entertain
 - b. Examine
 - c. Hopefully
 - d. Remember

UNIVERSITY OF LAGOS

POST UTME TEST

BATCH "E" (PHYSICAL SCIENCE GROUP)

2006/2007

ENGLISH LANGUAGE

SECTION A: COMPREHENSION

Read the passage below and answer the question on it.

Farming is the most important aspect of agriculture that has attracted attention within the last few years. Agriculture has several other aspects like fishery, livestock and poultry. All these are also important in that they have to do with production of food items which human beings consume for survival.

In many parts of the world today, farming has been regarded as the mainstay of the economy. Crops such as cocoa, rubber, and cotton have been produced in such commercial quantities that they are sold to other countries. Some countries have better comparative advantage in producing certain farm crops than other countries. In these other countries, there is the need to spend a lot of money on agriculture, particularly farming. Most farmers use outmoded tools. A lot of them have no place to store their crops, most of which are always destroyed by insects and pests before harvest time. All these have adverse effects on their productivity.

The government can do a lot to help farmers. Farmer's cooperative societies can be encouraged and loans can be made available to farmers through government institutions. Farmers can be taught how to build good storage structures for their produce. All these and a lot more can help to improve the condition of farming in these countries.

- 1) The most important aspect of agriculture mentioned in the passage is
 - a. Poultry
 - b. Fishery
 - c. Livestock
 - d. Farming

- 2) Farming in many countries today is

- a. An alternative to poultry
 - b. Of great assistance to the economy
 - c. For those who are out of job
 - d. For the illiterates.
- 3) Some countries produce more and better crops than others because the farmers in the former
- a. Are more educated
 - b. Have greater manpower
 - c. Have more modern equipment
 - d. Have more fertile land
- 4) In order to help improve the state of farming the government should
- a. Give all farmers enough money to work well
 - b. Well enough fertilizers to all farmers
 - c. Find ways of financing and modernizing the farming system
 - d. Help farmers with the storage of their crops.
- 5) A lot of crops harvested are wasted because farmers
- a. Allow insects and pests to destroy their crops
 - b. Do not have enough money to investors
 - c. Do not have good storage facilities
 - d. Harvest too much at a time.

In each of the following questions fill the gap with the appropriate option from the list provided.

- 6) There is no point getting upset by problems; I take them _____.
- a. In my stride
 - b. On the spur of the moment
 - c. By leaps and bounds
 - d. In a jiffy
- 7) I know that your friend will not accept the proposal
- a. And you neither
 - b. And neither you

- c. Neither do you
 - d. Neither will you.
- 8) I have been trying to locate _____
- a. Since five days
 - b. Five days now
 - c. For five days
 - d. Since five days now
- 9) The _____ of the participating countries will hold a pre-conference on the eve of the conference
- a. Auditor generals
 - b. Auditor general
 - c. Auditors general
 - d. Auditors general
- 10) It all depended on what _____
- a. Does he want
 - b. He want
 - c. He does want
 - d. He wanted

Choose the word nearest in meaning to the underlined word.

- 11) We have to identify the protagonist of the new movement.
- a. Enemies
 - b. Leading figures
 - c. Opponents
 - d. Believers
- 12) I cannot understand how he suddenly became audacious contrary to his nature.
- a. Bold
 - b. Pound
 - c. Rude
 - d. Hostile

Choose the word opposite in meaning to the underlined word.

13) Rich citizens are often niggardly in their ways.

- a. Pompous
- b. Generous
- c. Sordid
- d. Soft

14) Mary complained that she slept on their ways.

- a. Rough
- b. Bad
- c. Smooth
- d. Soft

Choose the option that best conveys the meaning of the sentence below.

15) My friend will never forgive his wife because she left him in the lurch in his hour of need.

- a. Abandoned him
- b. Despised him
- c. Disrespected him
- d. Disinherited him

Choose the options that has the same vowel sound as the one represented by the underlined letter.

16) Disturb

- a. Comfort
- b. Affair
- c. Carry
- d. Search

17) Pause

- a. Country
- b. Sport

- c. Dual
- d. Pounce

Choose the option that has the same consonant sound as the one represented by the underlined letter.

18) Yam

- a. Fool
- b. Humble
- c. Spurious
- d. Crude

19) Lake

- a. Would
- b. Talk
- c. Table
- d. Calm

Select the word that has the same stress pattern as the given word.

20) Salad

- a. Canoe
- b. Fifteen
- c. Distress
- d. Upright

UNIVERSITY OF LAGOS

POST UTME TEST (2006/2007)

BATCH A (BUSINESS GROUP)

INSTRUCTION: Answer QUESTIONS from ENGLISH LANGUAGE and THREE (3) other subjects (A total of 80 Questions)

THE ENGLISH LANGUAGE

SECTION A: COMPREHENSION

Read the passage below carefully and answer the questions that follow.

Over the years there has been hue and cry by governments and public policy advisers against the phenomenon of the rural-urban drift. Researches have been conducted on various aspects of this phenomenon, which have resulted in the identification of the various causes and consequences of it. In addition, prescriptions have been given for controlling the rural-urban drift.

Among the causes most often mentioned are population pressures in some rural areas resulting in dwindling farmlands; increasing school enrolments and the resultant rise in educational levels which qualify many people for urban employment; higher wages in the urban centers relative to rural centers and the rather naïve one of the 'bright lights' in the cities, so much touted by early foreign sociologists.

The most often mentioned consequences of this rural-urban migration include depopulation of the rural areas leading to overcrowding of the cities and the resultant housing and sanitation problems; decline in the cities and increasing urban unemployment. The results of the phenomenon are seen largely as negative.

Measures to control the rural urban drift include the establishment of essential amenities like water, electricity, hospital, colleges, and cinema houses, the location of employment generating establishments and the building of good interconnecting roads.

The sum total of these prescriptions in essence, unwittingly or paradoxically, is for the rural areas to be transformed into urban centers. This is so because to industrialize the rural areas

would draw many more people out of agriculture than if industries were restricted to urban centers.

Therefore, rural industrialization holds a higher potential for the de-agriculturalization of the rural population than when industries are concentrated in urban areas.

The phenomenon of rural-urban migration has been intensively and exclusively researched and studied; but it would seem that it has largely been misinterpreted and misunderstood. Consequently, public policies on the subject have largely been misdirected.

- 1) The author explains that researches conducted on various aspects of rural-urban drift have.
 - a. Failed to produce effective solution.
 - b. Revealed the causes and effects of this drift
 - c. Provided effective solutions to the problem
 - d. Not only provided solution but also brought out the causes and effects of this drift
 - e. One of the reasons why people drift from the rural areas to the urban areas is

- 2) One of the reasons why people drift from the rural areas to the urban areas is
 - a. Hunger resulting from draught.
 - b. laziness and ignorance
 - c. Improved rural education and possession of qualification which make better jobs available in urban areas.
 - d. The easy life and comfort in the city.

- 3) Migration in large numbers is said to result in
 - a. juvenile delinquency
 - b. a fall in the production of food, accommodation and health in cities
 - c. High way robbery
 - d. Increased farmlands.

- 4) One suggested solution to the problem is to
 - a. Provide social amenities and create employment opportunities in rural areas.

- b. Encourage mechanized agriculture in order to raise income.
 - c. Force the young rural people to stay, by warning them about the problems in the cities
 - d. Lower the level of education in rural area and increase qualifications for employment.
- 5) The consequences of the rural-urban drift are seen in the above passage as being
- a. Useful to the cities and not to the rural area.
 - b. A natural occurrence and sign of progress
 - c. A healthy economic phenomenon
 - d. Negative

SECTION B: LEXIS NAND STRUCTURE

In each of the following questions fill the gap with the most appropriate option from the list provided.

- 6) The old politicians were discredited because they tried to _____ the people's ignorance.
- a. Cash in on
 - b. Catch in with
 - c. Catch in on
 - d. Cash in with
- 7) The wanton display of riches _____ morals in our society.
- a. will be affecting
 - b. were affecting
 - c. are affecting
 - d. is affecting
- 8) My village is not far from here, it is only an _____
- a. Hour of driving
 - b. Hour drive

- c. Hours drive
 - d. Hour's drive
- 9) If you keep playing with the door handle, it will get _____
- a. Loose
 - b. Lose
 - c. Lost
 - d. Loosed
- 10) We recovered a lot of _____ from the warehouse.
- a. Furniture and equipments
 - b. Furniture's and equipments
 - c. Furniture and equipment
 - d. Furniture's and equipment

Choose the option **nearest in meaning** to the underlined word in each of the following sentences.

- 11) The musician's popularity is beginning to decline
- a. Change
 - b. Wane
 - c. Slide
 - d. Disappear
- 12) His boss was taken in by the report he gave
- a. won over
 - b. shocked
 - c. deceived
 - d. interested

Choose the option **opposite in meaning** to the underlined words in each of the following sentences.

13. Tim was one of the spectators at the concert.
- a. Ushers
 - b. Athletes

- c. Guests
 - d. Performers
- 14) The new students seem to be naturally taciturn
- a. Friendly
 - b. Garrulous
 - c. Cheerful
 - d. Lively

Choose the option that best conveys the meaning of the sentences below

- 15) The accounts clerk's appointment was terminated because he cooked the book
- a. falsified the account to his advantage
 - b. set fire to the accounts books
 - c. sold the books in his office to get money.
 - d. Destroyed the accounts books.

SECTION C: TEST OF ORALS

Choose the option that has the same vowel sound as the one represented by the underlined letter(s).

- 16) Chip
- a. Priest
 - b. Machine
 - c. Doctrine
 - d. Slime

- 17) Fuuss
- a. Cot
 - b. Some
 - c. Soup
 - d. Troop

Choose the options that has the same consonant sounds as the one represented by the underlined letter(s)

18) Sing

- a. Girl
- b. Moon
- c. Sink
- d. Fog

19) Measure

- a. Gentle
- b. Encourage
- c. Gymnastics
- d. Camouflage

Select the word that has the same pattern of stress as the given word.

20) Injustice

- a. Compassion
- b. Understand
- c. Confidence
- d. guarantee

UNIVERSITY OF LAGOS

POST UTME TEST

BATCH 'D' (ARTS GROUP)

2006/2007

INSTRUCTION: Answer QUESTIONS from ENGLISH LANGUAGE and THREE (3) other subjects (A Total of 80 Questions)

ENGLISH LANGUAGE

SECTION A: COMPREHENSION

Read the passage below carefully and answer the questions that follow.

To listen properly is hard job, and probably one of the toughest skills in the art of communication. Good listening has nothing to do with proper functions of one's auditory organs, which is assumed to be inevitable. Good listening, in the sense we are interested in, is not a biological factor, but a psychological one.

Your auditory organ may be in perfect order, when actually you cannot use them creatively. Creative listening implies you are efficient in the art of concentration, in other words, you concentrate on what one is saying, So as to make sure that you hear all that is said. At the same time as you are concentrating to hear all what is being said, you are also thinking fast, digesting what is being said, allowing your mental faculties and your memory, to accept that which you do not understand and storing them somewhere in your brain for future discussion, and all at the same time, rationalizing what you hear accepting that which you find rational and rejecting that which you do not find rational.

After you must have listened creatively to what you have been told, then you respond if the need arises. It is quite proper that you respond, because the process of response enhances the art of communication. But your response ought to be only a necessary response; a response that will improve your understanding. This response should involve your mentioning some of those things you have been told but which you do not understand, or politely questioning the rationality of some of the speaker's argument. But your response must be constructive – must enhance communicative worth. It should not be an unnecessary argument, or an opportunity

for you to express dissatisfaction or disaffection. The ability to listen properly aids communication and understanding.

- 1) The passage says that:
 - a. There are many skills of communication of which listening is one
 - b. The art of listening is the toughest of all communication skills
 - c. Good listening depends on perfect functioning of the auditory organs
 - d. Good listening needs form a training

- 2) Creative listening involves all the following EXCEPT
 - a. Efficient concentration
 - b. Making sure that what the speaker is saying is audible
 - c. That the listener must be able to think fast
 - d. That there must be a coordination of all the objective facilities

- 3) Creative listening implies all EXCEPT
 - a. A critical enterprise
 - b. An uncompromising rejection of the speaker's argument
 - c. Some argument with the speaker
 - d. A great deal of discipline

- 4) The tone of the passage is
 - a. Sermonizing
 - b. Pleading
 - c. Argumentative
 - d. Analytical

- 5) A most suitable title for the passage is
 - a. How to listen attentively
 - b. Listening in communication
 - c. Listening, argument and understanding
 - d. Understanding.

SECTION B: LEXIS AND STRUCTURE

In each of the following questions fill the gap with the most appropriate option from the list provided.

- 6) My pair of trouser _____ torn
- Are
 - Were
 - Is
 - Be
- 7) He bade them _____ to his house
- Welcome
 - To be welcome
 - To have been welcome
 - Welcome
- 8) Some women think that _____ are potentially a treat to their marriage
- Parents-in-law
 - Parent-in-laws
 - Parents-in-laws
 - Parent-in-law
- 9) The referee had hardly blown the whistle _____ the captain scored the first goal
- When
 - Than
 - But
 - That
- 10) As a result of the injury sustained on the field, Segun was _____ with a broken leg.
- Laid down
 - Lain out
 - Laid off
 - Laid up

Choose the option nearest in meaning to the underlined word

- 11) In some parts of our country, people are ostracized purely on the basis of their parentage
- Hated
 - Disrespected
 - Shut off from others
 - Abandoned
- 12) It is sheer foolhardiness for unarmed policemen to pursue robbers.
- Bravery
 - Stupidity
 - Foolish risk taking
 - Foolishness

Choose the option opposite in meaning to the underlined word.

- 13) He is loved for his altruism
- Selflessness
 - Selfishness
 - Sincerity
 - Kindness
- 14) Politicians and holders of political appointments are generally assumed to be cunning.
- Crafty
 - Deceitful
 - Guileless
 - Astute

Choose the option that best conveys the meaning of the sentence below.

- 15) Victor will not attend the dinner party tonight: he is afraid of his own shadow.
- Attending another party
 - Unable to forget his fears
 - Unhappy with his assigned role
 - Scared of imaginary things

SECTION C: TEST OF ORALS

Choose the option that has the same vowel sound as the one represented by the underlined letter.

16) Caught

- a. Face
- b. Catch
- c. Glory
- d. Cut

17) Burst

- a. World
- b. Cure
- c. Guessed
- d. Flask

Choose the option that has the same consonant sound as the one represented by the underlined letter.

18) Catch

- a. Character
- b. Choir
- c. Sachet
- d. Search

19) Hair

- a. Heir
- b. History
- c. Photo
- d. Honour

Select the word that has the same pattern stress as the given word.

20) Impossible

- a. Comfortable
- b. Temperature

- c. Education
- d. Supremacy

UNIVERSITY OF LAGOS

POST UTME TEST

BATCH 'D' (BIOLOGICAL SCIENCE GROUP)

2006/2007

INSTRUCTION: Answer QUESTIONS from ENGLISH LANGUAGE and THREE (3) other subjects (A Total of 80 Questions)

ENGLISH LANGUAGE

SECTION A: COMPREHENSION

Read the passage below carefully and answer the questions that follow.

I am always amazed when I hear people saying that sports creates goodwill among nations, and that if only the common peoples of this world could meet one another at football or squash, they would have no inclination to meet on the battlefield. Even if one did not know from concrete examples (the 1936 Olympic Games for instance) that international sporting contests lead to orgies of hatred, one could deduce it from general principles.

Nearly all the sports practiced nowadays are competitive. You play to win, and the game has little meaning unless you do your utmost to win. On the village green, where you pick up sides and no feeling of local patriotism is involved, it is possible to play simply for the fun of it and exercise; but as soon as the question of prestige arises, as soon as you feel that you and some unit will be disgraced if you lose, the most savage combative instincts are aroused. Anyone who has played even in a school football match knows this. At the international level, sport is frankly a mimic warfare; and, behind the spectators, of the nations who work themselves into furies over these absurd contests and seriously believe at any time for sport periods—that running, jumping, and kicking a ball are tests of national virtue.

Even a leisurely game demanding grace rather than a strength can cause much ill will. Football, a game in which everyone gets hurt and every nation has its own style of play is far worse. Worst of all is boxing. One of the most horrible sights in the world is a fight between white and coloured boxers before a mixed audience.

- 1) The 1936 Olympic Games was cite in the passage as an example to show that sports can
 - a. Lead to excessive hatred
 - b. Create goodwill among nations
 - c. Generate feeling of national prestige
 - d. Make people meet on the battlefield.

- 2) According to the passage
 - a. All the sports practiced nowadays are competitive
 - b. Games have meaning only when the participant plays to win
 - c. It is possible to play a game simply for the fun of it
 - d. It is a game in which both players get hurt rather badly.

- 3) Boxing is regarded as the worst game, according to the passage because
 - a. Of the behaviour of the boxers themselves
 - b. Of the amount of ill-will that can be generated among spectators of different races
 - c. Of the ill-will that can be generated by a game that demands
 - d. It is a game in which both players get hurt rather badly.

- 4) Which of the following statements is true according to the passage?
 - a. Running, jumping, and kicking a ball are test of national virtue
 - b. At the national level, sport is frankly a mimic warfare
 - c. The most savage combative instinct are aroused by anyone who has played in a school football match.
 - d. Nations work themselves up because they tend to believe that sports are tests of national virtue.

- 5) "Mimic" as used in the passage means
 - a. Comic
 - b. Imitated
 - c. Silent
 - d. Practiced

SECTION B: LEXIS AND STRUCTURE

In each of the following questions fill the gap with the most appropriate option from the list provided.

- 6) I can quickly recite the National Anthem _____ now.
- Off head
 - Off by heart
 - At hand
 - Off head
- 7) The boy thought that driving a car was not _____ dangerous than riding a bicycle.
- Any more
 - So very
 - Particularly
 - Any
- 8) The preacher spoke _____ about the disturbing level of immorality in society.
- At great length
 - At a great length
 - A great length
 - For a great length
- 9) The hotel _____ is at Wurno Road.
- In where I am staying
 - At which I am staying
 - Which I am staying
 - That I am staying
- 10) He got to class five minutes after the lesson _____
- Has began
 - Has begun
 - Had begun
 - Had began

Choose the option nearest in meaning to the underlined word in each of the following sentences

11) The task was herculean.

- a. Irregular
- b. Demanding
- c. Stimulating
- d. Related

12) One of the surest ways to ensure good health is to have a wholesome and adequate diet.

- a. Palatable
- b. Delicious
- c. Energy giving
- d. Health giving

Choose the option opposite in meaning to the underlined words in each of the following sentences.

13) The debtor's husband is liable for his wife's debts.

- a. Responsible
- b. Unquestionable
- c. Unanswerable
- d. Accountable

14) The deafening noise of the two jet planes which flew across our compound yesterday made people fear that an assault on the country might be imminent

- a. Remote
- b. Impending
- c. Threatening
- d. Eminent

Choose the option that best conveys the meaning of the sentence below

15) The new religious leader hand-out an olive branch.

- a. Gives out branches of the Olive tree
- b. Challenges his opponents to fight
- c. Sues for peace
- d. Blesses his congregation

SECTION C: TEST OF ORALS

Choose the option that has the same vowel sound as the one represented by the underlined letter(s).

16) Afford

- a. Nursing
- b. Motor
- c. Stroll
- d. Caution

17) Bean

- a. Miss
- b. Train
- c. Yield
- d. Earn

Choose the option that has the same consonant sounds as the one represented by the underlined letter(s).

18) Ash

- a. Missing
- b. Matching
- c. Mention
- d. Massive

19) Froze

- a. Seizure
- b. Mansion
- c. Based
- d. Houses

Select the word that has its primary stress on the second syllable.

20)

- a. Criticism
- b. Enormity
- c. Temporary
- d. Guarantee

UNIVERSITY OF LAGOS

POST UTME TEST

BATCH 'B' (ARTS GROUP)

2006/2007

INSTRUCTION: Answer QUESTIONS from ENGLISH LANGUAGE and THREE (3) other subjects (A total of 80 Questions)

THE ENGLISH LANGUAGE

SECTION A: COMPREHENSION

Read the passage below carefully and answer the questions that follow.

In the past, various types of diseases and natural disasters checked population growth in many countries. At that time, man had not learnt to till the soil sufficiently to improve and increase her yield. Man was unable to do much to conquer these diseases; and natural disasters were regarded as a curse of the gods for which man had no answer. Thus, famine, diseases and natural disasters remained a nightmare to mankind.

With the present developments in technology and modern agriculture, one would have thought that the problem of starvation should have been solved. But starvation still stares man in the face. Thus increase in population now account for the consequent scarcity of food experienced in many parts of the world. However, in some countries, man's advancement in technology and medicine has rapidly increased the population while improved methods of agriculture and food preservation have caused a steady rise in food production. Also man can now effectively prevent and cure most diseases in the world.

Unfortunately, the working population engaged in agriculture is so small that it cannot produce enough to satisfy the gaping mouths to be fed. In various parts of the world, man has engaged himself in various jobs in order to adjust the food production to match the growing population of his zone, but population growth continues to outstrip food production measures. Incidentally, the source of food and food preservation measures can be limited unlike population growth which may not be effectively checked. Perhaps the only effective check to

population explosion may be the drastic birth control measures. But many religious sects, the world over, are opposed to many of these birth control measures.

- 1) In this passage, 'nightmare' means
 - a. A terrifying or deeply distressing dream
 - b. Natural disaster
 - c. All those hazards which made life hideous
 - d. A curse

- 2) Natural disasters were regarded as a curse of the gods on mankind because man
 - a. Had no satisfactory solution to natural disaster
 - b. Had not learnt to till the soil sufficiently
 - c. Was suffering from the woes pronounced on mankind by the gods
 - d. Could not send a reply to the gods

- 3) "But starvation still stares man in the face" means starvation
 - a. Looks at the face of man
 - b. Is inevitable to man
 - c. Flies in the face of man
 - d. Still afflicts man

- 4) The working population engaged in agriculture cannot feed the teeming population sufficiently because
 - a. There are gaping mouths to be fed
 - b. They do not produce what they like to eat
 - c. There are not enough people engaged in tilling the soil
 - d. Improved methods of agriculture have not brought about a significant increase in food production.

- 5) Drastic birth control measures may not be effective checks to population explosion since many religious sects
 - a. Are disinclined to oppose their use
 - b. Object to use of many of them
 - c. Are disinclined to accept them for use
 - d. Want the control measures applied

SECTION B: LEXIS AND STRUCTURE

In each of the following questions fill the gap with the most appropriate option from the list provided.

- 6) After weeks of bargaining they _____ a deal worth millions.
- Made up
 - Brought off
 - Went in
 - Turned about
- 7) It is high time we
- Go
 - Are going
 - Ought to go
 - Went
- 8) The house is a winner
- You can take that from me
 - You can say I say so
 - It is my word against theirs
 - It is my word against theirs'
- 9) _____ are good friends
- I and he
 - I and him
 - He and I
 - He and me
- 10) Journalists always collect and publish _____
- Information
 - An information
 - Some information
 - Informations

Choose the option nearest in meaning to the underlined word

- 11) I would not like you to do the work piecemeal.
- At meal time

- b. Bit by bit
- c. Badly
- d. As a masterpiece
- e. As a masterpiece

12) This is an abridged edition of Oliver Twist

- a. Reprinted
- b. Enlarged
- c. Shortened
- d. Extinct

Choose the option **opposite in meaning** to the underlined word.

13) The increase in transport fare deterred our club from planning a picnic for the festive season.

- a. Deferred
- b. Encouraged
- c. Irritated
- d. Restricted

14) The Governor upheld the decision of his cabinet.

- a. Supported
- b. Espoused
- c. Overruled
- d. Accepted

Choose the option that best conveys the meaning of the underlined expression

15) The convict said he was tired of leading a dog's life.

- a. In misery
- b. In disgrace
- c. In poverty
- d. Carelessly

SECTION C: TEST OF ORALS

Choose the option that has the same vowel sound as the one represented by the underline letter.

16) Good

- a. Door
- b. Full
- c. Store
- d. Womb

17) Hope

- a. Pasture
- b. Hall
- c. Brooch
- d. Cot

Choose the option that has the same consonant sound as the one represented by the underlined letter.

18) Southern

- a. North
- b. South
- c. Earth
- d. Whether

19) Price

- a. Philosophy
- b. Psychology
- c. Physics
- d. Reporter

Select the word that has its primary stress on the third syllable.

20)

- a. Reinstate
- b. Represented
- c. Occupy
- d. Aggressive

UNIVERSITY OF LAGOS

POST UTME (2007/2008)

THE ENGLISH LANGUAGE (SCIENCE BASED)

Read the following passage carefully and answer the question that follows it:

Whenever I told people that I was going to the psychiatric hospital, Yaba in Lagos. Many of them looked at my face with some kind of suspicion or sympathy. At least that was the message that I read from their faces.

I understood suspicion to mean that they might be troubled or worried if I had some psychiatric problem myself. Concerning the concept of sympathy, they might have thought that I had a patient that I went there to see or visit. How on earth they thought that way baffled me! In reality, the hospital was built for the care of people with some kind of psychiatric problem or another. Did it mean, then, that all persons that one found in the hospital in any given time had psychiatric problem? Or, could someone not go to the place for one thing other than seeking psychiatric assistance?

What might be responsible for this kind of attitude was the lack of education or precisely, good education. After all, education could help people to differentiate their right from the left hand! What such people might have done was to request to know what one was going there to do. Such a request would have solved the suspicion and sympathy problems.

- 1) The word them in the first paragraph belongs to the grammatical class of a
 - a. Noun
 - b. Verb
 - c. Adjective
 - d. Pronoun

- 2) To read from someone's face as used in the passage means
 - a. Understand
 - b. Guess

- c. Know
 - d. See
- 3) Sympathy, attributively means
- a. the show of concern of a sick people
 - b. that one must go to look after one that is sick
 - c. that the writer has a person in such a hospital
 - d. that one relation has just been very ill
- 4) Suspicion as used in the passage means
- a. introvert
 - b. suspect
 - c. introspect
 - d. extrovert
- 5) The statement 'How on earth they thought that way baffled me!' is a grammatical example of an
- a. Exclamation
 - b. Declarative
 - c. Imperative
 - d. Rhetorical

Fill in the gaps in the following passages appropriate

Central banks around the world intervened to the tune of one hundred and twenty billion dollars recently to shore up confidence in the global financial system as concern about a crunch in the credit market spread.

The United States federal reserve became the last Central Bank to make extra ___(6)___ available to the financial institution in the ___(7)___ market. In a statement made recently, the Federal Reserve said it was "providing liquidity to facilitate the orderly ___(8)___ of financial market" and offered to provide reserves "as necessary to promote a federal ___(9)___ rate close to its target of 5.25%.

- 6)
- a. Liquidity
 - b. Money

- c. Cash
- d. Facility

7)

- a. Lending
- b. Repurchase
- c. Credit
- d. Borrowing

8)

- a. Arrangement
- b. Issuance
- c. Purchase
- d. Functioning

9)

- a. Funds
- b. Money
- c. Liquidity
- d. Cash

In question 10, choose the option opposite in meaning to the word underline

10) Children at the age of ten are usually voracious

- a. Without appetite
- b. Very weak
- c. Very intelligent
- d. Very troublesome

In question 11, choose the option nearest in meaning to the word underlined

11) There was sporadic occurrences of small pox in the village

- a. Widespread
- b. Occasional
- c. Sparse
- d. Regular

Choose the option that gives the meaning nearest to that of the idiom underlined in the sentence in question 12

- 12) He had his fingers in every pie
- a. Told interesting story
 - b. Loved eating the pie
 - c. Was involved in everything
 - d. Baked all pies

In the next question, select the option that conveys the meaning of the sentence

- 13) She read the letter and her face fell.
- a. She read closely
 - b. She started crying
 - c. She was very surprised
 - d. She looked suddenly disappointed

Choose the best option that completes the sentence in question 14

- 14) To _____ Nigerians, corruption in high places is not strange
- a. We
 - b. Us
 - c. Ours
 - d. Ourselves

From the words letter A to D, choose the word that best completes the sentence in question

- 15) The guest speaker is about rounding _____ his speech
- a. Of
 - b. Off
 - c. Up
 - d. Down

UNIVERSITY OF LAGOS
POST UTME (2008/2009)

SECTION A: ENGLISH LANGUAGE

In question 1 to 10, choose the option nearest in meaning to the bold and underlined word(s) or phrase.

- 1) Ade hardly ever falls sick
 - a. Most often
 - b. Very seldom
 - c. Sometimes
 - d. Frequently

- 2) Janet will not attend the dinner party tonight. She is afraid of her own shadow
 - a. Attending another party
 - b. Not in the mood
 - c. Scared of imaginary things
 - d. Unhappy with his assigned role

- 3) The gallant soldiers met their waterloo at Philippi
 - a. Victory
 - b. Trouble
 - c. Happiest period
 - d. Defeat

- 4) He took exception to Ajuwa's remark
 - a. Was delighted at
 - b. Was excited by
 - c. Got demoralized by
 - d. Objected to

- 5) The new employee is so humble and friendly that will soon make himself popular
 - a. Welcomed and accepted
 - b. Hated
 - c. Estranged
 - d. Rejected

- 6) The manager often quarrels with his staff because he goes around with a chip on his shoulder
- Deformed shoulder
 - Readiness to be angered
 - Look of contempt
 - An air of superiority
- 7) Telling Ali to break his habit of coming late to work is like knocking your head against a brick wall.
- Asking him to beat you up
 - Making a fool of yourself
 - Making him break down at work
 - Trying the impossible
- 8) The roof of my bedroom fell in and knocked me out.
- Made me unconscious
 - Removed me
 - Flattered me
 - Killed me
- 9) It is futile trying to make bricks without straw
- Fragile
 - Important
 - Bad
 - Vain
- 10) Some workers went on rampage at a trade fair.
- Turned violent
 - Were angry
 - Demonstrated
 - Climbed the ramp

In questions 11 to 18 choose the word(s) or phrase(s) which best fills the gap(s)

- 11) Owing to the constant harassment of the populace by armed robbers, all night guards have been instructed to shoot _____ every moving thing.

- a. Atsight
- b. Bysight
- c. In sight
- d. Off sight

12) My wife and I were to celebrate our silver anniversary last Sunday. Unfortunately on that _____ day.

- a. Fruitless
- b. Faithful
- c. Futile
- d. Fateful

13) The first graduation ceremony of the university was attended by men from all _____ of life.

- a. Works
- b. Areas
- c. Walks
- d. Parts

14) The child's recent training has not been very effective, he is likely to _____ to his old habit.

- a. Revert
- b. Convert
- c. Reverse
- d. Revise

15) The students went on whispering in _____ of the teacher

- a. Dishonour
- b. Disagreement
- c. Defiance
- d. Disobedience

16) You can never find Ugo, he is a very _____ person.

- a. Delusive
- b. Elusive
- c. Illusive
- d. Aversive

- 17) You could see that Uduak did not give the evidence _____
- a. Honestly completely
 - b. Completely honestly
 - c. Honest completely
 - d. Completely honestly

- 18) There was a _____ of steps
- a. Stair
 - b. Height
 - c. Flight
 - d. Climb

In questions 19 to 25, choose the option opposite in meaning to the underlined word or phrase

- 19) The noise of the fans unnerved the star player
- a. Calmed
 - b. Confused
 - c. Refreshed
 - d. Scared

- 20) We found a shady place for the display.
- a. An enclosed
 - b. A stuffy
 - c. An open
 - d. An unsafe

- 21) The player writhed in pain after the fall
- a. Cried out
 - b. Remained still
 - c. Walked out
 - d. Shook violently

- 22) The town was in such turmoil that the dance was called off.
- a. State of darkness
 - b. State of confusion

- c. Mourning state
- d. Peaceful state

23) The team got an ecstatic welcome from the crowd

- a. Joyous
- b. Excited
- c. Expected
- d. Cold

24) The flying Eagles put up a plucky defense against their opponents.

- a. Weak
- b. Strong
- c. Careless
- d. Cold

25) The injured man is determined to get back at his assailant

- a. Visit
- b. Forgive
- c. Identify
- d. Attack

UNIVERSITY OF LAGOS

POST UME (2008/2009)

SECTION A: ENGLISH LANGUAGE

Read the passage carefully and answer the questions that follow.

Like immigration or globalization, debating how Africa is reported is often a vexatious subject, it provides many people a good chance to enjoy an argument with a closed mind. Its either you come to the debate feeling that in spite of Sean MacBride's commission over two decades ago, all reports about Africa in the western media will continue to be about death, disease, despair and destruction; or you are asking whether this whole business is about Africans wanting a separate code of journalism that denies its own realities, Its black or white, and no room in between for any shades of grey.

Lack of context in reporting, which is perhaps the greatest culprit at the moment, is just as much a problem among African journalists covering Africa as it is among European journalists – or journalist anywhere for that matter – trying to understand why Josef Fritzl would lock up his daughter in a cellar for 24 years and father seven children by her without anyone finding out. (Taken from Azubike Ishiekwene, Viewpoint- Again the trouble with Africa)

- 1) According to the passage, a common problem for all journalist is
 - a. Globalization
 - b. Immigration
 - c. Lack of context in reporting
 - d. Despair and destruction

- 2) The passage gives the impression that the MacBride's commission presented Africa in _____ way
 - a. An unfavourable
 - b. A favourable
 - c. A non-committal
 - d. A confusing

- 3) This passage is about

- a. Africa journalism
- b. Josef Fritzl and his daughter
- c. Immigration and globalization
- d. Realities of reports about Africa

In each questions 4 to 7, choose the most appropriate option nearest in meaning to the bold and underlined word(s) or phrase.

- 4) Our new Vice-Chancellor has stepped off on the wrong foot.
- a. Injured his foot
 - b. Stepped on the wrongtoes
 - c. Made a costly mistake
 - d. Started off badly
- 5) Much to her chagrin, the bridegroom did not turn up for the wedding
- a. wonder
 - b. surprise
 - c. disappointment
 - d. depression
- 6) The chairman's reaction was a storm in a tea cup.
- a. Suitable for the occasion
 - b. Less serious than it appeared to be
 - c. More serious than necessary
 - d. Greatly diminished in scope
- 7) Do this job while I am away, but take your time.
- a. Be careful
 - b. Be thorough
 - c. Be fast
 - d. Don't be in a hurry

In question 8 to 11, choose the option opposite in meaning to the underlined word or phrase.

- 8) Good students can easily identify spurious arguments.

- a. Genuine
- b. Interesting
- c. False
- d. Illogical

9) The athlete's skin now looks flabby as a result of his changed circumstances.

- a. Oily
- b. Neat
- c. Firm
- d. Weak

10) We watched in wonder as she rattled away in the esoteric language.

- a. Inscrutable
- b. Familiar
- c. Secret
- d. Obscure

11) The masses are controlled by the whims and caprices of their rulers.

- a. Wish
- b. Parochialism
- c. Will power
- d. Level-headed

In questions 12 to 15, choose the word(s) or phrase(s) which best fill(s) the gap(s)

12) The out-going president warned his successor to beware of _____ who praise every action of government.

- a. Contractors
- b. Favourites
- c. Sycophants
- d. Enthusiasts

13) The man was advised in his own interest to _____ the statement he had made.

- a. Erase
- b. Cancel
- c. Remove

d. Retract

14) The lady is quite _____, besides being a lawyer, she is good in accounting, music and hat-making.

- a. Talented
- b. Versatile
- c. Skilled
- d. Wonderful

15) If only we _____, we could have overcome the difficulty.

- a. Had persevered
- b. Have preserved
- c. Had persevere
- d. Persevere

UNIVERSITY OF LAGOS

POST UTME 2010

ENGLISH LANGUAGE

SECTION 1

In the following passages the numbered gaps indicate missing words. Against each number in the list below, each passage five choices are offered in columns lettered A to E. For each question, choose the word that is the most suitable to fill the numbered gap in the passage.

PASSAGE A

Probably the motorist saw the __1__ lorry too __2__ to be able to __3__ disaster. However, he realized that if he kept to the __4__ a probably __5__ head on __6__ would be unavoidable. The only alternative was to take the lesser risk of leaving the road. With great care therefore, he turned sharply __7__ the road and into the ditch by the __8__. The consequence was that, instead of being involved in a serious and probably fatal __9__, the __10__ escaped with a few minor __11__ and bruises, while the only __12__ to his car was a bent mud guard. By __13__ into the roadside ditch to avoid what could have been a collision with the approaching lorry, he averted a __14__ accident at the __15__ of a few __16__ to himself and the slight damage to his car.

	A	B	C	D	E
1) Incoming		Oncoming	downcoming	offcoming	outcoming
2) Much		Early	soon	often	late
3) Avert		Revert	convert	averse	
reserve					
4) Road-side		Traffic	way	road	level-crossing
5) Slight		Fatalistic	fatal	mild	fantastic
6) Collision		Collusion	confusion	collation	coalition
7) Of		Off	up	over	through
8) Road		level-crossing	pavement	alley	road-side

9) Casualty	collusion	fall	accident	jump
10) Transporter	cyclist	driver	rider	motor-cyclist
11) Caught	cuts	cut	cult	carts
12) Damage	collision	accident	repair	fall
13) Swerving	jumping	hooting	speeding	accelerating
14) Huge	gigantic	big	notorious	serious
15) Expends expanse	expenses	expend	expense	
16) Injured	injuries	injury	injurious	injure

PASSAGE B

A hotel is supposed to be a home away from home, but the one we__17__was hell away from home. Initially, we were deceived by the beautiful surroundings and by the manger's_18_ which was warm and inviting. After the usual__19__and signing of forms, we were checked in. We later discovered, to our utter dismay, that the hotel__20__many facilities, and that the few available__21__were either faulty or_22_. The rooms were somehow tolerable, but there was something we could not manage, food. We complained. In fact, we are just to__23__alive since whatever was on the__24__gave no_25_. The service there was definitely_26_. By the time we were due to__27__the following day, everybody heaved a sigh of_28_.

Maybe I heard the manager say: "Did you__29__a nice stay?" and thinking he heard somebody say yes, he quickly added: "please__30__again."

	A	B	C	D	E
17) Moved into		checked	dropped	checked into	stood in
18) Reception		intention	rejection	conception	conviction
19) Feeling		filing	fill in	feel in	filling
20) Lacks		failed	lacked	lack	larks
21) One		ones	warns	warn	once
22) Unattractive		cheap	impressive	standardized	substandard
23) Stay		stand	stop	sit	stoop
24) Menu		list	paper	dish	table
25) Joy		sweetness	problem	fear	digestion

26) Opposing	appealing	appalling	appetizing	oppressing
27) Check in	check out	checkup	check into	check off
28) Release	reliefs	relives	relief	relieve
29) Had	have	hard	heard	has
30) See	try	come	return	drop

SECTION 2

In each of the following sentences, there is one word underlined and one gap. From the list of words lettered A to E, choose the word or group of words that is most nearly opposite in meaning to the underlined word and that will at the same time correctly fill the gap in the sentences.

- 31) Kunle purchased various articles at the big sale near Kingsway and surprisingly enough he _____ them all before he reached home that day.
- Destroyed
 - Bought
 - Sold
 - Distributed
 - Lent
- 32) In this argument, Folu was my supporter, even though he is often my _____ in other matter.
- Opponent
 - Ally
 - Opposition
 - Proposer
 - Opposite
- 33) People who are normally _____ often turn out to be dauntless heroes in the face of real danger.
- Unsteady
 - Colourless
 - Cowardly
 - Bashful
 - Unfriendly

- 34) I encouraged my younger brother to take on Law as a profession while I _____ my sister from doing so.
- Financed
 - Warned
 - Dissuaded
 - Persuaded
 - Helped
- 35) It is quite customary to introduce the guest speaker but _____ to insult him.
- Illegal
 - Impolite
 - Unusual
 - Useless
 - Pointless
- 36) Tayo was able to kindle the fire which my father had to _____ later.
- Kill
 - Switch
 - Extinguish
 - Destroy
 - Ignite

SECTION 3

After each of the following sentences, a list of possible interpretations of all or part of the sentence is given. Choose the interpretation that you considered appropriate for each sentence.

- 37) Mr John has always managed to keep his head above water.
- Keep his head above water when swimming
 - Like swimming
 - Known the technique of swimming
 - Stay out of financial difficulty
 - Borrow a large amount of money from the bank and he is trying to pay it.

- 38) The men eventually gained their freedom and decided later to get their own back on their oppressors.
- Strike
 - Have their revenge on
 - Abuse
 - Get something from
 - Beat up
- 39) He went off the rails as soon as he heard of his failure in the last examination.
- Became annoyed
 - Wept bitterly
 - Became disorganized
 - Became a man
 - Lost consciousness
- 40) She is eating her heart out for a sailor who is away at sea.
- Writing to
 - Longing for
 - Quarrelling with
 - Fuming about
 - Hating
- 41) How do you hope to do it? You can't make bricks without straw.
- Use straw for making bricks
 - Afford not to have all the necessary materials
 - Seek a leader
 - Find bricks and straw
 - Erect a brick without straws.
- 42) Mary's classmates agreed to send her to Coventry.
- Send her to the Coventry
 - Report her to the sisters at the convent
 - Ignore her
 - Train her to be the leader
 - Send her to the penitentiary

SECTION 5

From the words lettered A to E below each of the following sentences, choose the word or group of words that is nearest in meaning to the underlined expression as it is used in the sentence.

- 43) My choice of a partner would be based on character not looks.
- Visibility
 - Feasibility
 - Appearance
 - Stares
 - Posture
- 44) Ade is very winsome yet his neighbour finds it difficult to put up with him.
- Stay with
 - Live with
 - Tolerate
 - Depend on
 - Rely on
- 45) The girl has just come out of the fattening room and her waist is adorned with beads.
- Surrounded
 - Decorated
 - Besieged
 - Defaced
 - Bedraggled
- 46) There are some drugs that could exacerbate a particular illness.
- heal
 - ameliorate
 - lengthen
 - worsen
 - detect
- 47) in accordance with the practice of his religion, Raman's body was interred the day he died

- a. sanctified
- b. preserved
- c. cremated
- d. buried
- e. entered

48) what you cannot avoid you try to endure

- a. cast off
- b. put off
- c. dispense with
- d. practice
- e. tolerate

SECTION 5

From the words lettered A to D, choose the word or group of words, that best completes each of the following sentences.

49) Kate is a very good friend on _____ you can rely

- a. Who
- b. Whose
- c. Which
- d. Whom

50) You ought _____ the letter by now.

- a. To be sent
- b. To have being sent
- c. To have sent
- d. To have to send

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'A' (Science Based) 2004/2005

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

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'B' (Social Sciences) 2005/2006

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

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'C' Business Group 2005/2006

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

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'E' Physical Science Group 2006/2007

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

15. A
16. D
17. B
18. C
19. C
20. D

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'A' (Business Group) 2006/2007

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

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'D' (Arts Group) 2006/2007

1. A
2. B
3. B

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

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'D' (Biological Science Group) 2006/2007

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

- 18. B
- 19. D
- 20. B

UNILAG POST UTME TEST ENGLISH ANSWERS

BATCH 'B' (Arts Group) 2006/2007

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

UNILAG POST UTME TEST ENGLISH ANSWERS

SCIENCE BASED 2007/2008

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

7. C
8. D
9. C
10. A
11. C
12. C
13. D
14. B
15. C

UNILAG POST UTME TEST ENGLISH ANSWERS

08/09 (Begins with 'Ade hardly ever falls sick')

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

UNILAG POST UTME TEST ENGLISH ANSWERS

2008/2009 ('Like immigration' Passage)

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

UNILAG POST UTME TEST ENGLISH ANSWERS

POST UTME 2010

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

- 15. D
- 16. B
- 17. D
- 18. A
- 19. E
- 20. C
- 21. B
- 22. E
- 23. A
- 24. A
- 25. A
- 26. C
- 27. B
- 28. D
- 29. B
- 30. C
- 31. C
- 32. A
- 33. C
- 34. C
- 35. C
- 36. C
- 37. D
- 38. B
- 39. C
- 40. B
- 41. B
- 42. C
- 43. C
- 44. C
- 45. B
- 46. D
- 47. D
- 48. E
- 49. D
- 50. C

- 51. A

UNIVERSITY OF LAGOS

POST UME TEST

SECTION B

2004/2005

MATHEMATICS

1) Express $\frac{3s-1}{(s+1)(s-3)}$ as partial fractions

- a. $\frac{1}{(s+1)} + \frac{2}{(s-3)}$
- b. $\frac{1}{(s+1)} - \frac{2}{(s-3)}$
- c. $\frac{2}{(s+3)} + \frac{1}{(s-1)}$
- d. $\frac{1}{(s-1)} + \frac{2}{(s-3)}$

2) If $\frac{{}^n P_3}{{}^n C_2} = 6$, find the value of n

- a. 6
- b. 3
- c. 5
- d. 1

3) A steel ball of radius 1cm is dropped into a cylinder of radius 2cm and height 4cm. If the cylinder is now filled with water, what is the volume of the water in the cylinder?

- a. $\frac{44n}{3} \text{ cm}^3$
- b. $12\pi \text{ cm}^3$
- c. $\frac{40n}{3} \text{ cm}^3$
- d. $32\pi \text{ cm}^3$

4) PQRS is a cyclic quadrilateral with PQ as diameter of the circle. If $\angle PQS = 15^\circ$. Find $\angle QRS$.

- a. 75°
- b. 105°

- c. 90°
- d. 15°

5) If α and β are the roots of the equation $x^2 + 5x - 2 = 0$. Find the value of $\alpha^2 - \beta^2$

- a. $\sqrt{33}$
- b. -5
- c. $-5\sqrt{33}$
- d. $-5\sqrt{3}$

6) Divide $x^3 + 64$ by $x + 4$

- a. $x^2 + 4x - 16$
- b. $x^2 - 4x + 16$
- c. $x(4 - x^3)$
- d. $x^2 + 4x + 16$

7) Without any table simplify

$$\frac{\ln\sqrt{216} - \ln\sqrt{125} - \ln\sqrt{8}}{2(\ln 5 - \ln 3)}$$

- a. $\frac{3}{4}$
- b. $-2\sqrt{2}$
- c. $\ln 3$
- d. -3

8) The sum to infinity of a geometric progression is 100. Find its first term if the common ratio is $\frac{1}{4}$

- a. 75
- b. 70
- c. 65
- d. 60

9) Two distinct sectors in the same circle subtend 100° and 30° respectively at the centre of the circle. Their corresponding arcs are in the ratio

- a. 1:100
b. 3:1
c. 5:2
d. 10:3
- 10) Find X if $(X_{\text{base } 4}) = 100100_{\text{base } 2}$
a. 6
b. 100
c. 12
d. 210
- 11) The letters of the word "MATRICULATION" are cut and put into a box. Find the probability that a vowel would be drawn.
a. $\frac{7}{13}$
b. $\frac{3}{13}$
c. $\frac{6}{13}$
d. $\frac{4}{13}$
- 12) Given the following set of marks: 30, 34, 43, 47, 76, 54, 62, 59 and 67. Calculate the standard deviation
a. 14.40
b. 13.01
c. 14.00
d. 13.00
- 13) A sum of money invested at 5% per annum simple interest amounts to N285.20 after 3 years. How long will it take the same sum to amount to N434.00 at $7\frac{1}{2}\%$ per annum simple interest?
a. 10years
b. 12years 5month
c. $7\frac{1}{2}$ years
d. 4years

14) Given that $\frac{s+5}{(s-1)(s+2)} = \frac{P}{(s-1)} + \frac{Q}{(s+2)}$ where P and Q are constant, find the value of (P + Q)

- a. 1
b. 3
c. 2
d. 4

15) If $X = \{1, 2, 3, 4\}$ and $Y = \{3, 5, 6\}$, the elements of $(X \cap Y) \cup X$ are

- a. $\{1, 2, 3, 4\}$
b. $\{3, 5, 6\}$
c. $\{3\}$
d. $\{1, 2, 4\}$

UNIVERSITY OF LAGOS

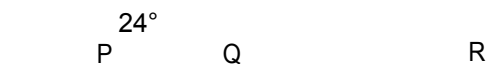
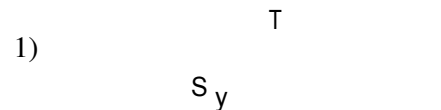
POST UME TEST

SECTION B

BATCH "E" (PURE SCIENCE GROUP)

2005/2006

MATHEMATICS



If PST is a straight line and $PQ = QS = SR$ in the figure above, find y.

- a. 24°
b. 48°
c. 72°

- d. 84°
- 2) The second term of an infinite geometric series is $-1/2$ and the third term is $1/4$. The sum of the series is
- 2
 - 1
 - $2/3$
 - $3/2$

- 3) Evaluate $\int_0^3 (1 + \sqrt{x} + x) dx$
- $\frac{15}{116}$
 - $\frac{2\sqrt{27}}{3} + \frac{9}{2}$
 - $\frac{15}{118}$
 - $\frac{118}{15}$

- 4) Resolve $\frac{(3s+2)}{(s-1)(s+5)}$ into partial fraction
- $\frac{3}{s-1} + \frac{2}{s+5}$
 - $\frac{3}{s-1} + \frac{2}{s+5}$
 - $\frac{6(s-1)}{6} + \frac{13}{6(s+5)}$
 - $\frac{3}{5(s-1)} + \frac{2}{13(s+5)}$

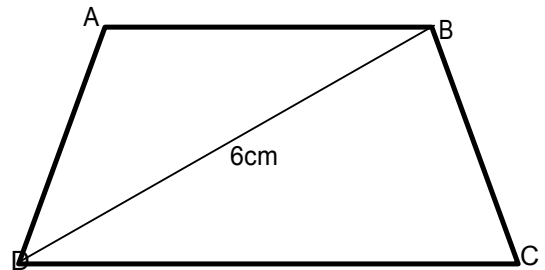
- 5) Let $g(x) = x + 5$ and $f(x) = \sqrt{x} - 1$, find $g \circ f(x)$
- $\sqrt{x} + 6$
 - $5 + \sqrt{x} + 1$
 - $6 + \sqrt{x}$
 - $\sqrt{x} - 6$

- 6) The angle of depression of a boat at sea from the top of a cliff is 72° . What is the angle of elevation of the top of the cliff from the boat?

- 18°
- 36°
- 72°
- 90°

- 7) The number of beans in a sample of six cocoa pods is 30, 29, 25, 28, 32 and 24. Calculate the standard deviation of the number of beans.
- 7.7
 - 3.2
 - 3
 - 2.8

- 8) In the figure below, ABCD is a trapezium such that $\angle ADB = \angle BCD$; $AB = 4\text{cm}$ and $BD = 6\text{cm}$. Calculate DC .



- 9cm
 - 8cm
 - 12cm
 - Insufficient information
- 9) In a right angle triangle, $\tan \theta = 4/3$, what is the value of $\sin \theta - \cos \theta$
- $1/5$
 - $1/4$
 - $1/3$
 - $5/12$

10) X sold an article to Y at a profit of 20%. Y then sold it to Z at a loss of 20% of what it cost him. What is the ratio of the final price to the original price?

- a. 25:36
- b. 5:7
- c. 4:5
- d. 24:25

11) Express 0.5489radian in degree, minutes and seconds.

- a. 31°26'50"
- b. 9°48'34"
- c. 9°34'48"
- d. 31°59'48"

12) By using the simultaneous equation $x - 2y = 4$ and $2x + y = 3$, determine the value of $x^2 - xy$.

- a. 2
- b. -1
- c. 6
- d. 3

13) Make P the subject of the formula:

$$\frac{p-q}{r} = \frac{t-p}{t}$$

- a. $\frac{t(q+r)}{r+t}$
- b. $\frac{t(r-q)}{r+t}$
- c. $\frac{r-t}{r(t-q)}$
- d. $\frac{r-t}{r-t}$

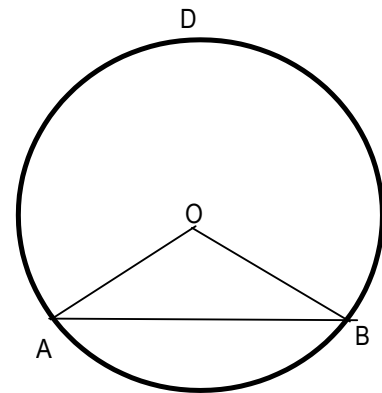
14) Write the expression as a single fraction:

$$\frac{2}{2s-3} + \frac{1}{\frac{2-s}{7}}$$

- a. $\frac{1}{(2s-3)(2-s)}$

- b. $\frac{4s+1}{(2s-3)(2-s)}$
- c. $\frac{1}{(2s-3)(2-s)}$
- d. $\frac{7-4s}{(2s-3)(2-s)}$

In the figure below, O is the centre of the circle ABCD. The radius of the circle is 7cm and /AB/ subtends angle 90° at the centre O. Use the figure to answer questions 15–17. Take $\pi = 22/7$.



15) The length of the arc AB is

- a. 630cm
- b. 11cm²
- c. 11cm
- d. 77cm

16) Area of sector OAB is

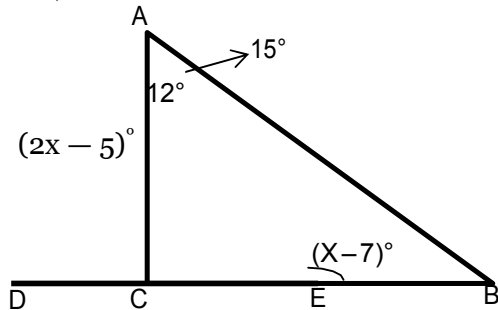
- a. 38.5cm²
- b. 38.5cm
- c. 25.5cm
- d. 24.5cm²

17) The perimeter of shaded segment AOB to 1 d.p. is

- a. 25.0cm

- b. 20.9cm
- c. 25.0cm²
- d. 20.9cm²

18)



In the diagram BECD is a straight line. $\angle ABE = (x - 7)^\circ$, $\angle BAE = 15^\circ$, $\angle EAC = 12^\circ$ and $\angle ACD = (2x - 5)^\circ$. Calculate X° .

- a. 15°
- b. 25°
- c. 21°
- d. 10°

19) Simplify $3 - 2 \div \frac{2}{5} + \frac{1}{2}$

- a. $1\frac{3}{4}$
- b. $-\frac{3}{2}$
- c. $13/10$
- d. 1

20) Given that $V = \frac{4nr^3}{3}$ and $A =$

- $4nr^2$, find $\frac{dA}{dV}$
- a. $32r^3$
 - b. $2r$
 - c. $2/r$
 - d. $-2/r^2$

UNIVERSITY OF LAGOS

POST UME TEST

BATCH 'B' (NON SCIENCE BASED)

2005/2006

MATHEMATICS

1) A father is now three times as old as his son. Twelve years ago, he was six times as old as his son. How old are the son and the father now?

- a. 45 and 65
- b. 20 and 50
- c. 35 and 75
- d. 20 and 60

2) A teacher went to Kano for Y days with Y naira. For the first X days he spent X naira per day, the amount he has to spend per day for the rest of his stay is

- a. $\frac{Y(y-s)}{(y-s)}$ naira
- b. $\frac{1/y-Xs}{(y-s)}$ naira
- c. $\frac{y-Xs}{y-s}$ naira
- d. $\frac{(y-s)}{(y-s)}$ naira

3) Find the angle of slope of the straight line joining the points P(-3, 2) and Q(5, 5)

- a. 31°
- b. 41°
- c. 21°
- d. 20.5°

4) Find the 5th term in the binomial expansion of $(a + 2b)^8$

- a. $44Sa^5b^3$
- b. $40Sa^5b^3$
- c. $1120a^4 \cdot b^4$
- d. $44Sa^3b^5$

5) A pyramid is constructed on a cuboid. The figure has

- a. Twelve faces
- b. Sixteen edges
- c. Thirteen vertices
- d. Fifteen edges

6) Find the exact value of $\tan 345^\circ$

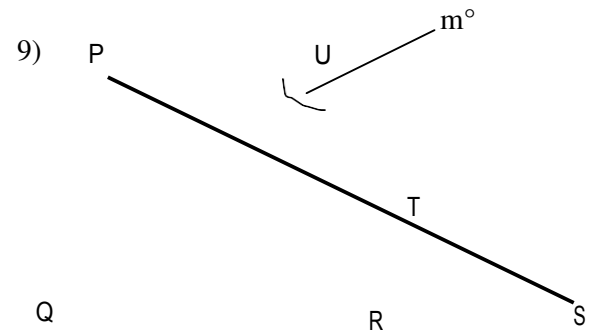
- a. $-\sqrt{3}$
- b. $-2 + \sqrt{3}$
- c. $1 + \sqrt{3}$
- d. $-2 - \sqrt{3}$

7) Evaluate $\int (x^3 + 1)^4 3x^2 dx$

- a. $x^3 + 1 + C$
- b. $(x^3 + 1)^4$
- c. $1/5(x^3 + 1)^5 + C$
- d. $1/4(x^3 + 1)^4$

8) Evaluate $3 + 4x = 27$

- a. 3
- b. $4 m^\circ$
- c. 2
- d. 6



In the diagram, PQRTU is a circle. $\angle ST = \angle RS$ and $\angle TRS = 52^\circ$. Find the angle marked m.

- a. 116°
- b. 64°
- c. 52°
- d. 104°

10) The quadratic equation whose roots are $(1 - \sqrt{13})$ and $(1 + \sqrt{13})$ is

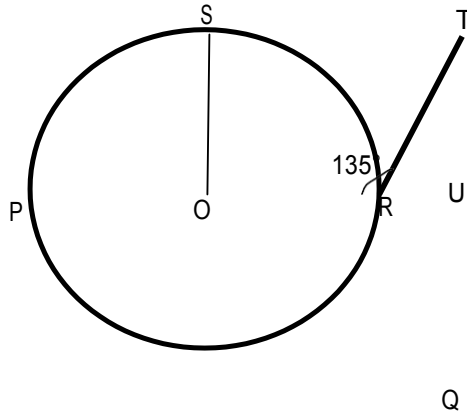
- a. $x^2 + 11x + 1 = 0$
- b. $x^2 - 2x + 12 = 0$
- c. $1 + 2x + 12 = 0$
- d. $x^2 - 2x - 12 = 0$

11) Find the value of x for which

$$2 \leq \frac{2x+3}{5} \leq 3 \text{ hold}$$

- a. $1 < x < 2$
- b. $7/2 < x < 6$
- c. $1 < x < 3/2$
- d. $x < 1/3$

12)



In the figure above, O is the centre of QRS and PS//RT. If $\angle ORT = 135^\circ$. Then $\angle PSO$ is

- a. 90°
- b. 45°
- c. 35°
- d. 15°

13) If $g(x) = 2x + 3$ and $f(x) = \sin^2x$. Find $g[f(x)]$

- a. $2\sin^3x + 3$
- b. $2\sin x + 3$
- c. $2\sin^2x + 3$
- d. $4\sin^2x + 3$

14) Simplify $\frac{s^2 - y^2}{s^2 + sy}$

- a. $\frac{s+y}{s-y}$
- b. $\frac{s}{s+y}$
- c. $\frac{s}{s-y}$
- d. $\frac{s}{y+1}$

15) Find the non-zero positive value of x which satisfies the equation

$$\begin{vmatrix} x & 1 & 0 \\ 1 & x & 1 \\ 0 & 1 & x \end{vmatrix} = 0$$

- a. 2
- b. $\sqrt{3}$
- c. $\sqrt{2}$
- d. 1

UNIVERSITY OF LAGOS

POST UME TEST

BATCH 'A' (BG)

2006/2007

MATHEMATICS

1) Find the quadratic equation whose roots are $\log_2 4$ and $\log_2 1/2$

- a. $x^2 - x - 2 = 0$
- b. $x^2 - 3x - 4 = 0$
- c. $x^2 - 3x + 4 = 0$
- d. $x^2 + x - 2 = 0$

2) If the second term of a geometric progression is 4 and the fifth term is $1/6$, the seventh term is

- a. $1/4096$
- b. $1/256$
- c. 4096
- d. $\frac{\sqrt[3]{24}}{144}$

3) The maximum value of the function of $y = 2 + 3x - 4x^2$ is

- a. $-23/16$
- b. $5/15$

- c. 41/6
- d. 59/16

- b. 250km
- c. 300km
- d. 200km

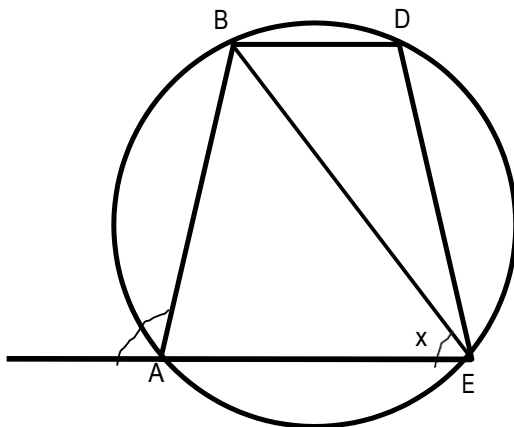
4) If $(2x - k)dx = 8$, calculate the value of k

- a. -3
- b. 2
- c. 3
- d. 0

7) $[5/6]x = 1/2$, find the value of x

- a. 0.63
- b. 0.43
- c. 0.60
- d. 0.33

5) ABDE is a circle and chord AE = chord DE. Calculate the value of x



- a. 50°
- b. 20°
- c. 40°
- d. 60°

8) Find the equation of the line passing through the point (2,5) and perpendicular to the line $y + 2z - 5 = 0$.

- a. $2y - x - 8 = 0$
- b. $y - 2x - 1 = 0$
- c. $y - 2x - 8 = 0$
- d. $2y - x + 8 = 0$

9) The line $2y - 3x + 2 = 0$ is perpendicular to the line

- a. $y + 3x - 3 = 0$
- b. $y - 3x + 1 = 0$
- c. $y + 3x + 4 = 0$
- d. $3y + 2x + 1 = 0$

10) Find the area enclosed between the line $y = 12x$ and the curve $y = 6x^2$

- a. 6sq.units
- b. 5sq.units
- c. 4sq.units
- d. 24sq.units

6) An airplane flies 100km on a bearing of 330° and then flies 300km due West. How far west of the starting point is the plane?

- a. 400km

11) The gradient of the curve $y = x^2 - 4x$ at the point (2,10) is

- a. 0
- b. 8
- c. 12

d. 24

12) A point on a curve at which

- a. A
- b. S
- c. A
- d. S

13) Find the non-zero positive value of x which satisfies the equation

$$\begin{vmatrix} 1 & x & 1 \\ 0 & 1 & x \end{vmatrix} = 0$$

- a. 2
- b. $\sqrt{3}$
- c. $\sqrt{2}$
- d. 1

14) If the line $y = px + q$ is to meet the curve $x^2 + y^2 = 2$ at two distinct points, then

- a. $q^2 \in 2(p^2 + 1)$
- b. $q^2 \geq 2(p^2 + 1)$
- c. $q^2 \in 2(p^2 - 1)$
- d. $q^2 \geq 2(p^2 - 1)$

15) Given that the following simultaneous equations are in base 6.

$$12x + 4y = 244$$

$$x + y = 25$$

Then the values of x and y in base 6 are repeatedly given as

- a. (13,14)
- b. (13,12)
- c. (12,13)

d. (14,13)

16) A sector of a circle radius 12cm is folded to form a circular cone. If the angle of the sector is 135° , find the base radius of the cone.

- a. 13cm
- b. $4\frac{1}{2}$ cm
- c. 54cm
- d. 6cm

17) Solve the equation $4\sin\theta - 1 = -3$ for $0^\circ < \theta < 360^\circ$

- a. 210° or 330°
- b. 30° or 150°
- c. 240° or 300°
- d. 210° or 300°

18) Two solid cones are similar in shape. The surface area of the larger one is 16 times that of the smaller one. Find the volume of the bigger one if the smaller cone has a volume of 20cm^3 .

- a. 320cm^3
- b. 64cm^3
- c. 1280cm^3
- d. 80cm^3

19) Simplify $5/18 - 3/72$

- a. $17/4$
- b. $4/17$
- c. $17/72$
- d. $12/4$

20) Find n if $\log_2 4 + \log_2 7 - \log_2 n = 1$

- a. 10

- b. 14
- c. 27
- d. 28

UNIVERSITY OF LAGOS

POST UME TEST

BATCH 'B' (AG) (2006/2007)

MATHEMATICS

- 1) A graph obtained by plotting cumulative frequencies against their upper class boundaries is called
 - a. Frequency polygon
 - b. A percentile curve
 - c. A histogram
 - d. An ogive

- 2) If two samples consisting of 7 and 3 observations have mean x and y respectively, then the mean of the combined sample is
 - a. $\frac{3y+7s}{10}$
 - b. $\frac{7y+3s}{10}$
 - c. $\frac{7s-3y}{10}$
 - d. $\frac{4}{10}$

- 3) If $\begin{bmatrix} 3 & 1 \\ 2 & x \end{bmatrix} \cdot \begin{bmatrix} y & y \\ 10 & -10 \end{bmatrix} = \begin{bmatrix} 2 & 9 \\ -2 & 5 \end{bmatrix}$, find x and y
 - a. (2,9)
 - b. (6,9)
 - c. (-2,5)
 - d. (2,6)

- 4) The probability of a footballer being selected for a club team is 0.1 for a National team is 0.15 and for both is 0.925. What is the probability of his being selected for at least one of the teams?
 - a. 0.005
 - b. 0.125
 - c. 0.150
 - d. 0.375

- 5) Evaluate $\log_{\frac{2}{3}} \frac{4}{9}$
 - a. -2
 - b. $\frac{2}{3}$
 - c. $\frac{3}{-1}$
 - d. $\frac{2}{-4}$

- 6) The gradient of curve $x^2 - 2xy - 2y^2 - 2x = 0$ at the point (1,-4) is
 - a. $\frac{4}{3}$
 - b. $\frac{7}{1}$
 - c. $\frac{2}{4}$
 - d. $\frac{4}{9}$

- 7) All the plotted points on a scatter diagram lie almost on a straight line. Which of the following is correct about the distribution?
 - a. The distribution is negatively skewed
 - b. The distribution is positively skewed
 - c. The correlation coefficient will be almost zero
 - d. There is a linear association

8) The equation of circle with centre (-3,-2) and radius 4 units is

a. $x^2 + y^2 + 4x + 6y - 3 = 0$

$3 = 0$

b. $x^2 + y^2 + 6x + 4y - 3 = 0$

$3 = 0$

c. $x^2 + y^2 + 6x + 6y + 3 = 0$

$3 = 0$

d. $x^2 + y^2 + 6x - 6y - 3 = 0$

$3 = 0$

9) If $(3x-1)$ is a factor of the polynomial $f(x) = 4x^3 - 4x^2 - x + p$, find the value of constant P

a. 0

b. $17/27$

c. $-7/27$

d. $7/27$

10) Determine the turning point of the curve $4x^3 - 2x^2 - 2x$

a. (-5,-25)

b. (5,75)

c. (5,150)

d. $(\frac{1}{2}, -1)$

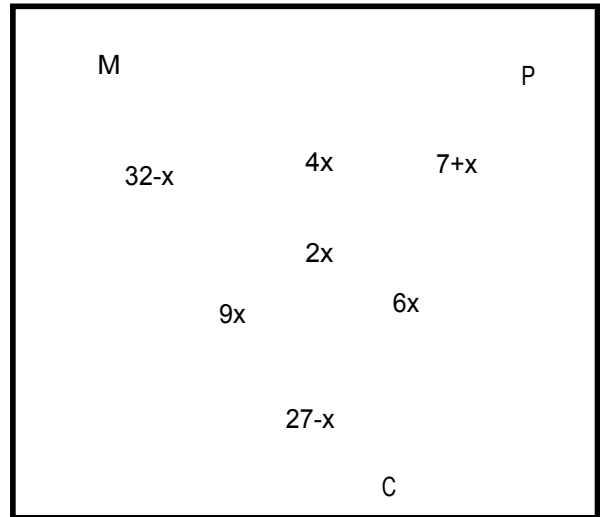
11) Which of the following is equivalent to $[P^n(QuQ^u)]$

a. P

b. P^u

c. Q

d. Q^u



The Venn diagram above shows the number of students offering Mathematics (M), Physics (P), and Chemistry (C) in a final year class in a secondary school. There are 166 students all together.

Use this information to answer question 12-15.

12) How many students offer both Mathematics and Chemistry

a. 30

b. 42

c. 55

d. 72

13) How many students offer at least either Physics or Chemistry?

a. 60

b. 85

c. 125

d. 139

14) How many students offer Mathematics, Physics and Chemistry?

- a. 10
- b. 20
- c. 105
- d. 125

15) How many students offer at least two of the three subjects?

- a. 85
- b. 100
- c. 105
- d. 125

16) Five years ago, a father was four times as old as his son. In five years' time, the father will be twice as old as the son. If p and q are the present ages of the father and son respectively, the equation relating p and q are?

- a. $p + 10 = q$
- b. $p + q = 10$
- c. $p - q = 10$
- d. $3p + 20 = 2q$

17) Find the roots of K for which $9x^2 + 24x - k$ has equal roots.

- a. 16
- b. 12
- c. 10
- d. -16

18) Given that α and β are the roots of the equation $3x^2 - 5x - 7 = 0$, find the roots of $\alpha^2 + \beta^2 - \alpha\beta$

- a. $-\frac{36}{9}$

- b. $\frac{4}{46}$
- c. $\frac{9}{88}$
- d. $\frac{9}{9}$

19) Find the number of years that the sum of money invested at compound interest at $6\frac{1}{2}\%$ p.a. will take to double itself.

- a. 13years
- b. 11years
- c. 17years
- d. 15years

20) Two towns P ($\theta^\circ\text{N}$, 7°E) and Q (0°N , 20°W) are separated by a distance of 200km, measured along the parallel of latitude. If $R = 6370\text{km}$ and $\pi = \frac{22}{7}$, the value of θ is

- a. 80.2°
- b. 85.1°
- c. 86.2°
- d. 89.7°

UNIVERSITY OF LAGOS

POST UME TEST

BATCH 'D' (BSG) (2006/2007)

MATHEMATICS

- 1) If $A = \begin{bmatrix} 2 & 1 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} -3 & 1 \\ -1 & 6 \end{bmatrix}$. What is $AB - BA$?
- $\begin{bmatrix} -4 & 7 \\ -29 & 4 \end{bmatrix}$
 - $\begin{bmatrix} -4 & -7 \\ 29 & 4 \end{bmatrix}$
 - $\begin{bmatrix} 4 & -7 \\ -29 & 4 \end{bmatrix}$
 - $\begin{bmatrix} -29 & 4 \\ 4 & -4 \end{bmatrix}$
- 2) A football team of 11 members is to be selected from 13 girls. In how many ways can this be done if any player can play any wing?
- 156
 - 71
 - 143
 - 78
- 3) If $\frac{h-2g}{2h+g} = \frac{2}{3}$ evaluate $\frac{h-g}{h+g}$
- $1\frac{4}{7}$
 - $1\frac{3}{7}$
 - $1\frac{2}{7}$
 - $1\frac{1}{7}$
- 4) If $P * N = P - N^P$ is a binary operation, evaluate $(3 * 2) - (4 * 5)$
- 615
 - 614
 - 1014
 - 616
- 5) A man spends $\frac{1}{20}$ of his income in travelling and $\frac{1}{12}$ of the remainder for insurance. If he then has \$418 left, what is his income?
- \$481.31
 - \$482.31
 - \$483
 - \$480
- 6) If $a = X^n$, then $\log_s X^n$ is
- n^2
 - n
 - n^{-1}
 - n^{-2}
- 7) The quadratic equation whose roots are $1 - \sqrt{13}$ and $1 + \sqrt{13}$ is
- $x^2 + (1 - \sqrt{13})x + \sqrt{13} = 0$
 - $x^2 + 2x + 12 = 0$
 - $x^2 - 2x + 12 = 0$
 - $x^2 - 2x - 12 = 0$
- 8) The sides of a triangle are $(x - 4)$ cm, x cm and $(x + 4)$ cm. If the Cosine of the largest angle is $\frac{1}{4}$, find the value of x .
- 24cm
 - 20cm
 - 28cm
 - $\frac{88}{7}$ cm
- 9) The expression $Px^2 - x + Q$ is divisible by $3x + 2$ and when divided by $x - 1$, the remainder is -5. Find the value of P and Q .
- 6, 2
 - 6, 2
 - 6, -2
 - 6, 2

10) Simplify $\frac{(2^{2x})^3 s (3^{3x})^2}{6^{6x}}$

- a. 2
- b. 1
- c. $\frac{2}{3^3}$
- d. $\frac{2s}{2s}$

11) Given that $p:q = \frac{1}{3} : \frac{1}{2}$ and $q:r = \frac{2}{5} : \frac{4}{7}$

find p:r

- a. 4:105
- b. 7:15
- c. 20:21
- d. 2:35

12) Find the value of y in $\sin(90^\circ - y) = \cos 70^\circ 31''$

- a. $72^\circ 31''$
- b. $17^\circ 29''$
- c. $107^\circ 29''$
- d. $1627^\circ 31''$

13) If α and β are the roots of the equation $3x^2 - 5x + 6 = 0$, find the value of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$

- a. $\frac{1}{9}$
- b. $\frac{11}{18}$
- c. $\frac{18}{-11}$
- d. $\frac{18}{9}$

14) If $e^s = 1 + x + \frac{s^2}{1.2} + \frac{s^3}{1.2.3} + \dots$

... Find $\frac{1}{e^x}$

- a. $1 - x + \frac{s^2}{1.2} - \frac{s^3}{1.2.3} + \dots$
- b. $1 - x + \frac{s^2}{1.2^2} + \frac{s^3}{1.2.3} + \dots$
- c. $1 + x + \frac{s^2}{1.2} - \frac{s^3}{1.2.3} + \dots$

d. $1 + \frac{s}{1} - \frac{s^2}{1.2} - \frac{s^3}{1.2.3} + \dots$

15) A sum of money was invested at 8% per annum simple interest. If after 4 years the money amounts to N330, find the amount originally invested

- a. N180
- b. N150
- c. N250
- d. N200

16) If $3^{2y} - 9 \cdot 3^y = 0$, find y

- a. 3
- b. 2
- c. -1
- d. -3

17) If the quadratic function $3x^2 - 7x + R$ is a perfect square, find R.

- a. $\frac{49}{24}$
- b. $\frac{49}{3}$
- c. $\frac{6}{49}$
- d. $\frac{49}{12}$

18) Find m such that $(m + \sqrt{3})(1 - \sqrt{3})^2 = 6 - 2\sqrt{3}$

- a. 1
- b. 2
- c. 3
- d. 4

19) Factorise completely $(z^2 - x^2) - (z + x)^2$

- a. $2(z + x)(z - x)$
- b. $-2x(z + x)$
- c. $(z + x)(z - x)$



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1.2 1.2.3

d. $-2(Z + x)(z - x)$

20) Weight (g)

Weight(g)	1-10	10-20	20-30	30-40	40-50
No of Coconuts	10	27	19	6	2

Find the mean weight of coconuts to 1 decimal places

- a. 19.2g
- b. 19.0g
- c. 19.8g
- d. 19.3g

- a. N36.00
- b. N136.00
- c. N1,036.00
- d. N1,136.00

3) Evaluate $\sqrt{20} \times (\sqrt{5})^3$

- a. 10
- b. 20
- c. 25
- d. 50

4) If $\sin y = 3/2$, then the value of y between 0° and 360° are?

- a. $30^\circ, 60^\circ$
- b. $30^\circ, 120^\circ$
- c. $30^\circ, 270^\circ$
- d. $60^\circ, 120^\circ$

UNIVERSITY OF LAGOS

POST UME TEST

SCIENCE BASED

MATHEMATICS

(2007/2008)

1) Find the reciprocal of $\frac{\frac{2}{3}}{\frac{1-1}{23}}$

- a. $\frac{1}{5}$
- b. $\frac{1}{4}$
- c. $\frac{1}{8}$
- d. $\frac{1}{7}$

2) Find the difference in cost per week between employing 20 women at a weekly wage of N230.00 each and 18 boys at a weekly wage of N198.00 each.

5) A pillar Y is 4km east of a pillar X while another Z is 4km south of Y on the same level ground. Find the bearing of Z from X.

- a. 45°
- b. 90°
- c. 120°
- d. 135°

6) What is the circumference of latitude 0°S if R is the radius of the Earth?

- a. $R\cos\theta$
- b. $2nR\cos\theta$
- c. $R\sin\theta$
- d. $2r\sin\theta$

7) The population of a village is 5846. Express this number to three significant figures.

-
- a. 5850
b. 5640
c. 5840
d. 585
- 8) Find the possible values of K for which $x^2 + 14x + k$ and $x^2 + 7x - 18$ will have a common factor.
a. 14,24
b. 24,35
c. -32,45
d. 14,25
- 9) Solve for x, if $\log_5(x + 2) + 3\log_5 2 = 2$
a. 1
b. $\frac{3}{21}$
c. $\frac{9}{2}$
d. $\frac{8}{9}$
- 10) If $\cos^2 x + \frac{1}{5} = \sin^2 x$, find $\sec x$
a. $\frac{J^2}{5}$
b. $\frac{J^5}{2}$
c. $\frac{J^3}{2}$
d. $\frac{2}{\sqrt{5}}$
- 11) The shares owned by Sola and Audu in a joint business are in ratio 5:8 respectively. Later Audu sold $\frac{1}{4}$ of his shares to Sola which amounted to N3,000. What is the worth of the business?
a. N39000
b. N19500
c. N15000
d. N14500
- 12) In an examination taken by 40 students, 27 passed Mathematics, 18 passed Physics, while 2 failed both Mathematics and Physics. How many students passed both subjects?
a. 3
b. 5
c. 7
d. 9
- 13) What is the equation of the line which passes through the points (2,5) and (5,-1)?
a. $y = 3x - 4$
b. $y + 2x = 9$
c. $2y + 2x + 9 = 0$
d. $y - 2x - 9 = 0$
- 14) Evaluate $2^{2s} + 4(2)^s - 32 = 0$
a. -81
b. 8
c. 2
d. None of the above
- 15) A 5m ladder placed on the wall of a building makes an angle of 60° with the horizontal ground. How far is the ladder from the base of the wall of the building?
a. 2.50m
b. 8.66m
c. 4.33m
d. None of the above

UNIVERSITY OF LAGOS

POST UME (2008/2009)

SECTION D: MATHEMATICS

- 1) The population of a village is 6538.
Express this number to three significant figures
 - a. 6540
 - b. 6538
 - c. 6530
 - d. 654
- 2) What must be added to expression $x^2 - 18x$ to make a perfect square?
 - a. 9
 - b. 36
 - c. 72
 - d. 81
- 3) A bricklayer measured the length of a wall to be 4.10m. if the actual length of the wall is 4.25m, find his percentage error.
 - a. 3.66%
 - b. 3.53%
 - c. 15%
 - d. 17%
- 4) A car is travelling at an average speed of 80kmhr^{-1} . Its speed in meters per second is
 - a. 13.3ms^{-1}
 - b. 22.2ms^{-1}
 - c. 133.3ms^{-1}
 - d. 222.2ms^{-1}
- 5) A cylinder of base radius 4cm is open at one end. If the ratio of the area of its base to that of its curved surface is 1:4, calculate the height of the cylinder.
 - a. 1cm
 - b. 2cm
 - c. 4cm
 - d. 8cm
- 6) The area of a parallelogram is 513cm^2 and the height is 19cm. calculate the base.
 - a. 13.5cm
 - b. 25cm
 - c. 27cm
 - d. 54cm
- 7) A headmaster contributes 7% of his income into a fund and his wife contributes 4% of her income. If the husband earns N5,500 per annum and the wife earns N4,000 per annum, find the sum of their annual contribution to the fund.
 - a. N1,045
 - b. N605
 - c. N545
 - d. N490
- 8) Factorize $2x^2 - 21x + 45$
 - a. $(2x - 9)(x - 5)$
 - b. $(2x - 15)(x + 3)$
 - c. $(2x + 15)(x - 3)$
 - d. $(2x - 15)(x - 3)$
- 9) A town P is on bearing 315° from town Q while town R is South of

town P and West of town Q. If town R is 60km away from Q, how far is R from P?

- a. 30km
- b. 42km
- c. 45km
- d. 60km

10) Thirty boys and X girls sat for a test.

The mean of the boy's scores and that of the girls were respectively 6 and 8. Find X if the total score was 468.

- a. 38
- b. 24
- c. 36
- d. 22

11) Ade and Uche can do a piece of work in 18days. Ade can do it alone in Xdays, whilst Uche takes 15days longer to do it alone. Which of the following equations describes X?

- a. $x^2 - 5x - 18 = 0$
- b. $x^2 - 20x + 360 = 0$
- c. $x^2 - 21x - 270 = 0$
- d. $2x^2 + 42x - 190 = 0$

12) What is the probability that a number chosen at random from the integers between 1 and 10 inclusive is either a prime or a multiple of 3?

- a. $\frac{7}{10}$
- b. $\frac{3}{5}$
- c. $\frac{4}{5}$
- d. $\frac{1}{2}$

13) A bag contains 4 white balls and 6 red balls. Two red balls are taken from the bag without replacement. What is the probability that they are both red?

- a. $\frac{1}{5}$
- b. $\frac{1}{3}$
- c. $\frac{2}{15}$
- d. $\frac{2}{9}$

14) If $y = \frac{x}{(x-3)} + \frac{x}{(x+4)}$. Find y when $x = -2$

- a. $-\frac{3}{5}$
- b. $\frac{3}{5}$
- c. $-\frac{7}{5}$
- d. $\frac{7}{5}$

15) A man invests a sum of money at 4% per annum simple interest. After 3years, the principal amounts to N7,000.00. Find the sum invested.

- a. N7,840.00
- b. N6,250.00
- c. N6,160.00
- d. N5,833.33

UNILAG POST UTME 2010

MATHEMATICS

1) Calculate $3310_5 - 1442_5$

- a. 1313_5
- b. 2131_5
- c. 4302_5
- d. 1103_5

2) Convert 3.1415926 to 5 decimal places

- a. 3.14160
b. 3.14159
c. 0.31415
d. 3.14200
- 3) The length of a notebook 15cm, was measured as 16.8cm. Calculate the percentage error to 2 significant figures.
- a. 12.00%
b. 11.00%
c. 10.71%
d. 0.12%
- 4) A worker's present salary is N24,000 per annum. His annual increment is 10% of his basic salary. What would be his annual salary at the beginning of the third year?
- a. N28,800
b. N29,040
c. N31,200
d. N31,944
- 5) Express the product of 0.0014 and 0.011 in standard form
- a. 1.54×10^4
b. 1.54×10^{-3}
c. 1.54×10^{-4}
d. 1.54×10^{-5}
- 6) Evaluate $\frac{(81)^{\frac{3}{4}} - (27)^{\frac{1}{3}}}{3 \times 2^3}$
- a. 27
b. 1
c. $\frac{1}{3}$
d. 10
- 7) Find the value of $(16)^{\frac{3}{2}} + \log_{10} 0.0001 + \log_2 32$
- a. 0.065
b. 0.650
c. 5.500
d. 65.00
- 8) Simplify $\frac{\sqrt[4]{12} - \sqrt[4]{3}}{\sqrt{12} + \sqrt{3}}$
- a. $\frac{1}{3}$
b. 0
c. -1
d. 1
- 9) Four members of a social first eleven cricket team are also members of the first fourteen rugby team. How many boys play for at least one of the two teams?
- a. 25
b. 21
c. 16
d. 3
- 10) If $S = \{x: x^2 = 9, x \in \mathbb{Z}\}$, then S is equal to
- a. 0
b. \emptyset
c. $\{\}$
d. $\{0\}$
- 11) If $x - 1$ and $x + 1$ are both factors of the equation $x^3 + px^2 + qx + 6 = 0$, evaluate p and q
- a. 6, -1
b. 6, 1
c. 1, -1
d. 6, -6

12) Find a positive value of p if the expression $2x^2 - px + p$ leaves a remainder 6 when divided by $x - p$.

- a. 1
- b. 2
- c. 3
- d. 4

13) Find T in terms of K , Q and S if

$$S = 2r\sqrt{\frac{QT + K}{S^2}}$$

- a. $\frac{2nr^2Q}{S^2} - \frac{Q}{k}$
- b. $\frac{4nr^2Q}{S^2} - \frac{Q}{k}$
- c. $\frac{2nr^2Q}{S^2} - K$
- d. $\frac{S^2}{2nr^2Q} K$

14) The graph of $f(x)^2 = x^2 - 5x + 6$ crosses the x -axis at the points

- a. $(-6, 0), (-1, 0)$
- b. $(-3, 0), (-2, 0)$
- c. $(-6, 0), (1, 0)$
- d. $(2, 0), (3, 0)$

15) Factorize completely the expression

$$abx^2 + 6y - 3ax - 2byx$$

- a. $(ax - 2y)(bx - 3)$
- b. $(bx + 3)(2y - ax)$
- c. $(bx + 3)(ax - 2y)$
- d. $(ax - 2y)(ax - b)$

16) Solve the following inequality $(x - 3)(x - 4) \leq 0$

- a. $3 \leq x \leq 4$
- b. $3 \notin x \notin 4$
- c. $3 \leq x \notin 4$
- d. $3 \notin x \leq 4$

17) The 4th term of an A.P is 13 while the 10th term is 31. Find the 21st term

- a. 175
- b. 85
- c. 64
- d. 45

18) Simplify $\frac{s^2 - 1}{s^3 - 2s^2 - s - 2}$

- a. $\frac{s+2}{s-1}$
- b. $\frac{s-1}{s+1}$
- c. $\frac{s-1}{s+2}$
- d. $\frac{1}{s-2}$

19) Express $\frac{5s - 12}{(s-2)(s-3)}$ in partial fractions.

- a. $\frac{3}{s-2} - \frac{3}{s-3}$
- b. $\frac{1}{s-2} + \frac{1}{s-3}$
- c. $\frac{1}{s-3} - \frac{1}{s-2}$
- d. $\frac{5}{s-3} - \frac{4}{s-2}$

20) Which of the following binary operations is commutative in the set of integers?

- a. $a - b = a - 2b$
- b. $a \cdot b = a + b - ab$
- c. $a - b = a^2 + b$
- d. $a \cdot b = \frac{a(b+1)}{2}$

21) If $a \times b = +\sqrt{ab}$, evaluate $2 \times (12 \times 27)$

- a. 12
- b. 9
- c. 6
- d. 2

22) Find the sum to infinity of the following sequence

$$1, \frac{9}{10}, \left(\frac{9}{10}\right)^2, \left(\frac{9}{10}\right)^3$$

- a. $\frac{1}{10}$
- b. $\frac{9}{10}$
- c. $\frac{10}{9}$
- d. 10

23) Find the value of K if

$$\begin{bmatrix} -2 & 1 & 1 \\ 2 & 1 & k \\ 1 & 3 & -1 \end{bmatrix} = 23$$

- a. 1
- b. 2
- c. 3
- d. 4

24) If $X = \begin{bmatrix} 1 & 2 \\ 0 & 3 \end{bmatrix}$ and $Y = \begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$ find XY

- a. $\begin{bmatrix} 10 & 7 \\ 4 & 17 \end{bmatrix}$
- b. $\begin{bmatrix} 12 & 9 \\ 2 & 7 \end{bmatrix}$
- c. $\begin{bmatrix} 10 & 4 \\ 4 & 3 \end{bmatrix}$
- d. $\begin{bmatrix} 4 & 6 \\ 4 & 3 \\ 10 & 9 \end{bmatrix}$

25) In a triangle XYZ, $\angle YXZ = 44^\circ$ and $\angle XYZ = 112^\circ$, Calculate the acute angle between the internal bisectors of $\angle XYZ$ and $\angle XZY$.

- a. 12°
- b. 56°
- c. 68°
- d. 78°

26) Find the distance between two towns P(45°N , 30°W) and Q(15°S , 30°W) if the radius of the earth is 7,000km. ($n = \frac{22}{7}$)

- a. $\frac{1,100}{3}$ km
- b. $\frac{2,200}{3}$ km
- c. $\frac{22,000}{3}$ km
- d. $\frac{11,000}{3}$ km

27) Two perpendicular lines PQ and QR intersect at (1, -1), if the equation of PQ is $x - 2y + 4 = 0$.

- a. $x - 2 + 1 = 0$
- b. $2x + y - 3 = 0$
- c. $x - 2y - 3 = 0$
- d. $2x + y - 1 = 0$

28) P is on the locus of points equidistant from two given points X and Y, UV is a straight line through Y parallel to the locus, if $\angle PYU = 40^\circ$, find $\angle XPY$.

- a. 100°
- b. 80°
- c. 50°
- d. 40°

29) The base diameter of a cylinder is 14cm while the height is 12cm. Calculate the total surface area if the cylinder has both a base and a top.

- a. 836cm^2
- b. 528cm^2
- c. 308cm^2

d. 154cm^2

30) A school boy lying on the ground 30m away from the foot of a water tank tower observes that the angle of elevation of a top of the tank is 60° . Calculate the height of the water tank.

- a. 60m
- b. 30.3m
- c. 20.3m
- d. 51.96m

31) QRS is a triangle with $QS = 12\text{m}$, $\angle RQS = 30^\circ$ and $\angle QRS = 45^\circ$. Calculate the length of RS.

- a. 18.2m
- b. 12.2m
- c. 8.49m
- d. 3.2m

32) The derivative of $\text{Cosec } x$ is

- a. $\text{Tan}x\text{Cosec}x$
- b. $-\text{Cot}x\text{Cosec}x$
- c. $\text{Tan}x\text{Sec}x$
- d. $-\text{Cot}x\text{Sec}x$

33) For what value of x is the tangent to the curve $y = x^2 - 4x + 3$ parallel to the x-axis?

- a. 3
- b. 2
- c. 1
- d. 0

34) Two variables x and y are such that

$$\frac{dy}{dx} = 4x - 3 \text{ and } y = 5 \text{ when } x = 2.$$

Find y in terms of x .

- a. $2x^2 - 3x + 5$
- b. $2x^2 - 3x + 3$
- c. $2x^2 - 3x + 2$
- d. $2x^2 - 3x + 4$

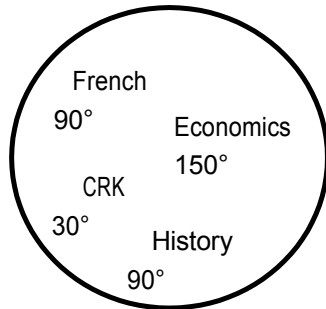
35) Find the area bounded by the curve $y = 3x^2 - 2x + 1$, the coordinates $x = 1$ and $x = 3$ and the x-axis

- a. 24
- b. 22
- c. 21
- d. 20

36) The frequency distribution below shows the ages of students in a secondary school. In a pie chart constructed to represent the data, the angle corresponding to the 15 year old is

Age in years	13	14	15	16	17
No. of students	3	10	30	42	15

- a. 20°
- b. 30°
- c. 54°
- d. 108°



- b. 6
- c. $\frac{5}{3}$
- d. 4

40) The variance of the scores 1, 2, 3, 4, 5 is

- a. 1.25
- b. 1.40
- c. 2.05
- d. 3.00

37) The pie chart above shows the distribution of students in a secondary school class. If 30 students offered French, how many offered CRK?

- a. 25
- b. 15
- c. 10
- d. 8

38) The mean and the range of the set of numbers 1.20, 1.00, 0.90, 1.40, 0.80, 1.20, and 1.10 are m and r respectively. Find $m + r$

- a. 1.11
- b. 1.69
- c. 1.85
- d. 2.45

Class	1-3	4 - 6	7 - 9
Frequency	5	8	5

39) Find the standard deviation of the data using the table above.

- a. 5

University of Lagos

Post ume test

Section B

2004/2005

Mathematics

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

University of Lagos

Post ume test

Section b

Batch "E" (pure Science Group)

2005/2006

- 1) C
- 2) C
- 3) J
- 4) C
- 5) $4 + \sqrt{x}$
- 6) C

- 7) A
- 8) D
- 9) A
- 10) D
- 11) A
- 12) C
- 13) A
- 14) C
- 15) C
- 16) A
- 17) A
- 18) B
- 19) $-1\frac{1}{2}$
- 20) $\frac{3}{r}$

University of Lagos

Post ume test

Batch "B" (Non Science Based)

2005/2006

MATHEMATICS

- 1) D
- 2) C
- 3) C
- 4) $(1120a^4b^4)$
- 5) B
- 6) B
- 7) C
- 8) $X=6$
- 9) A
- 10) D
- 11) B
- 12) B
- 13) C
- 14) $\frac{x^2-y^2}{x^2+xy} = \frac{(x+y)(x-y)}{x(x+y)} = \frac{x-y}{x} (B)$
- 15) C

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POST UME TEST

BATCH "A" (BG)

2006/2007

MATHEMATICS

- 1) A
- 2) $\frac{4}{24^{4/3}}$
- 3) C
- 4) $4\sqrt{2}$
- 5) Unclear Question
- 6) B
- 7) $X = 3/5$
- 8) A
- 9) D
- 10) 8 sq. units
- 11) A
- 12) Question unclear
- 13) $\sqrt{2}$
- 14) J
- 15) C
- 16) B
- 17) A
- 18) J
- 19) $= 569/1800$
- 20) B

University of Lagos

Post ume test

Batch "B" (AG)

2006/2007

Mathematics

-
- 1) D
 - 2) A
 - 3) Question Unclear
 - 4) Incorrect Question
 - 5) $A = 2$
 - 6) $B = -4/7$
 - 7) D
 - 8) B
 - 9) B
 - 10) $x = \frac{1}{2}$ or $\frac{1}{6}$
 - 11) B
 - 12) C
 - 13) D
 - 14) A
 - 15) C
 - 16) $y = 4x - 15$ and $y = 2x + 5$
 - 17) D
 - 18) D
 - 19) B
 - 20) 86°

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POST UME TEST

BATCH 'D' (BSG)

2006/2007

MATHEMATICS

- 1) A
- 2) D
- 3) C
- 4) D
- 5) \$480
- 6) *If $Z = X^{\frac{1}{n}}$, then $\log_z X^n$ is. A*
- 7) D
- 8) Incorrect Question
- 9) B
- 10) B

-
- 11) B
12) A
13) C
14) $\frac{1}{e^x} = 1 - x + \frac{x^2}{1.2} - \frac{x^3}{1.2.3} + \dots$
15) C
16) $3^{2y} = 6.3^y$; $3^y = 0$ or $3^y = 6$
17) D
18) C
19) B
20) D

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POST UTME TEST

SCIENCE BASED

MATHEMATICS

(2007/2008)

- 1) $\frac{2/3}{1/2 - 1/3} = \frac{2/3}{1/6} = 4 = \frac{1}{4}$
2) C
3) D
4) D
5) D
6) A
7) A
8) (-32, 45)
9) D
10) J
11) N31,200
12) A
13) B
14) C
15) A

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POST UME (2008/2009)

SECTION D: MATHEMATICS

- 1) A
- 2) D
- 3) B
- 4) B
- 5) D
- 6) C
- 7) C
- 8) D
- 9) D
- 10) C
- 11) $x^2 + 15x - 270 = 0$
- 12) A
- 13) B
- 14) A
- 15) B

UNILAG POST UTME 2010

MATHEMATICS

- 1) A
- 2) B
- 3) A
- 4) D
- 5) D
- 6) B
- 7) D
- 8) A
- 9) B
- 10) B
- 11) $(p, q) = (-6, -1)$
- 12) $(x-p) : 2x^2 - p^2 + p = 6 ; 2p^2 - p^2 + p = 6 ; p^2 + p = 6 ; p(p+1) = 6 ; \text{either } p = 6 \text{ or } p = 5$
- 13) B
- 14) D
- 15) A
- 16) A
- 17) C
- 18) A
- 19) B

-
- 20) B
21) C
22) C
23) B
24) A
25) C
26) C
27) D
28) B
29) A
30) $\tan 60 = \frac{x}{30}; x = 51.96$
31) *Using Sine rule:* $\frac{12}{\sin 45} = \frac{x}{\sin 30}; x = 8.5\text{cm}$
32) B
33) B
34) B
35) D
36) D
37) C
38) B
39) A
40) C



UNIVERSITY OF LAGOS
AKOKA-YABA
NIGERIA

2011/2012 SESSION
POST-UTME SCREENING PRACTICE
QUESTIONS

COMPILED BY THE ADMISSION COMMITTEE

ANSWERS

- I. Mathematics**
- II. English Language**
- III. General Paper**

POST UTME SCREENING PRACTICE QUESTION

I. MATHEMATICS

- A solid is made up of a hemisphere of radius x cm, and a cone of height x cm of the same radius as the hemisphere. What is the volume of the composite solid?
(a) $\frac{4}{3}\pi x^3$ (b) $\frac{13}{3}\pi x^3$ (c) $\frac{12}{3}\pi x^3$ (d) πx^3
- What is the difference in the local time between two places in latitude 55°W if they are located at longitudes 8°W and 18°E respectively.
(a) 60 mins (b) 80 mins (c) 98 mins (d) 104 mins
- A solid sphere of radius x cm is placed in a cylinder of radius $2x$ cm and height $2x$ cm. The cylinder is then filled with water to the brim and the solid gently withdrawn. Find the volume of the water in the cylinder in cm^3 .
(a) $\frac{28}{3}\pi x^3$ (b) $24\pi x^3$ (c) $\frac{20}{3}\pi x^3$ (d) $8\pi x^3$
- The earth rotates on its own axis once in 24hrs. What is the speed in km/hr of a place whose latitude is 30°S . (Take $2\pi R$ to be equal to $4 \times 10^4 \text{km}$)
(a) $2,140 \text{km/hr}$ (b) $1,443 \text{km/hr}$ (c) $1,200 \text{km/hr}$ (d) $1,000 \text{km/hr}$
- The minor sector of a circle of diameter 3.6cm subtends angle 35° at the center. What is the perimeter of the sector?
(a) 5.8cm (b) 4.7cm (c) 2.9cm (d) 1.1cm
- A regular polygon of $(2k + 1)$ sides has 140° as the size of each interior angle. Find k .
(a) 4 (b) $4\frac{1}{2}$ (c) 8 (d) $8\frac{1}{2}$
- Solve the following simultaneous equation
 $x + y = 10$, $x^2 + y^2 = 58$
(a) $x = 7, y = 3$ or $x = 3, y = 7$ (b) $x = -7, y = -3$ or $x = -3, y = -7$
(c) $x = -7, y = 3$ or $x = 3, y = -7$ (d) $x = 7, y = -3$ or $x = -3, y = 7$
- A man is x years old which his son is y years old. The sum of their ages is twice the difference of their ages. If the product of their ages is 675, find the age of the man.
(a) 40 years (b) 42 years (c) 55 years (d) 45 years
- Let the universal set $U = \{1, 2, 3, 4, 5, 6\}$,
 $A = \{1, 2, 3\}$ and $B = \{2, 4, 6\}$. Then $A \cap B^c$ is
(a) $\{2\}$ (b) $\{1, 3\}$ (c) $\{4, 6\}$ (d) $\{1, 2, 3, 5\}$
- Simplify $\frac{\sqrt{2} + \sqrt{30}}{\sqrt{7}}$ as far as possible.

- (a) $\sqrt{14}$ (b) $7\sqrt{2}$ (c) $\frac{7\sqrt{2}}{\sqrt{7}}$ (d) $\frac{2\sqrt{2}+2\sqrt{5}}{\sqrt{7}}$

1

11. Factorize fully: $px^2 - py^2 + qy^2 - qy^2$.

- (a) $(p - q)(x + y)(x - y)$ (b) $(p - q)(x^2 + y^2)$ (c) $(p + q)(x - y)(x + y)$ (d) $(p - q)(x^2 + y^2)$

12. Evaluate $\log_3 9 - \log_{27} 3 + \log_{\sqrt{3}} 9$

- (a) $6\frac{1}{3}$ (b) $5\frac{1}{2}$ (c) 9 (d) $5\frac{2}{3}$

13. In a class of 30 students, there are 10 who wear spectacles and 16 girls. There are 8 boys who do not wear spectacles. How many girls wear spectacles?

- (a) 3 (b) 4 (c) 5 (d) 6

14. Solve the equation $\log_2 x - \log_2(x - 1) = 2$

- (a) 2 (b) $1\frac{1}{2}$ (c) $1\frac{1}{25}$ (d) no solution

15. $(x - 2)$ is a factor of $x^2 - 3x^2 + kx + 14$. The value of k is

- (a) -5 (b) -2 (c) 2 (d) -3

16. Factorize the polynomial $x^3 - 7x + 6$

- (a) $(x - 3)(x - 1)(x + 2)$ (b) $(x - 3)(x - 1)(x - 2)$ (c) $(x + 3)(x + 1)(x + 2)$ (d) $(x - 1)(x - 6)$

17. y is inversely proportional to the square of x . When $x = 3$, then $y = 4$. Find the constant of proportionality.

- (a) 48 (b) $\frac{4}{9}$ (c) 2.25 (d) 36

18. The solution to the inequality $5 - 2x > 11 - 4x$ is

- (a) $x > 3$ (b) $x > 3$ (c) $x > 1$ (d) $x < 1$

19. If $\begin{vmatrix} x & 2 \\ 1 & 5 \end{vmatrix} = \begin{vmatrix} x & 3 \\ 2 & 3 \end{vmatrix}$, find the value of x

- (a) 2 (b) -2 (c) 0 (d) -1

20. The determinant of $\begin{pmatrix} 1 & 2 & 0 \\ 3 & 2 & 1 \\ 4 & 2 & 1 \end{pmatrix}$ is

- (a) 0 (b) 2 (c) -2 (d) 1

2

31. A girl has 98 beads, and all but 14 were lost. How many beads did she loose?
(A) 84 (B) 112 (C) 114 (D) 14
32. If 15% of a number is 175. What is the number multiplied by 2?
(A) 500 (B) 150 (C) 1000 (D) 800
33. A man was born on the 29th of February, 1980. How many birthdays has he celebrated after his birth till today?
(A) 9 (B) 9 (C) 3 (D) 13
34. 17, 31, 51, 68, _
(A) 75 (B) 82 (C) 90 (D) 85
35. A car travels at 120km/h. How long would it take it to get to Jebba which is 2,400km away?
(A) 20hrs (B) 25hrs (C) 15hrs (D) 30hrs
36. A man buys 6 books and 3 bags. If a book cost N17 and a bag cost N25. How much has he spent?
(A) N112 (B) N177 (C) N125 (D) N150
37. It takes 15 minutes to fill 125 gallons with petrol from a tanker. How long will it take to fill 725 gallons?
(A) 92mins (B) 45mins (C) 87mins (D) 102mins
38. If it takes 15 men $6\frac{1}{2}$ days to build a house, How many houses can they build in 45 days?
(A) 3days (B) 7days (C) 8days (D) 5days
39. If it takes a boy 5minutes to run 1km, how long would it take him to run $2\frac{1}{2}$ km?
(A) $10\frac{1}{2}$ mins (B) 15mins (C) $12\frac{1}{2}$ mins (D) $11\frac{1}{2}$ mins
40. How many bottles are in a dozen crates containing 24 bottles each?
(A) 288 (B) 300 (C) 180 (D) 120

19. In which continent is Mount Everest?
- Asia
 - North America
 - South America
 - Africa
 - Europe
20. Which of these people is not an explorer?
- Vasco Da Gama
 - Christopher Columbus
 - Ferdinand Magellan
 - David Livingstone
 - None of the above
21. What is the difference between 2:45 am and 12:32 pm?
- (A) 9Hrs 47min (B) 14Hrs 10min (C) 5Hrs 25min (D) 10Hrs 17min
22. $4\frac{3}{4} - 2\frac{1}{2} \times \frac{1}{2} =$
- (A) $\frac{4}{3}$ (B) $\frac{14}{3}$ (C) $\frac{9}{8}$ (D) $\frac{3}{2}$
23. 2 scores plus 4 dozens multiplied by 14 equals?
- (A) 118 (B) 1232 (C) 1882 (D) 1432
24. $33\frac{1}{3}$ of 100 equal?
- (A) $33\frac{1}{3}$ (B) 30 (C) 3 (D) 33
25. 1800 multiplied by what number will give you 100800
- (A) 56 (B) 28 (C) 41 (D) 38
26. $5.8 \times 6.1 \times 9.8 =$
- (A) 480.4 (B) 350.3 (C) 560.8 (D) 260.7
27. A farmer has 41 bags of oranges. Each bag contains 59 oranges each. How many oranges does the farmer have?
- (A) 3324 (B) 1591 (C) 2831 (D) 2419
28. If 16 of the same book weight 4kg. How much does one book weigh?
- (A) 20g (B) 25g (C) 55g (D) 40g
29. What is 5 % of N575?
- (A) 30.8 (B) 28.75 (C) 25.5 (D) 55.5

30. What is the difference between 500 multiplied by 700 and 700 multiplied by 500?
 (A) 1000 (B) 100 (C) 0 (D) 10000

22.

21. In Fig.1, O is the centre of the circle.

$\angle AOB = 130^\circ$. Find $\angle ACB$.

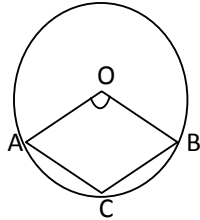


Fig.1

- (a) 115 (b) 135 (c) 70 (d) 65
22. Fig.2 shows a circle of radius 4cm. The area of the shaded segment is

- (a) $4\pi \text{ cm}^2$ (b) $4\pi - 8 \text{ cm}^2$ (c) 84 cm^2 (d) $2\pi - 4 \text{ cm}^2$

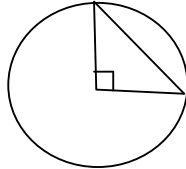
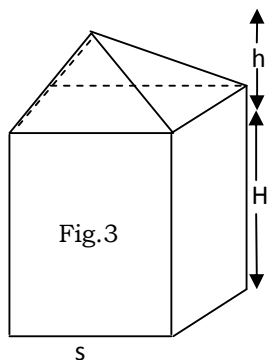


Fig.2

23. Fig.3 shows a pyramid on top of a cuboid. The height of the cuboid is Hcm, the height of the pyramid is b, cm, and the square base of both shapes has side s cm. find the volume of the shape.



- (a) $s^2(H + h) \text{ cm}^3$ (b) $s^2(H + h) \text{ cm}^3$ (c) $\frac{1}{3}s^2(H + h) \text{ cm}^3$ (d) $\frac{1}{2}s^2(2H + h) \text{ cm}^3$

24. If $y = \sin(x^2 + 7)$, then $\frac{dy}{dx}$ is
 (a) $2x \cos(x^2 + 7)$ (b) $(2x + 7) \cos(x^2 + 7)$ (c) $-2 \cos(x^2 + 7)$ (d) $2x \cos x$
25. The line $y = kx - 3$ is perpendicular to the line $2y + 3x = 7$. The value of k is
 (a) $-\frac{1}{3}$ (b) $-\frac{2}{3}$ (c) $\frac{2}{3}$ (d) $\frac{1}{3}$
26. The midpoint of the line segment joining $(-3, -3)$ and $(5, 7)$ is
 (a) $(3, 5)$ (b) $(3, 2)$ (c) $(2, 5)$ (d) $(1, 6)$
27. The solution of the inequality $x^2 + 3x - 10 < 0$ is
 (a) $-2 < x < 5$ (b) $x < -5$ or $x > 2$ (c) $2 < x < 5$ (d) $-5 < x < 5$
28. A binary operation is defined by $a * b = a + b - 3$. The identity is
 (a) 3 (b) -3 (c) 1 (d) 0
29. A binary operation is defined by $a * b = xy - x + y$. The value of $(3 * 4) * 5$ is
 (a) 81 (b) 61 (c) 57 (d) 73
30. Find the difference between the mean and the median of the numbers 1, 2, 3, 4, 5, 7, 8, 9 and 10
 (a) 0 (b) $\frac{1}{4}$ (c) 5 (d) $\frac{3}{4}$
31. There are eight men and nine women on a committee. In how many ways can a subcommittee of two men and three women be chosen?
 (a) 2,352 (b) 112 (c) 6,188 (d) 28,224
32. Change 671_{nine} to base 8
 (a) 550_{eight} (b) 540_{eight} (c) 671_{eight} (d) 1046_{eight}
33. Write $\frac{14}{\sqrt{3}-\sqrt{5}}$ in the form $a\sqrt{5} + b\sqrt{3}$, where a and b are rational.
 (a) 7 (b) $7\sqrt{5} + 5\sqrt{3}$ (c) $7\sqrt{5} - 7\sqrt{3}$ (d) $7\sqrt{3} + 7\sqrt{5}$
34. In the relation $\log_x y = z$, write x in terms of y and z .
 (a) $x = z^y$ (b) $x = z^y$ (c) $x = z^{1/y}$ (d) $x = z^{1/y}$
35. Solve the equation $\sqrt{x+7} = x-5$.

- (a) 9 (b) 5, -7 (c) 2 (d) 2, 9

36. Let $y = \frac{4x+3}{2x-7}$. Write x as a function of y .

- (a) $x = \frac{2y-3}{5y+3}$ (b) $x = \frac{5y-3}{2y+4}$ (c) $x = \frac{5y+3}{2y-1}$ (d) $x = (5y+3)(2y-4)$

13. The Parliament of the United States of America is called:

- A. House of Parliament
- B. National Assembly
- C. Congress
- D. Assembly of Lawmakers
- E. None of the above

14. Cote d'Ivoire is formerly known as?

- A. Yamassokou
- B. Ivory Coast
- C. Gold Coast
- D. Rhode Coast
- E. Diamond Haven

15. The process of preservation, protection and wise use of natural resources is called:

- A. Fermentation
- B. Preservation
- C. Conservation
- D. Ecology
- E. Zoning

16. Ballet and Tango are types of:

- A. Song
- B. Dancing
- C. Cycling
- D. Swimming
- E. Horse Riding

17. The first person to develop atomic bomb was:

- A. Albert Einstein
- B. Charles De Gaulle
- C. Thomas Jefferson
- D. T. S. Elliot
- E. Plato

18. The process by which the people in a country is given an opportunity to elect, choose or reject new government is known as:
- A. Referendum
 - B. Plebiscite
 - C. Election
 - D. Ratification
 - E. None of the above

7. A system of government based on the ideological belief of equality of people and concentration of national resources in the hands of the State is called:

- A. Fanaticism
- B. Egalitarianism
- C. Communism
- D. Democracy
- E. Utopianism

8. An instrument used in finding ways and navigation is called:

- A. Map
- B. GPS
- C. Compass
- D. Compound
- E. None of the above

9. A computer is made of:

- A. hardware
- B. software
- C. None of the above
- D. A & B.
- E. A only

10. Which of these continents is the coldest in the world?

- A. Asia
- B. Africa
- C. Antarctic
- D. Europe
- E. America

11. What is the name of the world's highest mountain?

- A. Mount Kilomajaro
- B. Mount Everest
- C. Mount Cameroon
- D. Mountain Nkoyo
- E. None of the above.

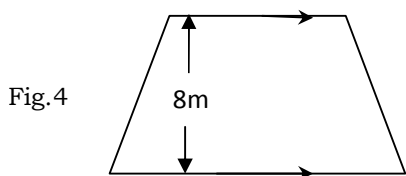
12. What name is the Parliament of Nigeria called:

- A. House of Representative
- B. Senate
- C. State House of Assembly
- D. National Assembly
- E. All of the above

37. The second and fifth terms of an arithmetic progression are 6 and -48, respectively. The first term is
 (a) -3 (b) 3 (c) 12 (d) -12
38. Find the positive solution of the equation $\log(x+1) + \log(x+4) = 1$.
 (a) 6 (b) 0 (c) 2 (d) 1
39. ₦72000 is invested at 80% simple interest. After how many years has it reached ₦87 840?
 (a) $2\frac{3}{4}$ years (b) 2 years (c) 3 years (d) $2\frac{1}{2}$ years

40. Suppose that p is the probability that an event occurs, and that q is the probability that the event does not occur. Which of the following is true?
 (a) $p = q$ (b) $p + q = 1$ (c) $pq = 0$ (d) $pq = 1$
41. Suppose x and y are positive numbers for which $x > y$. Which of the following is not true?
 (a) $x^2 > y^2$ (b) $-x < -y$ (c) $\frac{1}{x} > \frac{1}{y}$ (d) $3x > 2y$

42. Fig.4 shows a trapezium. The height is 8m, one of the parallel sides is 10m and the area is 104m². Find the other parallel side.



- (a) 16m (b) 10m (c) 13m (d) 10.4m
43. Find the remainder when $x^3 - 3x^2 + 4x - 7$ is divided by $(x + 2)$
 (a) -3 (b) -7 (c) -35 (d) $x^2 - 3x + 14$
44. If $\frac{dy}{dx} = 6x^2 + 15x^4$ and $y = 7$ when $x = 2$, find y .
 (a) $2x^3 + 3x^5 + 7$ (b) $12x + 60x^3 - 497$ (c) $12x + 60x^2 + 7$ (d) $2x^3 + 3x^5 - 105$
45. The long hand minute of a clock is 7cm long. What distance does the tip of the minute hand move in $1\frac{1}{4}$ hours? (Take $\pi = \frac{22}{7}$)
 (a) 33cm (b) 44cm (c) 55cm (d) 65cm

Questions 46 and 47 refers to the points $A(-2,3)$ and $B(4,-5)$.

46. The distance $|AB|$ is:

- (a) 10 units (b) $\sqrt{8}$ units (c) $\sqrt{40}$ units (d) $\sqrt{14}$ units

47. The midpoint of AB is

- (a) (3,-4) (b) $(-1,1)$ (c) $(1,-1)$ (d) $(-3,4)$

48. Find the sum to infinity of the series

$$\frac{1}{2} - \frac{1}{4} + \frac{1}{8} - \frac{1}{16} + \dots$$

- (a) 1 (b) $\frac{1}{3}$ (c) $\frac{2}{3}$ (d) 2

49. Find the solution set for the set $(x - 2)(x - 1) > 0$.

- (a) $x > 2$ (b) $x < 2$ (c) $x < 1$ (d) $x < 1$ or $x > 2$.

50. The solution set of the inequality $|2x + 6| < 10$ is;

- (a) $(-3,2)$ (b) $(-5,2)$ (c) $(-8,2)$ (d) $(-3,8)$

51. Write the 7th term of the sequence $\{1 + (-1)^n\}$

- (a) 0 (b) 1 (c) 2 (d) 8

52. If $x, 2x + 1, 3x - a$ form an A.P. find a

- (a) 2 (b) -2 (c) 1 (d) -1

53. The fifth term of the sequence 1, 21, 51, 91.....is

- (a) 131 (b) 141 (c) 151 (d) 161

54. Let $X = \{a, b, c, d\}$ which statement is correct?

- (a) $\{a\} \in X$ (b) $\{a, b\} \supset X$ (c) $b \in X$ (d) $n(x) = 4$

55. The distance from the points (3, -2) to the line $3y + 2x + 5 = 0$ is

- (a) $\frac{5}{\sqrt{13}}$ (b) $\frac{23}{\sqrt{13}}$ (c) $\frac{7}{\sqrt{13}}$ (d) $\frac{7}{\sqrt{5}}$

56. Find the slope of the line which is perpendicular to the line $3x + 5y + 17 = 0$.

- (a) $5/3$ (b) $-3/5$ (c) $-5/3$ (d) $17/5$

III. ⁶ GENERAL PAPER

Answer the following questions by choosing one of the options

1. A low land between two hills is called
 - A. Island
 - B. Valley
 - C. Plateau
 - D. Lake
 - E. Mountain

2. Which of these animals is not a member of dog family
 - A. Jackal
 - B. German shepherd
 - C. Tiger
 - D. Yorkshire terrier
 - E. Rottweiler

3. The process in which the food we eat is broken down into substance that can be used by the body is called:
 - A. Digestion
 - B. Circulation
 - C. Tissue
 - D. Respiration
 - E. Excretion

4. A frightening dream is called
 - A. Blush
 - B. Nightmare
 - C. Night Anguish
 - D. Night Fear
 - E. None of the above

5. Which of these is not a type of eagle?
 - A. Short-toed
 - B. Booted
 - C. Bonelli
 - D. All of the above
 - E. None of the above

6. What was the former name of present Zimbabwe?
 - A. Rhodesia
 - B. Yamashoma
 - C. Orange Republic
 - D. Brazzaville

E. Oceania

- B. reticence
- C. sensibility
- D. pervasiveness

39. The greatness of the creator of the universe is always *inexpressible* to many adherents of certain faiths.

- A. inevitable
- B. wonderful
- C. ineffable
- D. unbearable

40. We *made a pile* in the business deal.

- A. lost a lot of money
- B. earned a lot of money
- C. broke even
- D. cut corners

57. Find the intercept on the x and y axes respectively of the line $3x-2y+6=0$.
- (a) (3,2) (b) (2,3) (c) (3,-2) (d) (-2,3)
58. If $f(x+2) = 3x^2 - 2x + 5$, find $f(1)$
- (a) 8 (b) 10 (c) 6 (d) 3
59. If α and β are the roots of the equation $2x^2 + 3x - 9=0$, find $\frac{1}{\alpha} + \frac{1}{\beta}$
- (a) $-\frac{1}{3}$ (b) $\frac{2}{3}$ (c) 3 (d) $\frac{1}{3}$
60. The nth term of a sequence is given by $U_n = 2 + 3U_{n-1}$ while the $U_4 = 36 + U_3$, find the third term of the sequence.
- (a) 1 (b) 5 (c) 17 (d) 51
61. If α and β are the roots of the equation $2x^2 - 5x + 6 = 0$. Find $\alpha^2 + \beta^2$
- (a) $\frac{1}{2}$ (b) 3 (c) $-\frac{5}{2}$ (d) $\frac{1}{4}$
62. If $x - 2$ and $x + 1$ are factors of equation $x^2 + px^2 - 4xq = 0$, determine p, q
- (a) -3, 12 (b) 3, -12 (c) -3, -12 (d) -1, 0
63. If $\frac{s+2t}{(s+1)(s-2)} = \frac{p}{s+2} + \frac{q}{s-2}$, find p
- (a) 3 (b) 2 (c) 1 (d) -8
64. A 16m ladder is placed against a house so that its base is 8m from the house. What angle does the ladder makes with the ground?
- (a) 65° (b) 60° (c) 34° (d) 10°
65. Find the trigonometric function value of $\cos (315^\circ)$.
- (a) $\frac{\sqrt{3}}{2}$ (b) $\sqrt{2}$ (c) $\frac{1}{\sqrt{2}}$ (d) undefined
66. Convert -320° to radian measure. Give answer using 3.14 for π
- (a) 32π (b) 2.57 (c) -5.58 (d) 1.31
67. Solve for $\sec^2 x - \frac{3}{4} \sec x = \frac{1}{2}$

$$(a) \frac{3+4i}{5}$$

$$(b) \frac{3-4i}{5}$$

$$(c) \frac{4+3i}{5}$$

$$(d) \frac{4-3i}{5}$$

68. Given that $\tan \theta = \frac{3}{4}$ and θ is in the second quadrant. Find $\sin 2\theta$
- (a) $-\frac{2}{15}$ (b) 30.70 (c) $-\frac{24}{25}$ (d) 10
69. Find Arc sin 0.2334 in degrees, using tables
- (a) 2.91 (b) $21^{\circ}.30'$ (c) $13^{\circ}.31'$ (d) $13^{\circ}.40'$
70. Find the components of this vector $u+v$, where $u = (3, -7)$ and $v = (4, 2)$.
- (a) $(7, 5)$ (b) $(7, 6)$ (c) $(2, 5)$ (d) $(3, 15)$
71. Simplify. $(4-x^2)(2+x)^{-1/2}$
- (a) $(2+x)\sqrt{(2-x)}$ (b) $(2-x)\sqrt{(2+x)}$ (c) $\frac{2-x}{\sqrt{(2-x)}}$ (d) $\frac{2+x}{\sqrt{(2-x)}}$
72. Simplify. $(2 - \sqrt{3})^2$
- (a) $10 - 9\sqrt{3}$ (b) $8 - 3\sqrt{3}$ (c) $26 - 15\sqrt{3}$ (d) $26 - 9\sqrt{3}$
73. The sum of an infinite geometric progression is $2\frac{2}{7}$ and the first term is 4. What is the common ratio?
- (a) $-2\frac{3}{4}$ (b) $-\frac{3}{4}$ (c) $\frac{3}{4}$ (d) $2\frac{3}{4}$
74. Evaluate $\frac{x^2+4}{2x^2-x-1}$ when $x = -1$.
- (a) 0 (b) -1 (c) 1 (d) $\frac{1}{3}$
75. If $\frac{2m+n}{4m-3n} = 2$, then $\frac{3m+n}{2m+n}$ is equal to:
- (a) $\frac{71}{32}$ (b) $\frac{32}{71}$ (c) 2 (d) 4
76. If $2x^2 - px + 6 = (2x - 6)(x - 1)$, then p is equal to
- (a) -8 (b) 4 (c) 8 (d) -4
77. Which of the following is not a quadratic expression?
- (a) $x^2 - 5$ (b) $x(1 - 2x)$ (c) $x(1 + x^2)$ (d) $x^2 - \frac{3}{5}x + 1$

- B. Courage
 - C. Responsibility
 - D. Diligence
32. The *common* practice among some media practitioners is to be sensational in their reporting.
- A. prevalent
 - B. rampant
 - C. ordinary
 - D. cogent
33. That *fateful* decision changed the company's outlook in many ways.
- A. wonderful
 - B. disastrous
 - C. uncontrollable
 - D. unsuccessful
34. The accident victim received a *superficial* wound from the crash.
- A. a serious
 - B. a painless
 - C. an internal
 - D. an external
35. The boxer *fizzled out* just in the sixth round.
- A. knocked out his opponent
 - B. showed off his talents
 - C. became tired but fought on spiritedly
 - D. surrendered rather disappointingly
36. The manager described Mfon as *a man of vehement character*.
- A. weak and uninterested
 - B. strong and insistent
 - C. troublesome and noisy
 - D. clever and helpful
37. Obi's dog is old but still *lively*.
- A. attractive
 - B. howling
 - C. barking
 - D. frisky

38. His *taciturnity* amazed everyone in the court during the legal tussle.

A. obliviousness

- C. I did not go to England and could not go to Manchester City.
- D. I could not visit Manchester City because I did not want to go to England.

25. The man puts his foot down whenever he is convinced of his action.
- A. He desires to assert his will in the situation.
 - B. He makes his mark wherever he goes.
 - C. His attitude demonstrates someone who likes to oppress others around him.
 - D. He demonstrates firmness of character.

In each of questions 26 to 40, choose the option *nearest in meaning* to the word or phrase in *italics*.

26. No wonder Dekemi later became a detective; she has been very *observant*.

- A. curious
- B. perceptive
- C. inductive
- D. inquisitive

27. Nigeria has been playing a *vital* role in the political and economic development of Africa.

- A. creditable
- B. crucial
- C. respectable
- D. laudable

28. Emeka's painting was so *realistic* that it could almost have been a photograph.

- A. picturesque
- B. concrete
- C. lively
- D. authentic

29. *Courteously*, Ade stood back to let his teacher go first through the door.

- A. Patiently
- B. Politely
- C. Carefully
- D. Calmly

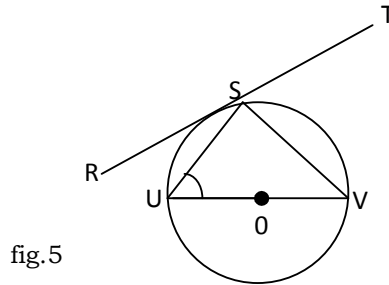
30. Many people used to live in *poverty*.

- A. instability
- B. want
- C. difficulty
- D. the slums

31. *Accountability* is certainly a desirable quality in a politician.

A. Respectability

78. In fig.5 below, RST is a tangent to the circle centre O. It touches the circle at S. U and V are at the ends of a diameter, and $\angle SUV = 48^\circ$. Find $\angle RSU$.



- (a) 40° (b) 130° (c) 42° (d) 90°

79. The bearing of A from B is 280° . Find the bearing of B from A.

- (a) 80° N (b) 100° (c) 100° (d) 90°

Use frequency Table below to answer questions 80 to 82.

X	0	1	2	3
Frequency	20	18	7	5

80. Calculate the mean of x.

- (a) 1.5 (b) 0.47 (c) 0.94 (d) 1

81. What is the median of x?

- (a) 0 (b) 1 (c) 25.5 (d) 0.94

82. What is the range of x?

- (a) 15 (b) 0 to 3 (c) 5 to 20 (d) 3

83. OAB is a sector of a circle of radius 8cm and centre O in fig.6 below. The length of the arc AB is 8cm. Find the area of the sector.

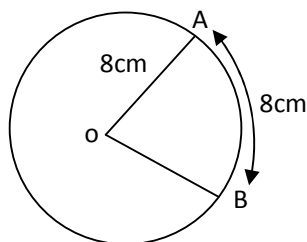


fig.6

(a) 32cm^2

(b) 64cm^2

(c) 30cm^2

(d) 60cm^2

84. In Fig.7 below, find the value of x.

- (a) 141° (b) 97° (c) 97° (d) 112°

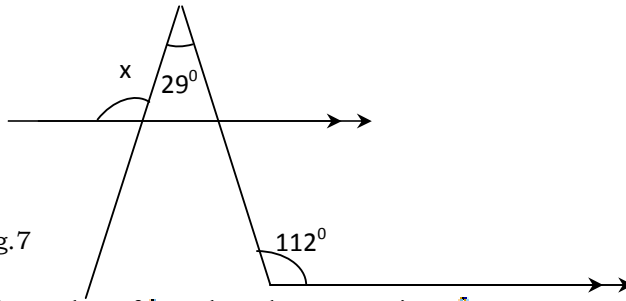


Fig.7

85. What value of k makes the expression $p^2 - 18p + k$ a perfect square?

- (a) -9 (b) 9 (c) -81 (d) 81

86. For what value of x is the function $y = \frac{7}{x+3}$ not defined

- (a) 7 (b) 0 (c) -3 (d) 3

87. Evaluate $(4 \times 10^3) \times (6 \times 10^2)$, giving your answer in standard form.

- (a) $2400\ 000$ (b) 24×10^5 (c) 2.4×10^6 (d) 4.6×10^2

88. In fig.8 below, O is the centre of the circle, $AC = 6$ cm and

$BC = 8$ cm. Find the circumference of the circle.

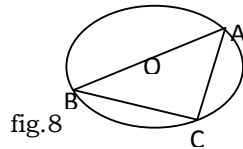


fig.8

- (a) 10π cm (b) 5π cm (c) $4\sqrt{7}\pi$ cm (d) 10 cm

89. In fig.9 below, O is the centre of the circle and $\angle ACB = 130^\circ$. Find $\angle DOB$.

- (a) 100° (b) 130° (c) 80° (d) 25°

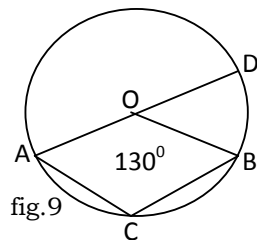


fig.9

90. Two ships leave the same port: one ship sails for 300 km on a bearing of 340° ; the other ships sails for 400 km on a bearing of 250° . The distance between the ships is

- (a) 700 km (b) 100 km (c) 500 km (d) 200 km

17. If the rain hadn't fallen, we wouldn't have missed the match.
- A. The rain is falling, so we will miss the match.
 - B. The rain fell, so we didn't watch the match.
 - C. The rain fell, so we watched the match.
 - D. The rain didn't fall, so we didn't watch the match.
18. The new Headmaster hoped that his men would pull together.
- A. He expected that the men would cooperate with him.
 - B. He thought that the men would compose themselves at work.
 - C. He was certain that they would resign en masse.
 - D. He was certain that their condition would improve under him.
19. If the trader paid in full, his order was not pruned down.
- A. The trader who made full payment did not have his order reduced.
 - B. The trader who made some payment did not have his order delayed.
 - C. Unless the trader paid in full his order would be rejected.
 - D. As the trader did not increase his order, he did not need to pay in full.
20. The men were not pawns in someone else's political game.
- A. The action they executed was their idea.
 - B. The men used someone else's plan.
 - C. They were used by someone's political game.
 - D. They loved playing political games.
21. The crisis ended as suddenly as it began.
- A. The crisis had suddenly begun.
 - B. The crisis will not end suddenly.
 - C. The crisis stopped almost immediately.
 - D. The crisis will stop immediately.
22. One thing I will not be complaining about in my new job is a lack of excitement.
- A. The job is bad.
 - B. The job is exciting.
 - C. The job is not too exciting.
 - D. The job has been previously done.
23. The Governor parried all the questions put to him by the journalist.
- A. The Governor answered all the questions brilliantly.
 - B. The Governor evaded all the questions.
 - C. The Governor failed all the questions.
 - D. The Governor mastered all the questions.
24. If I visited England, I might go to Manchester City.
- A. When I go to England, I could go to Manchester City.
 - B. Whenever I visit England, I must go to Manchester City.

- B. Eye behaviour is one of the non-verbal ways of communicating.
 - C. Eye movement is the most potent means of expressing intimacy.
 - D. People are always offended by searching eye contact.
5. From the findings of the research described in the passage, one can reason that
- A. innocent people maintain longer eye contact than the guilty ones
 - B. guilty people make Jess frequent gazes during interrogation
 - C. 'shifty eyes' are equally induced by innocence and guilt
 - D. a feeling of guilt is occasioned by 'shifty eyes'.

PASSAGE II

Use the passage-below to answer questions 6 to 16. The passage has gaps numbered 16 to 26. Immediately following each gap, four options are provided. Choose the most appropriate option for each gap.

Two thirds of children in 6 [A: industrialized B. socialized C. technological D. modernized] societies no longer have family life. They are virtually abandoned to child - minders from a very tender age. 'The ... 7 [A. disregard B. indifference C. alienation D. inattention] from their mothers brings suffering and makes it impossible for them to achieve a healthy social life. The 8 [A. development B. increase C. appreciation D. inflation] in the number of suicides, the rates of drug addiction and 9 [A. delinquency B. irresponsibility C. Satanism D. truancy] among young people may be to a large 'extent, due to these premature separations which take place before sufficient time has 10 [A. materialized B. occurred C. surfaced D. elapsed] for attachment to develop. 'This is one of the causes of psychosis in children today' says a psychiatrist who believes that breast-feeding is one of the basic cares which many children of this age are 11 [A. tantalized with B. denied of C. left with D. spared of). This psychiatrist argues that breast-feeding extends into the world outside the womb, a liquid bond with the inside of the mother's body; a bond 12 [A. close to B. the same as C. unrelated to D. irrelevant to] that which the baby had with the placenta inside the uterus. Rhythmic rocking to and fro is 13 [A. an elongation B. a demonstration C. a continuation D. a stretching] of the movement that the child experienced before it was born. As for the baby's 14 [A. squeezing against B. separation from C. likeness for D. pressure against] its mother's body, it reminds the child of the 15 .. [A. reassuring B. uncomfortable C. amusing D. unpleasant] pressure of the uterus, and enables it to 16 [A. unearth B. rediscover C. learn D. explore] the rhythms of its mother's breathing and

heartbeat.

In each of questions 17 to 26, select the option that *best explains* the information conveyed in the sentence.

14

91. A shopkeeper sold an item for N3 600, making a profit of 20%. Find the original cost of the item.
(a) ~~N2,880~~ (b) ~~N3,000~~ (c) ~~N4,500~~ (d) ~~N4,320~~
92. A flagpole of height 2.5 m casts a shadow of length 4m. Calculate the angle of elevation of the sun, correct to the nearest degree.
(a) 32° (b) 58° (c) 39° (d) 51°
93. If $4^{x+1} \times 8^{2x-1} = 16$, find x.
(a) 1 (b) $9\frac{1}{2}$ (c) $\frac{2}{3}$ (d) -1
94. Evaluate $22_{\text{three}} \times 102_{\text{three}}$, leaving your answer in base 3.
(a) 88_{three} (b) 1021_{three} (c) 10021_{three} (d) 2244_{three}
95. 8% of a certain sum of money is ~~N320~~. What is 10% of the sum?
(a) ~~N400~~ (b) ~~N256~~ (c) ~~N4 000~~ (d) ~~N 800~~
96. A number is selected at random from the set $\{3, 0, 5, \sqrt{4}, \sqrt{5}, \frac{2}{3}\}$. What is the probability the number is rational?
(a) $\frac{2}{5}$ (b) $\frac{3}{5}$ (c) $\frac{4}{5}$ (d) $\frac{4}{3}$
97. The area of a circle is 154cm^2 . Find its circumference. (take $\pi = \frac{22}{7}$)
(a) ~~7cm~~ (b) ~~14cm~~ (c) ~~308cm~~ (d) ~~44cm~~
98. Two dice are thrown together. What is the probability of getting a sum of 5.
(a) $\frac{1}{6}$ (b) $\frac{2}{36}$ (c) $\frac{1}{6}$ (d) $\frac{1}{12}$
99. In fig.10 below, the acute angle of the parallelogram is 45° . One side is 8cm and the area is $24\sqrt{2}\text{cm}^2$, find the other side.

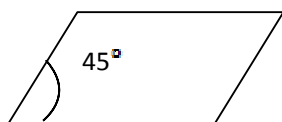


fig.10

- (a) 12cm (b) 10cm (c) 6cm (d) 4cm

100. Three times the tens digit of $\overline{11}$ digit number is 2 greater than the unit digit. When the digits are interchanged the new number is 36 more than the original number. What is the original number?

- (a) 35 (b) 37 (c) 15 (d) 28

II. EN¹² LANGUAGE

Read passages **I and II**, carefully and answer the questions that follow.

PASSAGE I

One of the most potent elements in body language is eye behaviour. You shift your eyes, meet another person's gaze or fail to meet it - and produce an effect out of all proportion to the muscular effort you have made. When two people look searchingly into each other's eyes, emotions are heightened and the relationship tipped toward greater intimacy.

In normal conversation, each eye contact lasts only about a second before one or both individuals look away.

Because the longer meeting of the eyes is rare, it is weighted with significance when it happens and can generate a special kind of human-to-human awareness. Most of the time, a lingering look is interpreted as a sign of attraction and this should be scrupulously avoided except in appropriate circumstances. A young woman once complained, 'That man makes me so uncomfortable, half the time when I glance at him he's already looking at me - and he keeps right on looking.'

Proper street behaviour requires a balance of attention and intention. You are supposed to look at a passer-by just enough to show that you are aware of his presence. If you look too little, you appear haughty or furtive; too much and you are inquisitive. Usually what happens is that people eye each other until they are about eight feet apart, at which point both cast down their eyes.

Much of eye behaviour is so subtle that we react to it only on the intuitive level. This has been demonstrated in elaborate experiments. Subjects sit and talk in the psychologist's laboratory, innocent of the fact that their eye behaviour is being observed from behind a one-way vision screen. In one fairly typical experiment, subjects were induced to cheat while performing a task, then were interviewed and observed. It was found that those who had cheated met the interviewer's eyes less often than was normal, an indication that 'shifty eyes' can actually be a tip-off to an attempt to deceive.

However, none of the 'facts' of eye behaviour are cut and dried, for there are variations between individuals.

People use their eyes differently and spend different amounts of time looking at others. Besides, no pattern of eye behaviour is precisely predictable in any normal conversation.

Adapted from McQuade (1969), *Thinking in Writing*, p. 167

1. The young woman in the passage was uncomfortable because
 - A. the man appeared to be showing interest in her by his prolonged eye contact
 - B. the man's short and sharp gazes would tip the relationship toward greater intimacy
 - C. strangers who made the man's type of eye contact were likely to be dangerous
 - D. she was allergic to eye contact.
2. The reason given for the non-finality of research results on eye contact is
 - A. lack of concord and foresight among psychologists who carry out research on eye movement
 - B. lack of uniformity in eye behaviour and the variability of contact situation
 - C. that some subjects cheat during experiments, thus invalidating research findings
 - D. that research findings on eye contact have not been subjected to further empirical tests.

3. From the expression *proper street behaviour requires a balance of attention and intention*, it can be concluded that
- A. even among strangers, attitudes and purposes can be deduced from eye behaviour
 - B. before walking the streets one must balance one's shifty eyes
 - C. when intimate groups meet in the streets, eye contact is usually longer
 - D. there is a balance between those with longer eye contact and those with shorter eye contact.
4. Which of the following can be concluded from the opening paragraph?
- A. The effects of eye contact are always overwhelming.

ENGLISH		GENERAL PAPER		
1. A	21. C	1.C	21. A	
2. B	22. B	2.C	22. C	
3. A	23. B	3.A	23. B	
4. B	24. C	4.B	24. C	
5. D	25. D	5.E	25. A	
6. D	26. B	6. A	26. B	
7. D	27. B	7. C	27. D	
8. B	28. A	8. C	28. B	
9. A	29. B	9. D	29. B	
10. D	30. B	10.C	30. D	
11. B	31. C	11.B	31. D	
12. A	32. B	12.D	32. C	
13. C	33. B	13. C	33.D	
14. A	34. D	14. B	34. D	
15. A	35. D	15. C	35. A	
16. B	36. C	16. B	36. B	
17. B	37. D	17. A	37. C	
18. A	38. B	18. C	38. D	
19. A	39. B	19. A	39. C	
20. A	40. B	20. E	40. A	
MATHEMATICS				
1. D	21. A	41. C	61. D	81. B
2. D	22. B	42. A	62. D	82. D
3. C	23. C	43. C	63. D	83. A
4. B	24. A	44. D	64. B	84. C
5. B	25. D	45. C	65. C	85. D
6. B	26. C	46. A	66. C	86. C
7. A	27. D	47. C	67. A	87. B
8. D	28. A	48. B	68. C	88. A

9. B	29. C	49. D	69. C	89. C
10. A	30. D	50. C	70. A	90. C
11. C	31. A	51. A	71. B	91. B
12. D	32. D	52. B	72. C	92. A
13. D	33. C	53. B	73. B	93. C
14. B	34. B	54. D	74. A	94. C
15. D	35. A	55. A	75. A	95. A
16. B	36. C	56. A	76. C	96. C
17. D	37. A	57. D	77. C	97. D
18. B	38. D	58. C	78. C	98. C
19. C	39. A	59. D	79. B	99. C
20. A	40. B	60. C	80. C	100. B

UNILAG 2011 PRACTICE QUESTIONS SOLUTIONS.

1) Volume of Solid = Vol. of Hemisphere

$$\begin{aligned}
 &+ \text{Vol. of Cone.} \\
 &= \frac{2}{3}nr^3 + \frac{1}{3}nr^2h \\
 &= \frac{2}{3} \times n \times X^3 + \\
 &\frac{1}{3} \times n \times X^2 \times X \\
 &= \frac{2ns^3}{3} + \frac{ns^3}{3} \\
 &= \frac{ns}{3} \{2 + 1\} \\
 &= nx^3
 \end{aligned}$$

Ans: [D]

2) Longitude difference = $8^\circ + 18^\circ$

$$\begin{aligned}
 &= 26^\circ \\
 &1^\circ < 4\text{min} \\
 &26^\circ < \frac{26^\circ \times 4\text{min}}{1} \\
 &= 104\text{min}
 \end{aligned}$$

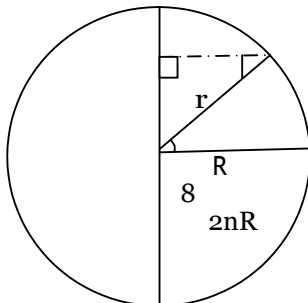
Ans: [D]

3) Vol. of liq = Vol. of Cylinder – Vol. of Sphere

$$\begin{aligned}
 &= nr^2h - \frac{4}{3}nr^3 \\
 &= n \times (2x)^2 \times (2x) - \\
 &\frac{4}{3} \times n \times (x^3) \\
 &= n8x^3 - \frac{4}{3}nx^3 \\
 &= \frac{20ns^3}{3}
 \end{aligned}$$

Ans: [C]

4)



$$2nR = 40,000$$

$$R = \frac{40000}{2n}$$

$$R = \frac{20,000}{n}$$

$$\cos 30 = \frac{r}{R}$$

$$\cos 30 = \frac{r}{\frac{20,000}{n}}$$

$$r = \frac{20,000 \cos 30}{n}$$

Speed = Distance/time taken

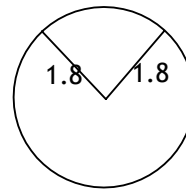
$$= \frac{2nr}{24}$$

$$= \frac{20,000 \cos 30}{24}$$

$$= 1,443 \text{ km/hr.}$$

Ans: [B].

5)



$$l = \frac{\theta}{360} \times 2\pi r$$

$$l = \frac{25}{360} \times 2 \times \frac{22}{7} \times 1.8$$

$$l = \frac{11}{10}$$

$$l = 1.1 \text{ cm}$$

$$\text{Perimeter} = l + r + r$$

$$= 1.1 + 1.8 + 1.8$$

$$= 4.7 \text{ cm}$$

Ans: [B]

6)

$$\frac{140^\circ}{40}$$

$$\begin{aligned} \text{Number of sides} &= \frac{360}{\text{Est. } \angle} \\ &= \frac{360}{40} \\ &= 9 \text{ sides} \end{aligned}$$

$$2k + 1 = 9$$

$$2k = 8$$

$$k = 4$$

Proof: Sum of interior \angle s. $= 180(n - 2)$

$$9 \times 140 = 180(n - 2)$$

$$1,260 = 180(n - 2)$$

$$7 = n - 2$$

$$n = 9 \text{ sides}$$

Ans: [A]

7) **Method 1:** By inspection, $x = 7$ and $y = 3$.

Method 2: $x + y = 10$ (i)

$$x^2 + y^2 = 58$$
 (ii)

From eqn (i): $x = 10 - y$ (iii)

Substitute "10 - y" for x in eqn (ii):

$$(10 - y)^2 + y^2 = 58$$

$$100 - 10y - 10y + y^2 + y^2 = 58$$

$$100 - 20y + 2y^2 = 58$$

$$2y^2 - 20y + 100 - 58 = 0$$

$$2y^2 - 20y + 42 = 0$$

Divide thru by 2: $y^2 - 10y + 21 = 0$

Factorising: $y^2 - 3y - 7y + 21 = 0$

$$y(y - 3) - 7(y - 3) = 0$$

$$(y - 7)(y - 3) = 0$$

Either: $y = 7$ or $y = 3$.

$$x = 10 - y ; \text{When } y = 7: x = 10 - 7$$

$$x = 3$$

$$(x, y) = (3, 7)$$

$$\text{When } y = 3: x = 10 - 3$$

$$x = 7$$

$$(x, y) = (7, 3)$$

Ans: [A]

8) Given: Man = x yrs

Son = y yrs

$$x + y = 2(x - y)$$

$$x + y = 2x - 2y$$

$$x = 3y$$
 (i)

$$xy = 675$$
 (ii)

Substituting "3y" for x: $(3y)y = 675$

$$y^2 = 225$$

$$y = 15$$

Recall: $x = 3y$

$$x = 3(15)$$

$$x = 45 \text{ yrs}$$

Ans: [D]

9) $U = \{ 1, 2, 3, 4, 5, 6 \}$

$$A = \{ 1, 2, 3 \}$$

$$B = \{ 2, 4, 6 \}$$

$$B^c = \{ 1, 3, 5 \}$$

$$A \cap B^c = \{ 1, 3 \}$$

Ans: [B]

10) Xly bth deno. and numerator $\frac{\sqrt{8+\sqrt{50}}}{\sqrt{7}}$

$$\begin{aligned} \frac{\sqrt{8+\sqrt{50}}}{\sqrt{7}} \times \frac{\sqrt{7}}{\sqrt{7}} &= \frac{\sqrt{56+\sqrt{350}}}{7} \\ &= \frac{2\sqrt{14}+5\sqrt{14}}{7} \\ &= \frac{7\sqrt{14}}{7} \\ &= \sqrt{14} \end{aligned}$$

Ans: [A]

11) $px^2 - py^2 + qx^2 - qy^2 =$

Collect like terms: $px^2 + qx^2 - py^2 - qy^2$

$$= x^2(p + q) - y^2(p + q)$$

$$= (p + q)\{x^2 - y^2\}$$

$$= (p + q)(x + y)(x - y)$$

Ans: [C]

12) $\log_3 9 - \log_{27} 3 + \log_{\sqrt{3}} 9$

$$\begin{aligned}
 &= \frac{\log 9}{\log 3} - \frac{\log 3}{\log 27} + \frac{\log 9}{\log \sqrt{3}} \\
 &= \frac{\log 3^2}{\log 3} - \frac{\log 3}{\log 3^3} + \frac{\log 3^2}{\log 3^{\frac{1}{2}}} \\
 &= \frac{2 \log 3}{\log 3} - \frac{\log 3}{3 \log 3} + \frac{2 \log 3}{\frac{1}{2} \log 3} \\
 &= 2 - \frac{1}{3} + 4 \\
 &= 5 \frac{2}{3} \\
 \text{Ans: [D]}
 \end{aligned}$$

13)

	Boys	Girls	Total
Spectacles			10
No Spectacles	8		
Total		16	30

Solving we have:

	Boys	Girls	Total
Spectacles	6	4	10
No Spectacles	8	12	20
Total	14	16	30

Ans: [D]

$$\begin{aligned}
 14) \log_2 x - \log_2(x-1) &= 2 \\
 \log_2 x - \log_2(x-1) - 2 &= 0 \\
 \log_2 x - \log_2(x-1) - \log_2 4 &= 0 \\
 \log_2 \left\{ \frac{x}{4(x-1)} \right\} &= 0 \\
 \log_2 \frac{x}{4x-4} &= 0 \\
 \frac{x}{4x-4} &= 2^0 \\
 \frac{x}{4x-4} &= 1 \\
 X &= 4x - 4 \\
 3x &= 4 \\
 X &= \frac{4}{3} \\
 x &= 1 \frac{1}{3} \\
 \text{Ans: [B]}
 \end{aligned}$$

$$\begin{aligned}
 15) \text{ If } (x-2) \text{ is a factor, then } x &= 2 \\
 f(2) &= x^3 - 3x^2 + kx + 14 \\
 0 &= x^3 - 3x^2 + kx + 14 \\
 0 &= (2)^3 - 3(2)^2 + k(2) + 14 \\
 0 &= 8 - 12 + 2k + 14 \\
 2k &= -10 \\
 K &= -5 \\
 \text{Ans: [A]}
 \end{aligned}$$

16) Factors of: $x^3 - 7x + 6$.

By trial and error;

$$\text{let } x = 1: 1^3 - 7(1) + 6 = 0; (x-1)$$

$$\text{let } x = 2: 2^3 - 7(2) + 6 = 0; (x-2)$$

$$\text{let } x = -3: (-3)^3 - 7(-3) + 6 = 0; (x+3)$$

Therefore $(x-1)(x-2)(x+3)$ are factors.

Ans: [B]

$$17) y \propto \frac{1}{s^2}$$

$$y = \frac{k}{s^2}$$

$$(x, y) = (3, 4): 4 = \frac{k}{3^2}$$

$$4 = \frac{k}{9}$$

$$K = 36$$

Ans: [D]

$$18) 5 - 2x \leq 11 - 4x$$

$$4x - 2x \leq 11 - 5$$

$$2x > 6$$

$$X > 3$$

Ans: [A] or [B]

19) For two matrix to be equal; there determinants must be equal.

$$\begin{vmatrix} x & 2 & x & 3 \\ & & & \\ & & & \\ & & & \end{vmatrix} = \begin{vmatrix} & & & \\ & & & \\ & & & \\ & & & \end{vmatrix}$$

$$5x - 2 = 3x - 6$$

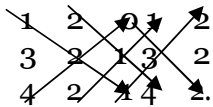
$$2x = -4$$

$$X = -2$$

Option B not C.

20) Det of $\begin{pmatrix} 1 & 2 & 0 \\ 3 & 2 & 1 \\ 4 & 2 & 1 \end{pmatrix}$

First we write the 1st two columns of the matrix on the left hand side.

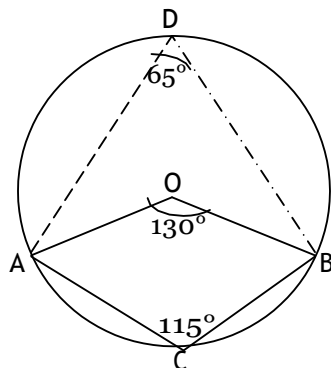


Find the difference between the sum of Multiply along upward and downward diagonals:

$$\begin{aligned} &= \{(1 \times 2 \times 1) + (2 \times 1 \times 4) + (0 \times 3 \times 2)\} - \{(4 \times 2 \times 0) + (2 \times 1 \times 1) + (1 \times 3 \times 2)\} \\ &= \{2 + 8 + 0\} - \{0 + 2 + 6\} \\ &= 10 - 8 \\ &= 2 \end{aligned}$$

Ans: [B]

21)



Let |AB| subtend to any point "D" on the circumference of the circle.

Therefore; $\angle AOB = 2\angle ADB$ (\angle at the centre)

$$130^\circ = 2\angle ADB$$

$$\angle ADB = 65^\circ$$

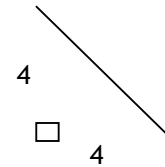
$$\angle ADB + \angle ACB = 180^\circ$$

$$65^\circ + \angle ACB = 180^\circ$$

$$\angle ACB = 115^\circ$$

Ans: [A]

22)



Area of Segment = Area of Sector - Area of triangle.

$$\begin{aligned} &= \frac{8}{360} \pi r^2 - \frac{1}{2}bh \\ &= \frac{90}{360} \pi \times 16 - \frac{1}{2} \times 4 \times 4 \\ &= (4\pi - 8)\text{cm} \end{aligned}$$

Ans: [B]

23) Vol. of shape = Vol. of pyramid + Vol. of cuboid.

$$\begin{aligned} &= \frac{1}{3}Ah + lbh \\ &= \frac{1}{3} \times S^2 \times h + S \times S \times H \\ &= S^2 \left\{ \frac{h}{3} + H \right\} \text{cm}^2 \\ &= \frac{1}{3}S^2 \{h + 3H\} \text{cm}^2 \end{aligned}$$

Ans: [D]

24) $y = \sin(x^2 + 7)$

$$\text{Let } U = x^2 + 7 \quad \frac{du}{ds} = 2x$$

$$y = \sin U \quad \frac{dy}{du} = \cos U$$

$$\frac{dy}{ds} = \frac{dy}{du} \times \frac{du}{ds}$$

$$\frac{dy}{ds} = 2x \cos U$$

$$\frac{dy}{ds} = 2x \cos(x^2 + 7)$$

Ans: [A]

25) $y = mx + C$

$y = kx - 3$

$m_1 = k$

$2y + 3x = 7$

$2y = -3x + 7$

$y = -\frac{3}{2}x + \frac{7}{2}$

$m_2 = -\frac{3}{2}$

$m_1 m_2 = -1$ (parallel lines)

$kx - \frac{3}{2} = -1$

$k = \frac{2}{3}$

Ans: [D]

26) Midpoint = $(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$
 $= (\frac{-1+5}{2}, \frac{3+7}{2})$
 $= (2, 5)$

Ans: [C]

27) $x^2 + 3x - 10 \in \mathbb{O}$

Factorising: $x^2 - 2x + 5x - 10 \in \mathbb{O}$

$x(x - 2) + 5(x - 2) \in \mathbb{O}$

$(x + 5)(x - 2) \in \mathbb{O}$

$-5 \in \mathbb{O} \times \mathbb{O} = 2.$

Ans: [No option]

28) $a * b = a + b - 3$

An identity element plus binary operation

$= 0$

$e - 3 = 0$

$e = 3$

Ans: [A]

29) $a * y = xy - x + y$

$(3 * 4) * 5 = \{(3 \times 4) - 3 + 4\} * 5$

$= \{13\} * 5$

$= (13 \times 5) - 13 + 5$

$= 57$

Ans: [C]

30) 1, 2, 3, 4, 5, 7, 8, 9, 10.

Median = 5

Mean = $(1+2+3+4+5+7+8+9+10)/9$

$= \frac{49}{9}$

Diff = Mean - Median

$= \frac{49}{9} - 5$

$= \frac{49-45}{9}$

$= \frac{4}{9}$

Ans: [D]

31) ${}^8C_2 \times {}^9C_3 = \frac{8!}{6!2!} \times \frac{9!}{6!3!}$
 $= \frac{8 \times 7 \times 6!}{6! \times 2 \times 1} \times \frac{9 \times 8 \times 7 \times 6!}{6! \times 3 \times 2 \times 1!}$
 $= 2,352$

Ans: [A]

32) 671_9 to base 8

$= 6 \times 9^2 + 7 \times 9^1 + 1 \times 9^0$

$= 6 \times 81 + 7 \times 9 + 1 \times 1$

$= 486 + 63 + 1$

$= 550_{10}$

Repeated division:

8	550
8	68 R 6
8	8 R 4
8	1 R 0
8	0 R 1

$= 1046_8$

Ans: [D]

33) Multiply both deno. and numerator by

conjugate $(\sqrt{5} + \sqrt{3})$

$= \frac{14}{\sqrt{5}-\sqrt{3}} \times \frac{(\sqrt{5}+\sqrt{3})}{(\sqrt{5}+\sqrt{3})}$

$= \frac{14(\sqrt{5}+\sqrt{3})}{5-3}$

$= 7\sqrt{5} + 7\sqrt{3}$

Ans: [D]

34) $\log_s y = z$

$y = x^z$

$x = y^{1/z}$

Ans: [No option]

35) $\sqrt{x + 7} = x - 5$

Square both sides: $x + 7 = (x - 5)(x - 5)$

$x + 7 = x^2 - 10x + 25$

$x^2 - 11x + 18 = 0$

Factorising: $x^2 - 2x - 9x + 18 = 0$

$x(x - 2) - 9(x - 2) = 0$

$(x - 9)(x - 2) = 0$

Either $x = 2$ or 9

Ans: [D]

36) $y = \frac{4s+3}{2s-5}$

$2xy - 5y = 4x + 3$

$2xy - 4x = 5y + 3$

$X(2y - 2) = 5y + 3$

$x = \frac{5y+3}{2y-2}$

Ans: [C]

37) $U_2 = ar = 6 \dots \dots \dots$ (i)

$U_5 = ar^4 = -48 \dots \dots \dots$ (ii)

Divide eqn (ii) by (i): $r^3 = -8$

$R = -2$

$ar = 6$

$a(-2) = 6$

$a = -3$

Ans: [A]

38) $\log(x + 1) + \log(x + 4) = 1$

$\log(x + 1) + \log(x + 4) = \log 10$

$\text{Log} \frac{(s+1)(s+4)}{10} = 0$

$(x + 1)(x + 4) = 10$

$x^2 + 5x - 6 = 0$

Factorising: $x^2 - x + 6x - 6 = 0$

$x(x - 1) + 6(x - 1) = 0$

$(x + 6)(x - 1) = 0$

Either $x = -6$ or 1

Ans: [D]

39) $SI = \frac{PRT}{100}$

$15,840 = \frac{72,000 \times 8 \times X}{100}$

$x = 2 \frac{3}{4}$ yrs

Ans: [A]

40) An event could either occur or not occur.

$p + q = 1$

Ans: [B]

41) Given $x > y$; let $x = 3$ and $y = 2$.

By trial and error, $x^2 \Sigma y^2 : 3^2 \Sigma 2^2$

2^2

$9 > 4$. Option A is true.

$-x < -y : -3 < -2$. Option B is true.

$3x > 2y : 3(3) > 2(2) : 9 > 4$. Option

D is true.

$\frac{1}{s} \Sigma \frac{1}{y} : \frac{1}{3} \Sigma \frac{1}{2} : 0.33 \Sigma 0.5$. Option

C is not true.

Ans: [C]

42) Area = $\frac{1}{2}(B + b)h$

$104 = \frac{1}{2}(10 + b) \times 8$

$104 = (10 + b)4$

$b + 10 = 26$

$b = 16\text{cm}$

Ans: [A]

43) $x^3 - 3x^2 + 4x - 7$

$$\begin{aligned} \text{Let } x = -2 : (-2)^3 - 3(-2)^2 + 4(-2) - 7 \\ = -8 - 12 - 8 - 7 \\ = -35 \end{aligned}$$

Ans: [C]

$$\frac{dy}{dx} = 2x^3 + 4x^2$$

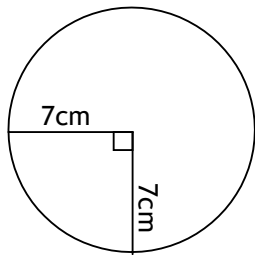
$$\begin{aligned} 44) \int ds &= 6x^2 + 15x^3 \\ y &= \frac{6s^{2+1}}{2+1} + \frac{15s^{4+1}}{4+1} + C \\ y &= 2x^3 + 3x^5 + C \end{aligned}$$

$$\begin{aligned} \text{But } (x, y) = (2, 7) : 7 &= 2(2)^3 + 3(2)^5 + C \\ 7 &= 16 + 96 + C \\ C &= -105 \end{aligned}$$

$$\text{Thus, } y = 2x^3 + 3x^5 - 105$$

Ans: [D]

45)



$$\text{Distance moved in } 1 \text{ hr} = \frac{8}{4} \times 2\pi r + \frac{8}{360} \times 2\pi r$$

$$\frac{8}{360} \times 2\pi r$$

$$= \frac{360}{360} \times 2 \times \frac{22}{7} \times 7 + \frac{90}{360} \times 2 \times \frac{22}{7} \times 7$$

$$= 44\text{cm} + 11\text{cm}$$

$$= 55\text{cm}$$

Ans: [C]

46) A(-2,3) and B(4, -5)

$$|AB| = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\begin{aligned} &= \sqrt{36 + 64} \\ &= 10\text{units.} \end{aligned}$$

Ans: [A]

$$\begin{aligned} 47) \text{Midpoint AB} &= \left(\frac{s_1+s_2}{2}, \frac{y_1+y_2}{2} \right) \\ &= \left(\frac{-2+4}{2}, \frac{3-5}{2} \right) \\ &= (1, -1) \end{aligned}$$

Ans: [C]

$$48) S_{\infty} = \frac{a}{1-r} \quad a = 1/2; r = \frac{-1}{4/1} = -1/2$$

$$S_{\infty} = \frac{1/2}{1-1/2}$$

$$S_{\infty} = \frac{1/2}{3/2}$$

$$S_{\infty} = \frac{1}{3}$$

Ans: [B]

$$49) (x-2)(x-1) > 0$$

$$x > 2 \text{ or } x > 1$$

Ans: [D]

$$50) |2x+6| < 10$$

$$\text{Either } 2x+6 < 10 \text{ or } -2x-6 < 10$$

$$2x < 4 \quad \text{or } -2x < 16$$

$$x < 2 \text{ or } x < -8$$

Ans: [C]

$$= f(4+2)^2 + (-5-3)^2$$

51) $U_n = \{1 + (-1)^n\}$

$$U_7 = \{1 + (-1)^7\}$$

$$U_7 = \{1 - 1\}$$

$$U_7 = 0$$

Ans: [A]

52) $x, 2x + 1, 3x - a$

In an AP, the common difference is always the same: $(2x+1) - (x) = (3x - a) - (2x + 1)$
 $2x + 1 - x = 3x - a - 2x - 1$
 $x + 1 = x - a - 1$
 $a = -2$

Ans: [B]

53) By observation, the term increases by 10: from 20 (21 - 1) to 30 (31 - 1) to 40 (41 - 1) to 50 (51 - 1) to 60 (61 - 1). Thus $T_5 = 141$

Ans: [B]

54) Set notation. The number of elements in set x is 4.

Ans: [D]

55) Distance of the point (x, y) to the line $ax^2 + by + C = 0$ is $\frac{|ax^2 + by + C|}{\sqrt{a^2 + b^2}}$

$(x, y) = (3, -2)$ and $(a, b) = (3, 2)$ Thus;
 $\frac{|3(-2) + 2(3) + 5|}{\sqrt{3^2 + 2^2}} = \frac{5}{\sqrt{13}}$

Ans: [A]

56) $3x + 5y + 17 = 0$

$$5y = -3x - 17$$

$$y = -\frac{3}{5}x - \frac{17}{5}$$

$$m_1 = -\frac{3}{5}$$

$m_1 m_2 = -1$ (perpendicular lines)

$$\left(-\frac{3}{5}\right) m_2 = -1$$

$$m_2 = \frac{5}{3}$$

Ans: [A]

57) $y = mx + C$

Intercept on y-axis is "C"

$$2y = 3x + 6$$

$$y = \frac{3}{2}x + 3$$

Comparing: $C = 3$

When $y = 0$: $y = \frac{3}{2}x + 3$

$$0 = \frac{3}{2}x + 3$$

$$X = -2$$

$(x, y) = (-2, 3)$

Ans: [D]

58) $f(1) = f(x+2) = 3x^2 - 2x + 5$

$$f(1) = 3(1)^2 - 2(1) + 5$$

$$f(1) = 3 - 2 + 5$$

$$f(1) = 6$$

Ans: [C]

59) $2x^2 + 3x - 9 = 0$

$$x^2 + \frac{3}{2}x - \frac{9}{2} = 0$$

Recall: $x^2 + px + q = 0$

$$p + q = -\frac{3}{2}$$

$$pq = -\frac{9}{2}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta}$$

$$= \frac{-\frac{3}{2}}{-\frac{9}{2}}$$

$$3x - 2y + 6 = 0$$

$$= \frac{1}{3}$$

Ans: [D]

60) U_4

=

$$36$$

+

$$U_3$$

...

...

...

(i)

$$U_n$$

$$= 2$$

+

$$3U_{n-1}$$

...

Therefore; $U_4 = 2 + 3U_{4-1}$

$$U_4 = 2 + 3U_3 \dots \dots \dots (ii)$$

Equation (i) = (ii)

$$36 + U_3 = 2 + 3U_3$$

$$34 = 2U_3$$

$$U_3 = 17$$

Ans: [C]

61) $2x^2 - 5x + 6 = 0$

$$x^2 - \frac{5}{2}x + 3 = 0$$

$$x^2 - (\alpha + \beta) + (\alpha\beta) = 0$$

Comparing: $(\alpha + \beta) = -\frac{5}{2}$

$$\alpha\beta = 3$$

$$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta$$

$$= \left(-\frac{5}{2}\right)^2 - 2(3)$$

$$= \frac{25}{4} - 6$$

$$= \frac{1}{4}$$

Ans: [D]

62) $x^2 + px^2 - 4xq = 0$

(x-2): f(2): $2^2 + p(2)^2 - 4(2)q = 0$

$$4 + 4p - 8q = 0$$

Dividing thru by 4: $1 + p - 2q = 0$

0

$$p - 2q = -1 \dots \dots \dots (i)$$

(x + 1): f(-1): $(-1)^2 + p(-1)^2 -$

$$4(-1)q = 0$$

$$1 + p + 4q = 0$$

$$p = 4q - 1 \dots \dots \dots (ii)$$

Substituting (ii) in (i): $(4q - 1) - 2q = -1$

$$4q - 1 - 2q = -1$$

$$2q = 0$$

$$q = 0$$

Recall; $p = 4q - 1$; $p = 4(0) - 1 = -1$

$$(p, q) = (-1, 0)$$

Ans: [D]

63) $\frac{c+26}{(c+2)(c-2)} = \frac{p}{c+2} + \frac{q}{c-2}$

Xly thru by lcm "(s + 2)(s - 2)"

$$s + 26 = p(s - 2) + q(s + 2)$$

Let $s = -2$

$$(-2) + 26 = p(-2 - 2) + q(-2 + 2)$$

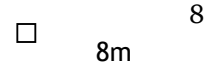
$$24 = -4p$$

$$P = -6$$

Ans: [D]

64)

16m



$$\cos 8 = \frac{8}{16}$$

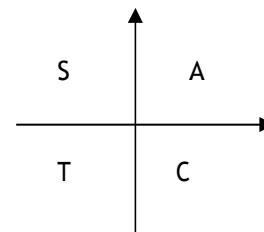
$$\cos 8 = 0.5$$

$$8 = \cos^{-1} 0.5$$

$$8 = 60^\circ$$

Ans: [B]

65)



$$\cos 315 = \cos(360 - 8)$$

$$\cos 8 = \cos 45$$

$$\cos 45 = \frac{1}{\sqrt{2}}$$

Ans: [C]

66) n radian = 180°

$$180^\circ = 3.14 \text{radian}$$

$$320^\circ = \frac{3.14 \times 320}{180} \text{radian}$$

$$= 5.58 \text{radian}$$

Ans: [C]

67) $\sec^2 x - 3 \sec x = 1$

$$(\sec x)^2 - 3 \sec x - 1 = 0$$

Let $p = \sec x$

$$p^2 - \frac{3}{4}p - \frac{1}{2} = 0$$

$$4p^2 - 3p - 2 = 0$$

Using the quadratic formula: $x =$

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad a = 4; b = -3; c = -2$$

$$p = \frac{-(-3) \pm \sqrt{(-3)^2 - 4(4)(-2)}}{2(4)}$$

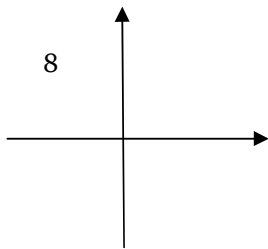
$$p = \frac{3 \pm \sqrt{41}}{8}$$

Recall $\sec x = p = \frac{3 \pm \sqrt{41}}{8}$

$$\sec x = \frac{3 \pm \sqrt{41}}{8}$$

Ans: [A]

68)



$$\tan 8 = \frac{3}{4}$$

$$8 = \tan^{-1} \frac{3}{4}$$

$$8 = 36.87^\circ \text{ (1st quadrant)}$$

$$180^\circ - 8 = 36.87^\circ \text{ (2nd quadrant)}$$

$$8 = 143.13$$

$$\sin 28 = \sin 286.26$$

$$\sin 28 = -0.96 = -\frac{24}{25}$$

Ans: [C]

69) $\text{Arc Sin } 0.2334 \sin^{-1} 0.2334 = 13.50 = 13.31^\circ$

$$70) U + V = (3, -7) + (4, 2)$$

$$= (3 + 4, -7 + 2)$$

$$= (7, -5)$$

Ans: [A]

$$71) (4 - x^2)(2 + x)^2 = \{(2 - x)(2 + x)\}^2 (2 + x)^2$$

$$= \{(2 - x)(2 + x)\}^2 (2 + x)^2$$

$$= (2 - x)(2 + x)^{1 - \frac{1}{2}}$$

$$= (2 - x)(2 + x)^{\frac{1}{2}}$$

$$= (2 - x)\sqrt{2 + x}$$

Ans: [B]

$$72) (2 - \sqrt{3})^3 = (2 - \sqrt{3})\{(2 - \sqrt{3})(2 - \sqrt{3})\}$$

$$= (2 - \sqrt{3})\{4 - 2\sqrt{3} - 2\sqrt{3} + 3\}$$

$$= (2 - \sqrt{3})\{7 - 4\sqrt{3}\}$$

$$= 14 - 8\sqrt{3} - 7\sqrt{3} + 12$$

$$= 26 - 15\sqrt{3}$$

Ans: [C]

$$73) U_\infty = \frac{a}{1-r} = \frac{2}{1-\frac{7}{16}}$$

$$= \frac{2}{\frac{9}{16}} = \frac{32}{9}$$

$$7 = 4 - 4r$$

$$r = -\frac{3}{4}$$

Ans: [B]

$$74) s^{3+1} ; \text{ when } x = \frac{-1}{2s^2 - s - 1}$$

Ans: [C]

$$\frac{(-1)^{3+1}}{2(-1)^2 - (-1) - 1}$$

Ans: [A]

- -

=

-

1

+

1

=

0

+

1

-

1

2

=

0

0

_____ -

75) $\frac{2m+3n}{4m-5n} = 2$

$$2m + 3n = 8m - 10n$$

$$13n = 6m$$

$$\frac{m}{n} = \frac{13}{6}$$

Thus $m = 13$; $n = 6$

$$\frac{5m+n}{2m+n} = \frac{5(13)+6}{2(13)+6} = \frac{65+6}{26+6} = \frac{71}{32}$$

Ans: [A]

76) $2x^2 - px + 6 = (2x - 6)(x - 1)$

$$2x^2 - px + 6 = 2x^2 - 2x - 6x + 6$$

$$2x^2 - px + 6 = 2x^2 - 8x + 6$$

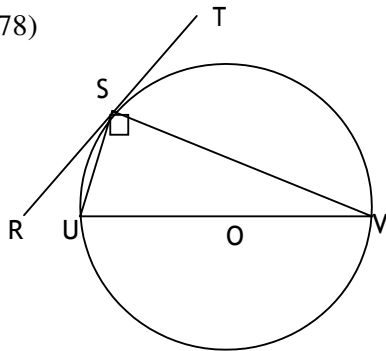
Comparing ; $p = 8$

Ans: [C]

- 77) A quadratic expression is raised to power 2. Option C is a cubic expression. When the term is expanded, it is raised to power 3. $x(1 + x^2) = x + x^3$

Ans: [C]

78)



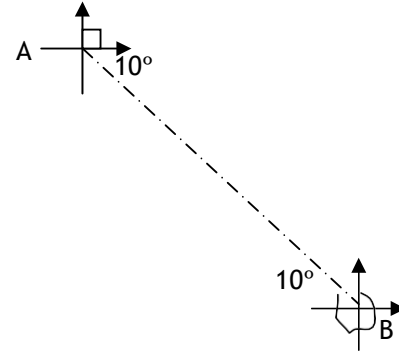
$\angle RSU + \angle SUV = 90^\circ$ (alt. \angle s of a tangent)

$$\angle RSU + 48^\circ = 90^\circ$$

$$\angle RSU = 42^\circ$$

Ans: [C]

79)



B from A = 100°

Ans: [C]

80)

X	F	F _x	C _f
0	20	0	20
1	18	18	38
2	7	14	45
3	5	15	50
	sf = 50	sf _x = 47	

$$\text{Mean} = \frac{\text{sf}_x}{\text{sf}} = \frac{47}{50} = 0.94$$

Ans: [C]

81) Median

$$= \frac{\text{sf}+1}{2} = \frac{50+1}{2} \text{th term} = 25.5 \text{th term} = 1$$

Ans: [B]

82) Range = Highest Value –

Lowest Value

$$\text{Range} = 3 - 0$$

$$= 3$$

Ans: [D]

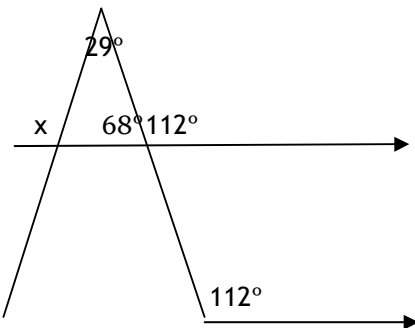
83)



$$\begin{aligned} \text{length of arc} &= \frac{8}{360} \times 2\pi r \\ 8 &= \frac{8}{360} \times 2\pi \times 8 \\ 8 &= \frac{180}{n} \\ \text{Area of sector} &= \frac{8}{360} \times \pi r^2 \\ &= \frac{180}{360} \times \pi \times (8)^2 \\ &= \frac{180}{360} \times \pi \times 64 \\ &= 32\text{cm}^2 \end{aligned}$$

Ans: [A]

84)



$$x = 29 + 68$$

$$x = 97$$

Ans: [C]

85) $p^2 - 18p + k$ from quadratic eqn

$$b^2 = 4ac$$

$$(-18)^2 = 4(1)(k)$$

$$K = 81$$

Ans: [D]

$$86) y = \frac{s}{s+3}$$

For an undefined eqn; deno = 0

$$X + 3 = 0$$

$$X = -3$$

Ans: [C]

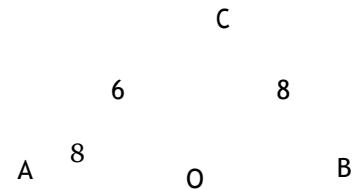
$$87) [4 \times 10^3] \times [6 \times 10^2] =$$

$$[4 \times 10^3] \times [0.6 \times 10^3]$$

$$= 2.4 \times 10^6$$

Ans: [C]

88)



$\angle ACB = 90^\circ$ (\angle in a semi-circle)

$\triangle ABC$ is a right angled \triangle

$$|AB|^2 = |AC|^2 + |BC|^2 \text{ (pyth. Theorem)}$$

Theorem)

$$|AB|^2 = 6^2 + 8^2$$

$$|AB| = 10\text{cm}$$

$$|AB| = \text{Diameter (D)} = 10\text{cm}$$

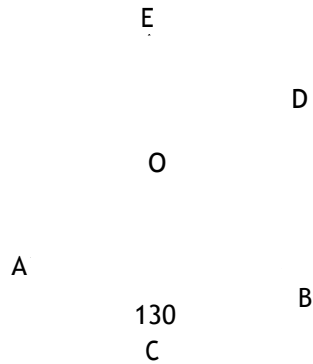
Circumference of circle = nD

$$= n10\text{cm}$$

$$= 10n\text{cm}$$

Ans: [A]

89)



$\angle ACB + \angle AEB = 180$ (opp. \angle s of a quadrilateral in a circle.)

$$130 + \angle AEB = 180$$

$$\angle AEB = 50$$

$$\angle AOB = 2 \times \angle AEB$$

$$\angle AOB = 2 \times 50$$

$$\angle AOB = 100$$

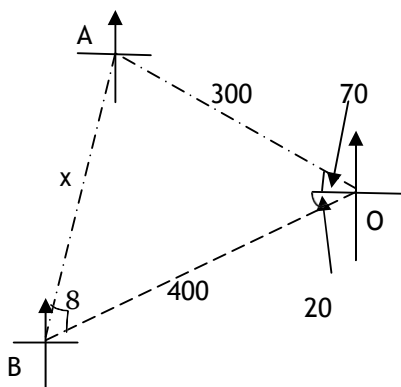
$\angle AOB + \angle DOB = 180$ (sum of \angle s on a straight line)

$$100 + \angle DOB = 180$$

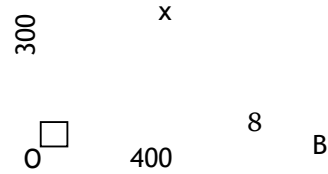
$$\angle DOB = 80$$

Ans: [C]

90)



A



$$\tan 8 = \frac{3}{4}$$

$$8 = \tan^{-1}\left(\frac{3}{4}\right)$$

$$8 = 36.87$$

$$\sin 8 = \frac{300}{s}$$

$$X = 300 / \sin 36.87$$

$$X = 500 \text{ km}$$

Ans: [C]

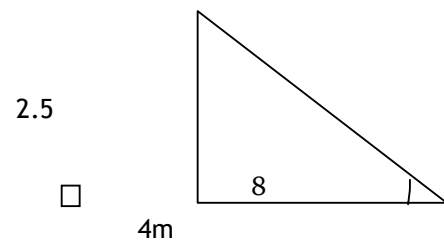
91) $1.2x = N3,600$

$$X = N3,600 / 1.2$$

$$X = N3,000$$

Ans: [B]

92)



$$\tan 8 = \frac{2.5}{4}$$

$$8 = \tan^{-1} \frac{2.5}{4}$$

$$8 = 32^\circ$$

Ans: [A]

93) $4^{s+1} \times 8^{2s-1} = 16$
 $2^{2s+2} \times 2^{6s-3} = 2^4$
 $2^{2s+2+(6s-3)} = 2^4$
 $2^{8s-1} = 2^4$
 Equating powers: $8s - 1 = 4$
 $s = 5/8$

Ans: [C]

94) You could either first convert both numbers to base 10 and multiply then convert back to base 3.

Or you multiply straight in base 3:

$$\begin{array}{r} 102 \\ \times 22 \\ \hline 211 \\ +211 \\ \hline 10021_3 \end{array}$$

Ans: [C]

95) 8% of $x = 320$
 10% of $x = (320 \times 10)/8$
 $= 400$

Ans: [A]

96) A **rational number** is a number that can be written as a simple fraction (i.e. as a **ratio**).

Rational numbers in this set are 3, 5,

$\sqrt{4}$ (because $\sqrt{4} = 2$), and $\frac{2}{9}$

« Pr. (rational number) = $\frac{4}{6} = \frac{2}{3}$

Ans: [B]

97) Area = 154cm^2
 $\pi r^2 = 154\text{cm}^2$
 $\frac{22}{7} r^2 = 154\text{cm}^2$

$$r = 7\text{cm}$$

$$\text{Circumference} = 2\pi r$$

$$= 2 \times \frac{22}{7} \times 7$$

$$= 44\text{cm}$$

Ans: [D]

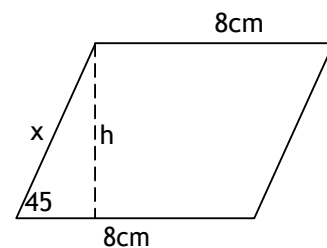
98) Sample Space:

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

Pr. (of getting a sum of 5) = $\frac{4}{36}$
 $= \frac{1}{9}$

Ans: [C]

99)



$$\text{Area} = bh$$

$$24\sqrt{2} = 8h$$

$$h = 3\sqrt{2}$$

$$\sin 45 = \frac{3\sqrt{2}}{s}$$

$$X = 6\text{cm}$$

Ans: [C]

100) Let the numbers be

“XY”
← Unit digit
← Tens digit

$$\text{Therefore } 3x = y + 2$$

$$3x = y + 2$$

By trial and error $x = 3$ and $y = 7$

Ans: [B]

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POST UME TEST PREPARATION PACK 2016

DIET ONE

ENGLISH

Instruction: From the options lettered A to D, choose the word or group of words that best completes the sentence.

- 1) Modupe felt bad when she realised she had lost the necklace her grandmother handed down to her because it had sentimental _____.
 - a. gain
 - b. value
 - c. cost
 - d. price

- 2) He alleged in court that he had been _____ by certain utterances which the accused made at a rally.
 - a. slandered
 - b. assaulted
 - c. defiled
 - d. defrauded

Instruction: Choose the option nearest in meaning to the underlined word(s) or expression in context in each of the following sentences.

- 3) We have discussed the distinction between mental and physical events.
 - a. separation
 - b. difference
 - c. relevance
 - d. opposition

- 4) She has a rather uneasy relationship with her mother-in-law.
 - a. unhappy
 - b. uncomfortable
 - c. uninspired
 - d. displeased

Instruction: Choose the option opposite in meaning to the underlined word.

- 5) The officer was asked to investigate the matter.
 - a. inquire about
 - b. examine
 - c. forget about
 - d. ask about

- 6) John's experiment was of superficial importance.
 - a. temporal
 - b. supercilious
 - c. superlative
 - d. profound

Instruction: Choose the option with the correct spelling.

- 7) Many beauty queens wear _____ dresses.
- a. outhlandish
 - b. outlandish
 - c. outlundish
 - d. outhlandisch

- 8) Aishat had an _____ shock when she discovered that she had married a gambler.
- a. awful
 - b. arwful
 - c. aweful
 - d. arweful

Instruction: Choose the word or phrase that correctly completes the idiomatic expression in the following sentences.

- 9) It is as clear as _____ that the team will win the competition.
- a. a waterfall
 - b. day
 - c. a lake
 - d. snow

- 10) The man decided to be cruel to be _____ and told his son he was wasting his time trying to be a musician.

- a. smart
- b. kind
- c. funny
- d. real

Instruction: Choose the most appropriate option that expresses the meaning of the idiomatic expression underlined in the question.

- 11) My father got a new job abroad and the family moved with our belongings lock, stock and barrel to the country.

- a. The family, uncles, aunties, and cousins all moved to the country
- b. The family moved with all their belongings to the country
- c. They moved leaving their property behind
- d. Only the parents moved there first.

12) You are 16? I find that rather hard to swallow.

- a. I think it is a silly excuse
- b. I agree with you
- c. You look much older
- d. I do not believe it

- a. Fall
- b. Pot
- c. Hot
- d. Pen

MATHEMATICS

Instruction: Choose the option that has the same vowel sound as the word shown.

13) Key

- a. Quay
- b. Keg
- c. Fey
- d. Eye

16) Evaluate $\frac{\frac{1}{3}}{\left(\frac{1}{3} + \frac{1}{4}\right)}$

- a. $\frac{3}{4}$
- b. $\frac{4}{7}$
- c. $\frac{5}{6}$
- d. $\frac{1}{7}$

14) Foot

- a. Boot
- b. Put
- c. Fume
- d. Car

17) Evaluate $(2 + \sqrt{3})(2 - \sqrt{3})$

- a. 4
- b. 3
- c. 2
- d. 1

Instruction: From the words lettered A to D below, choose the one that has the same sound as the one represented by the letter(s) underlined in the given word

15) Paedophile

18) A pillar Y is 4 km east of a pillar X while another Z is 4 km south of Y on the same level ground. Find the bearing of X from Z.

- a. 45°
- b. 315°
- c. 135°
- d. 120°

19) The population of a town is 15,386. Express this number in three significant figures.

- a. 15,390
- b. 15,380
- c. 15,400
- d. 15,300

20) If $\cos^2 x + \frac{1}{5} = \sin^2 x$, find $\cos x$

- a. $\sqrt{\frac{2}{5}}$
- b. $\sqrt{\frac{5}{2}}$
- c. $\sqrt{\frac{3}{2}}$
- d. $\frac{2}{\sqrt{5}}$

21) The shares owned by Bola and Tolu in a joint business valued at N1,300,000 are in the ratio 5:8 respectively. Bola sells 20% of her share in the business to Tolu. What value of the business does Tolu own now?

- a. N400,000
- b. N500,000
- c. N800,000
- d. N900,000

22) A carpenter measured the length of a board to be 5.60 m. If the actual length is 5.55 m, find his percentage error.

- a. 0.5 %
- b. 1.5 %

- c. 2.1 %
- d. 0.9 %

23) A car is traveling at an average speed of 90 km/hr. Its speed in metres per second is

- a. 25 m/s
- b. 30 m/s
- c. 35 m/s
- d. 40 m/s

24) Factorize $x^2 - 6x + 9 = 0$.

- a. $(x + 3)(x - 3)$
- b. $(x - 3)(x - 3)$
- c. $(x + 3)(x - 6)$
- d. $(x + 3)(x + 3)$

25) Evaluate $2\log_3 9 - \log_3 81$.

- a. 0
- b. 1
- c. 2
- d. 3

26) QRS is a triangle with QR = 12 cm, $\angle RQS = 30^\circ$ and $\angle QRS = 60^\circ$.

Calculate the length of RS.

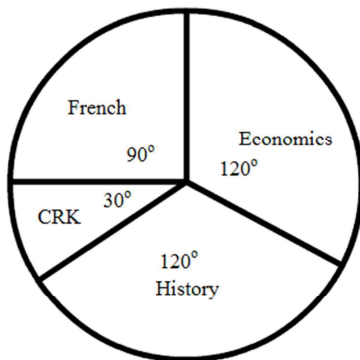
- a. 12 cm
- b. 8 cm
- c. 6 cm
- d. 4.5 cm

27) The frequency distribution in the table below shows the ages of students in SSS 1 in a school.

Age in years	13	14	15	16
No. of students	4	10	12	5

If a pie chart is constructed to represent the data the angle corresponding to students who are 14 years old is

- a. 33.3 %
- b. 40 %
- c. 50 %
- d. 66.7 %



Students offering four subjects in a class

28) The pie chart above shows the distribution of students in a class who had to offer one of the four subjects: French, Economics, History and CRK. If 45 students offered French how many students offered Economics?

- a. 15
- b. 45
- c. 60
- d. 180

29) The letters of the word "HIPPOPOTAMUS" are cut and put into a box. A letter is drawn from the box. Find the probability that the letter is a P.

- a. 1/2
- b. 1/3
- c. 3/11
- d. 1/4

30) What is the median of the numbers 4, 5, 7, 2, 3, 6, 5, 5, 8, 9?

- a. 3
- b. 4
- c. 5
- d. 6

GENERAL PAPER

31) The first African country to host the FIFA World Cup is

- a. Nigeria
- b. Egypt
- c. Morocco

-
- d. South Africa
- 32) How many members make up the House of Representatives in Nigeria?
- a. 270
 - b. 109
 - c. 360
 - d. 359
- 33) How many members make up the Nigerian Senate, the upper arm of the national assembly?
- a. 100
 - b. 108
 - c. 109
 - d. 110
- 34) Abuja became Nigeria's federal capital territory in _____.
- a. 1991
 - b. 1990
 - c. 1989
 - d. 1988
- 35) The motion for self-governance was moved in Nigeria by _____.
- a. Chief Anthony Enahoro
 - b. Dr Nnamdi Azikiwe
 - c. Chief Obafemi Awolowo
 - d. Alhaji Tafawa Balewa
- 36) The newest country in Africa is _____.
- a. South Africa
 - b. South Sudan
 - c. Malawi
 - d. Sharawa Republic
- 37) The first civilian president that died in office in Nigeria is _____.
- a. Sir Tafawa Balewa
 - b. Gen. Aguiyi Ironsi
 - c. Gen. Murtala Muhammed
 - d. Alhaji Umar Yar'adua
- 38) Who was the first military head of state in Nigeria?
- a. Gen. Olusegun Obasanjo
 - b. Gen. Muritala Muhammed
 - c. Gen. Aguiyi Ironsi
 - d. Gen. Ibrahim Babangida
- 39) Who is the first female president in Africa?
- a. Hon. Patricia Etteh
 - b. Chief Mrs Funmilayo Kuti
 - c. Dr Ngozi Okonjo-Iweala
 - d. Mrs Ellen Johnson Sirleaf
- 40) The Nigerian national flag was designed by _____.
- a. Mr Aina Onabolu
 - b. Prof. Wole Soyinka
 - c. Prof. Chinua Achebe
 - d. Mr Taiwo Akinkunmi

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POST UME TEST PREPARATION PACK 2016

DIET ONE (ANSWERS)

ENGLISH

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

MATHEMATICS

- 16) B
- 17) D
- 18) B
- 19) C
- 20) A
- 21) D
- 22) D
- 23) A
- 24) B
- 25) C

26) C

27) A

28) C

29) D

30) C

GENERAL PAPER

31) D

32) C

33) C

34) A

35) A

36) B

37) D

38) C

39) D

40) D

UNIVERSITY OF LAGOS**POST UME TEST PREPARATION PACK 2016****DIET TWO****ENGLISH**

Instruction: From the options lettered A to D, choose the word or group of words that best completes the sentence.

- 1) Modupe kept the necklace her grandmother gave her for sentimental _____.
 a. pleasure
 b. memory
 c. reasons
 d. remembrance
- 2) School admissions are ~~not~~ _____ our jurisdiction.
 a. inside
 b. about
 c. over
 d. under

Instruction: Choose the option nearest in meaning to the underlined word(s) or expression in context in each of the following sentences.

- 3) The preacher said that it was impossible for man to conceive the infinite goodness of God.
 a. endless
 b. stretched
 c. limited
 d. perfect
- 4) One facet of his role in the film is that of a stern father.
 a. description
 b. line
 c. part
 d. look

Instruction: Choose the option opposite in meaning to the underlined word.

- 5) The man was agitated when he discovered his wife cheated on him.
 a. angry
 b. calm
 c. happy
 d. laughing
- 6) The scientist conjectured that there would be similar lines of electric force in the proximity of electrical charge.
 a. thought
 b. imagined
 c. guessed

d. proved

d. an iceberg

Instruction: Choose the option with the correct spelling.

- 7) The great boxer was given an _____ welcome by his fans.
- a. estactic
 - b. ecstatic
 - c. ecstactic
 - d. ecstastic

- 8) Can science show how to harness the storehouses of natural power for the relief of human _____?
- a. druggery
 - b. drudery
 - c. dudgery
 - d. drudgery

Instruction: Choose the word or phrase that correctly completes the idiomatic expression in the following sentences.

- 9) The teacher is a sweetie but the principal is as hard as _____.
- a. nails
 - b. a mountain
 - c. a hill

10) Performing the surgery required a doctor with a steady _____.

- a. hand
- b. brain
- c. glove
- d. smile

Instruction: Choose the most appropriate option that expresses the meaning of the idiomatic expression underlined in the question.

11) Consumer confidence is currently at a low ebb.

- a. in a bad state
- b. indifferent
- c. unpredictable
- d. alarming

Instruction: Choose the option that is nearest in meaning to the underlined word or phrase

12) A scholar may say that his work may in some obscure way, make possible the construction of a spaceship.

- a. in a profitable way

- b. in a certain field
- c. in a way not clearly seen
- d. in some funny way

d. better

Instruction: Choose the option that has the same vowel sound as the word shown.

13) Book

- a. Cook
- b. Noise
- c. Loom
- d. Cure

Instruction: From the words lettered A to D below, choose the one that has the same sound as the one represented by the letter(s) underlined in the given word

14) Inculcate

- a. Knack
- b. Kite
- c. Church
- d. Chute

15) The

- a. team
- b. thorn
- c. weather

MATHEMATICS

16) Find the reciprocal of $\frac{\frac{1}{3}}{\left(\frac{1}{3} + \frac{1}{4}\right)}$

- a. $\frac{7}{4}$
- b. $\frac{4}{7}$
- c. $\frac{5}{6}$
- d. $\frac{3}{4}$

17) A man earns N150,000 per month and his wife earns N125,000 per month. If they both decide to save 10% of their salaries into a couple's account with a bank how much will they have after 10 months of savings?

- a. N150,000
- b. N330,000
- c. N275,000
- d. N125,000

18) Evaluate $\sqrt{15} \times (\sqrt{3})^3$

- a. $15\sqrt{3}$
- b. $3\sqrt{15}$
- c. $9\sqrt{5}$
- d. $\sqrt{45}$

19) A pillar Y is 4 km east of a pillar X while another Z is 4 km south of Y on

the same level ground. Find the straight line distance of X from Z.

- a. $4\sqrt{2}$ km
- b. 4 km
- c. 2 km
- d. 5 km

20) The population of a town is 15,386. Express this number in two significant figures.

- a. 16,000
- b. 15,300
- c. 15,400
- d. 15,000

21) There is a basket containing red and blue balls. 40% of the balls are red and 60% of the balls are blue. Two red balls are added into the basket to make them 50% red and 50% blue balls in the basket. How many balls are in the basket now?

- a. 4
- b. 10
- c. 12
- d. 6

22) A 10 m ladder placed on the wall of a building makes an angle of 60° with the horizontal ground. What is the height of the building?

- a. 10 m
- b. 7 m

- c. $5\sqrt{3}$ m
- d. 5 m

23) A student measured the length of a book to be 8.5 cm. If the actual length of the book is 8.6 cm, find her percentage error.

- a. 1.6 %
- b. 1.16 %
- c. 0.1 %
- d. 0.8 %

24) A train is traveling at an average speed of 20 m/s. Its speed in kilometres per hour is

- a. 36 km/hr
- b. 72 km/hr
- c. 80 km/hr
- d. 100 km/hr

25) A cylinder of base radius 5 cm is open at one end. If its height is 10 cm what is the ratio of its base area to its curved surface area?

- a. 1:2
- b. 1:3
- c. 1:4
- d. 1:5

26) Evaluate $\log_{10} 10000$.

- a. 1
- b. 2
- c. 3

d. 4

27) Solve the inequality $(x + 2)(x - 3) > x^2$

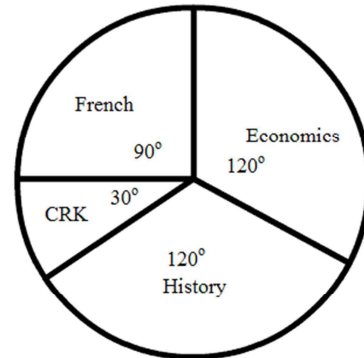
- a. $x > 1$
- b. $x < 1$
- c. $x > 6$
- d. $x < -6$

28) The frequency distribution in the table below shows the ages of students in SSS 1 in a school.

Age in years	13	14	15	16
No. of students	4	10	12	5

If a pie chart is constructed to represent the data the angle corresponding to students who are 15 years old is

- a. 33.3 %
- b. 40 %
- c. 50 %
- d. 66.7 %



Students offering four subjects in a class

29) The pie chart above shows the distribution of students in a class who had to offer one of the four subjects: French, Economics, History and CRK. If 45 students offered French how many students are in the class?

- a. 15
- b. 45
- c. 60
- d. 180

30) What is the 21st term of the sequence -3, 2, 7, ...?

- a. 67
- b. 77
- c. 87
- d. 97

GENERAL PAPER

31) What is the currency of India?

- a. Rupees
- b. Dollar
- c. Pounds Sterling
- d. Naira

32) Coal is mined in _____.

- a. Jos
- b. Enugu
- c. Oloibiri
- d. Igbeti

33) How much of the Earth's surface in percentage is covered by water?

- a. 10 %
- b. 29 %
- c. 50 %
- d. 71 %

34) How much of the Earth's surface in percentage is covered by land?

- a. 10 %
- b. 29 %
- c. 50 %
- d. 71 %

35) The second military coup d'état in Nigeria took place on _____.

- a. Jan. 15, 1966
- b. Oct. 1, 1966
- c. July 29, 1966
- d. July 29, 1975

36) Which language is spoken in Sicily?

- a. Spanish
- b. English
- c. Italian
- d. Latin

37) Which is the largest continent on Earth?

- a. Africa
- b. Europe
- c. Asia
- d. Australia

38) How many months of the year have 31 days?

- a. 6
- b. 7
- c. 8
- d. 9

39) From where is the Olympic fire sent out to the Olympic Games every 4 years?

- a. Abuja
- b. Greece
- c. Washington D.C.
- d. United Kingdom

40) What does the word 'EMIR' mean?

- a. King
- b. Royalty
- c. Prince in Arabic
- d. Throne

UNIVERSITY OF LAGOS

POST UME TEST PREPARATION PACK 2016

DIET TWO (ANSWERS)

ENGLISH

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

MATHEMATICS

- 16) A
- 17) C
- 18) C
- 19) A
- 20) D
- 21) C
- 22) C
- 23) B
- 24) B
- 25) C

26) D

27) D

28) B

29) D

30) D

GENERAL PAPER

31) A

32) B

33) D

34) B

35) C

36) C

37) C

38) B

39) B

40) C

UNIVERSITY OF LAGOS

POST UME TEST PREPARATION PACK 2016

DIET THREE

ENGLISH

Instruction: From the options lettered A to D, choose the word or group of words that best completes the sentence.

- 1) The registrar needs to see the class governor urgently, do you know her _____?
 - a. where and about
 - b. whererto
 - c. wherebeing
 - d. whereabouts

- 2) Issues of citizenship are _____ the jurisdiction of local government.
 - a. without
 - b. outside
 - c. over
 - d. about

Instruction: Choose the option nearest in meaning to the underlined word(s) or expression in context in each of the following sentences.

- 3) Such is the view of one version of idealism which we may call weak idealism.
 - a. soul
 - b. sole
 - c. form
 - d. part

- 4) He told a monstrous lie against his brother.
 - a. moderate
 - b. black
 - c. white
 - d. shocking

Instruction: Choose the option opposite in meaning to the underlined word.

- 5) Toyin sobbed by the door because she had lost her mother's precious necklace.
 - a. laughed
 - b. smiled
 - c. cried
 - d. wept

- 6) Some people derive great satisfaction from manual labour.
 - a. mental effort
 - b. research endeavour
 - c. labour protest
 - d. cheap labour

Instruction: Choose the option with the correct spelling.

- 7) The female student was subjected to all forms of _____ by the cultists.
- a. harassment
 - b. harrassment
 - c. harasment
 - d. harasement

- 8) The girl was advised to show _____ when talking to her mum.
- a. courtesy
 - b. coutesy
 - c. courtsy
 - d. courtezy

Instruction: Choose the word or phrase that correctly completes the idiomatic expression in the following sentences.

- 9) With a heavy _____, she turned to say goodbye.
- a. soul
 - b. face
 - c. eye
 - d. heart

10) All through the difficult times his faith in God remained as steady as a _____.

- a. rock
- b. flame
- c. race
- d. pace

Instruction: Choose the most appropriate option that expresses the meaning of the idiomatic expression underlined in the question.

11) More often than not, my father leaves his children rolling in the aisles during informal discussions.

- a. listening attentively
- b. listening to respond quickly
- c. to join in the discussion when necessary
- d. laughing uncontrollably

Instruction: Choose the option that is nearest in meaning to the underlined word or phrase

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12) A scholar should not be enamoured
of his own voice.

- a. should not be captivated by
- b. should not be misled by
- c. should not be afraid of
- d. should not be ashamed of

15) Thorn

- a. True
- b. Bother
- c. Thursday
- d. Born

MATHEMATICS

Instruction: Choose the option that has the same vowel sound as the word shown.

13) Purr

- a. Palm
- b. Fan
- c. Cat
- d. Fur

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16) What is the circumference of a circle of radius R and latitude θ degrees south if R is the radius of the earth?

- a. $R\cos\theta$
- b. $2\pi R\cos\theta$
- c. $R\sin\theta$
- d. $2R\sin\theta$

17) Solve for x if $\log_2(x + 2) = 3$

- a. 5
- b. 6
- c. 7
- d. 8

Instruction: From the words lettered A to D below, choose the one that has the same sound as the one represented by the letter(s) underlined in the given word

14) Jump

- a. Run
- b. No
- c. Dodge
- d. Yes

18) An aeroplane is traveling at an average speed of 600 km/hr. Its speed in metres per second is

- a. 200 m/s
- b. 300 m/s
- c. 250 m/s
- d. 167 m/s

19) Factorize $x^2 - x - 2 = 0$

- a. $(x + 1)(x - 2)$
- b. $(x - 1)(x + 2)$
- c. $(x + 2)(x - 2)$
- d. $(x + 1)(x - 1)$

20) What is the probability that a number chosen at random from the integers 11 and 20 inclusive is either prime or a multiple of 3?

- a. $\frac{7}{10}$
- b. $\frac{3}{5}$
- c. $\frac{4}{5}$
- d. $\frac{1}{5}$

21) If $y = \frac{x}{x-3} + \frac{x}{x+4}$, find y when $x = -3$.

- a. $-\frac{3}{5}$
- b. $-\frac{2}{5}$
- c. $-\frac{5}{3}$
- d. $-\frac{5}{2}$

22) A man invests a sum of money at 5 % per annum simple interest. After 4 years his total interest plus principal invested is N6,000. Find the sum invested.

- a. N4,000
- b. N4,500
- c. N5,000

d. N5,500

23) Convert 1.10225 to 4 decimal places.

- a. 1.102
- b. 1.10225
- c. 1.1023
- d. 1.1022

24) Simplify $\frac{\sqrt{8}-\sqrt{3}}{\sqrt{8}+\sqrt{3}}$.

- a. $\frac{\sqrt{8}-\sqrt{3}}{5}$
- b. $\frac{11-4\sqrt{6}}{5}$
- c. $\frac{\sqrt{5}}{\sqrt{13}}$
- d. 1

25) QRS is a triangle with QS = 12 cm, RS = 5 cm, $\angle SQR = 30^\circ$ and $\angle QRS = 60^\circ$. Calculate the length of QR.

- a. 5 cm
- b. 12 cm
- c. 13 cm
- d. 15 cm

26) Which term of the A.P 2, 5, 8, ... is 44?

- a. 12
- b. 15
- c. 18
- d. 21

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27) The letters of the word "HIPPOPOTAMUS" are cut and put into a box. A letter is drawn from the box. Find the probability that the letter is a vowel.

- a. $\frac{5}{12}$
- b. $\frac{6}{11}$
- c. $\frac{7}{12}$
- d. $\frac{1}{4}$

28) If $X = \{1, 3, 5, 7, 8, 9\}$ and $Y = \{2, 4, 6, 8, 10\}$ then the elements of $(X \cap Y)'$ is/are

- a. $\{8\}$
- b. $\{1, 3, 5, 7, 9\}$
- c. $\{1, 2, 3, 4, 5, 6, 7, 9, 10\}$
- d. $\{2, 4, 6, 8, 10\}$

29) What is the perimeter of a car tyre with a diameter of 49 cm. (Take $\pi = \frac{22}{7}$).

- a. 308 cm
- b. 98 cm
- c. 147 cm
- d. 154 cm

30) A father is now two times as old as his son. Sixteen years ago he was 6

times as old as his son. How old are the father and son now?

- a. 40 years and 20 years
- b. 44 years and 22 years
- c. 48 years and 24 years
- d. 60 years and 30 years

GENERAL PAPER

31) Lima is the capital of which country?

- a. Peru
- b. China
- c. Chile
- d. Mexico

32) Which canal connects the Atlantic Ocean with the Pacific Ocean?

- a. Banana Canal
- b. Panama Canal
- c. Palima Canal
- d. Oceanic Canal

33) Cairo is the capital of which country?

- a. Morocco
- b. Egypt
- c. Tunisia
- d. Libya

34) A barometer is used to measure _____.

- a. atmospheric air
- b. atmospheric pressure
- c. temperature

-
- d. atmospheric volume
- 35) At which temperature will pure water transform to steam?
- a. 90° C
 - b. 100° C
 - c. 110° C
 - d. 115° C
- 36) What is a skyscraper?
- a. A mountain
 - b. A bird
 - c. A very tall modern building
 - d. A very tall fat tree
- 37) Who was the chairman of Nigeria's Independent National Electoral Commission (INEC) for the 2015 general elections?
- a. Prof. Maurice Iwu
 - b. Prof. Wole Soyinka
 - c. Prof. Attahiru Jega
 - d. Prof. Chinua Achebe
- 38) A principle that advocates total equality of members of a society is called _____.
- a. communalism
 - b. egalitarianism
 - c. totalitarianism
 - d. oligarchy
- 39) The governor of old Western Region who died in a military coup with his visiting head of state in 1966 was _____.
- a. Lt. Col. B. S. Dimka
 - b. Col. Shittu Alao
 - c. Lt. Col. Adekunle Fajuyi
 - d. Col. Ibrahim Taiwo
- 40) The popular means of transportation during the trans-Saharan trade was the _____.
- a. donkey
 - b. horse
 - c. camel
 - d. mule

UNIVERSITY OF LAGOS

POST UME TEST PREPARATION PACK 2016

DIET THREE (ANSWERS)

ENGLISH

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

MATHEMATICS

- 16) B
- 17) B
- 18) D
- 19) A
- 20) A
- 21) D
- 22) C
- 23) C
- 24) B
- 25) C

26) B

27) A

28) C

29) D

30) A

GENERAL PAPER

31) A

32) B

33) B

34) B

35) B

36) C

37) C

38) B

39) C

40) C

UNIVERSITY OF LAGOSPOST UME TEST PREPARATION PACK 2016DIET FOURENGLISH

Instruction: From the options lettered A to D, choose the word or group of words that best completes the sentence.

- 1) Tunji asked for a N15,000 advance _____ his salary.
- to
 - into
 - for
 - on

- 2) Financial aid is being provided to the microfinance bank under the _____ of the Central Bank.
- watchful eyes
 - monitoring
 - auspices
 - aid

Instruction: Choose the option nearest in meaning to the underlined word(s) or expression in context in each of the following sentences.

- 3) Let us restate the problematic question.
- repeat

- reward
- perfect
- reprobe

- 4) The villagers have forgotten the inclement weather.
- irregular
 - unpleasant
 - perennial
 - favourable

Instruction: Choose the option opposite in meaning to the underlined word.

The principal took exception to the ignoble role the prefect played in the matter.

- embarrassing
- honourable
- extraordinary
- dishonourable

- 6) The journalist was incarcerated for publishing an unedited news item.
- Irritated
 - desperate
 - set free
 - jailed

Instruction: Choose the option with the correct spelling.

- 7) The president's speech was an attempt to boost citizens' _____.

-
- a. moral
 - b. morality
 - c. morale
 - d. mural

8) John was asked to consult an _____
for important information.

- a. encylopedia
- b. encyclopidia
- c. encyclopaedia
- d. encyclepedia

Instruction: Choose the word or phrase that correctly completes the idiomatic expression in the following sentences.

9) The musician was always larger than
_____ and well-known throughout
the country.

- a. music
- b. people
- c. life
- d. popular

10) She'd been working for the same
company for fifteen years and it was
time to spread her _____.

- a. legs
- b. tentacles
- c. wings

- d. experience

Instruction: Choose the most appropriate option that expresses the meaning of the idiomatic expression underlined in the question.

11) The couple decided to use their
wedding anniversary as the peg for a
romantic holiday.

- a. a reason to take the holiday
- b. to mark their honeymoon
- c. as excuse for not planning the holiday
- d. to pray for a safe holiday

Instruction: Choose the option that is nearest in meaning to the underlined word or phrase

12) A scholar may speak with confidence
of what he knows but press him far
enough and you will find the gaps.

- a. the false information he has been communicated
- b. the things he doesn't know
- c. the errors he has made
- d. the spaces he has mastered

Instruction: Choose the option that has the same vowel sound as the word shown.

13) Bed

- a. Head
- b. Heed
- c. Hat
- d. Heat

14) Eye

- a. Butt
- b. Buy
- c. Clean
- d. Game

Instruction: From the words lettered A to D below, choose the one that has the same sound as the one represented by the letter(s) underlined in the given word

15) Game

- a. Design
- b. Gap
- c. Came
- d. Jerk

MATHEMATICS

16) If $\sin y = \frac{\sqrt{3}}{2}$, then the values of y between 0° and 360° are

- a. $30^\circ, 60^\circ$
- b. $30^\circ, 120^\circ$
- c. $30^\circ, 270^\circ$
- d. $60^\circ, 120^\circ$

17) Solve for x if $\log_2(x + 2) + 3\log_2 2 = 5$

- a. 2
- b. 3
- c. 4
- d. 5

18) The shares owned by Bola and Tolu in a joint business valued at N1,300,000 are in the ratio 5:8 respectively. What value of the business would Bola own if she sold 20% of her share of the business to Tolu?

- a. N400,000
- b. N500,000
- c. N800,000
- d. N900,000

19) An aeroplane is traveling at an average speed of 200 m/s. Its speed in kilometres per hour is

- a. 360 km/hr
- b. 720 km/hr
- c. 800 km/hr
- d. 1000 km/hr

20) Solve $x^2 - x - 2 = 0$.

- a. $x = 1$ or -2

- b. $x = 2$ or -2
- c. $x = -1$ or 2
- d. $x = 3$ or -3

- b. 27
- c. 3
- d. 72

21) A bag contains 4 white balls and 6 red balls. Two balls are taken from the bag without replacement. What is the probability that they are both white?

- a. $1/5$
- b. $1/3$
- c. $2/15$
- d. $2/9$

22) Calculate $11024_5 + 3220_5$.

- a. 2304_5
- b. 2211_5
- c. 3310_5
- d. 2244_5

23) If $S = [x: x^2 = 16, x < 2]$, then S is equal to

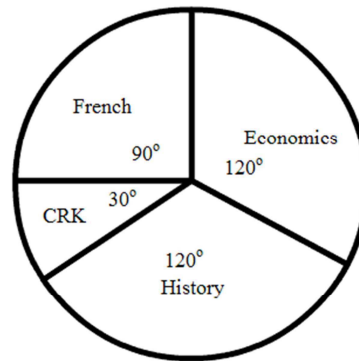
- a. $x = 0$
- b. $x = 1$
- c. $x = 4$
- d. $x = -4$

24) If $a * b = +\sqrt{ab}$ evaluate $3 * (81 * 9)$

- a. 9

25) The locus of points which is always of equal distance to a given point traces a

- a. triangle
- b. square
- c. straight line
- d. circle



Students offering four subjects in a class

26) The pie chart above shows the distribution of students in a class who had to offer one of the four subjects: French, Economics, History and CRK. If 45 students offered French how many students offered CRK?

- a. 15
- b. 45
- c. 60
- d. 180

27) The fourth term of the sequence 64, 16, 4, ... is

- a. 1
- b. 1/4
- c. 1/16
- d. 1/32

28) Make q the subject of the formula:

$$\frac{q-r}{t} = \frac{v-q}{v}$$

- a. $q = \frac{v(t+r)}{v+t}$
- b. $q = \frac{vt+r}{t-v}$
- c. $q = r\left(\frac{v-t}{v}\right)$
- d. $q = \frac{v-q}{v} + \frac{r}{t}$

29) Write the following expression as a

single fraction: $\frac{2}{2x-3} + \frac{1}{2-x}$

- a. $\frac{7}{(2x-3)(2-x)}$
- b. $\frac{4x+1}{(2x-3)(2-x)}$
- c. $\frac{1}{(2x-3)(2-x)}$
- d. $\frac{7-4x}{(2x-3)(2-x)}$

30) What is the surface area of a football with a diameter of 14 cm. (Take $\pi = 22/7$).

- a. 44 cm²
- b. 616 cm²
- c. 88 cm²
- d. 154 cm²

GENERAL PAPER

31) General Murtala Muhammed was assassinated in a coup led by.

- a. Lt. Col. Kaduna Nzeogwu
- b. Col. Joe Garba
- c. Lt. Col. B. S. Dimka
- d. Major Gideon Orkar

32) The colony of Lagos and protectorate of southern Nigeria were amalgamated to become the colony and protectorate of southern Nigeria in _____.

- a. February 1900
- b. February 1902
- c. February 1905
- d. February 1906

33) The first African and only Nigerian to win the Nobel Prize in literature is _____.

- a. Prof. Chinua Achebe
- b. Chris Okigbo

- c. Prof. Wole Soyinka
- d. Prof. Akinwumi Ishola

34) What is the third planet of the Solar System?

- a. Mercury
- b. Mars
- c. Earth
- d. Venus

35) The Solar System is made up of how many planets?

- a. 10
- b. 9
- c. 8
- d. 7

38) How many hours does it take for the Earth to rotate on its own axis?

- a. 7 hours
- b. 12 hours
- c. 24 hours
- d. 36 hours

39) The Premier University College was established in Nigeria in the year

- a. 1960
- b. 1947
- c. 1948
- d. 1949

36) What is the capital of Gombe State in Nigeria?

- a. Goje
- b. Gombe
- c. Dutse
- d. Damaturu

40) Who stopped the killing of twins in Calabar?

- a. Henry Townsend
- b. Mary Slessor
- c. Mongo Park
- d. Herbert Macaulay

37) Nigeria is bounded in the north by which of the following countries?

- a. Togo
- b. Ghana
- c. Cameroun
- d. Niger

UNIVERSITY OF LAGOS

POST UME TEST PREPARATION PACK 2016

DIET THREE (ANSWERS)

ENGLISH

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

MATHEMATICS

- 16) D
- 17) A
- 18) A
- 19) B
- 20) C
- 21) C
- 22) A
- 23) D
- 24) A
- 25) D

26) A

27) A

28) A

29) C

30) B

GENERAL PAPER

31) C

32) D

33) C

34) C

35) C

36) B

37) D

38) C

39) C

40) B

All the best in your post UTME