

CET (PG) – 2017

Booklet Series Code : A

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

(In Figures)

(In Words)

Roll No. :

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O.M.R. Answer Sheet Serial No. :

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Signature of the Candidate :

Subject : M.Sc. (Hons. School/2 Years Course)–Zoology

Time : 90 Minutes]

[Maximum Marks : 75

No. of Questions : 75]

[Total No. of Printed Pages : 16

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- To open the Question Booklet remove the paper seal gently when asked to do so.
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SEAL

1. The kappa particle in some killer strains of *Paramecium* are due to some :
(A) Nucleoprotein (B) Virus
(C) Bacteria (D) Organelles
2. The only freshwater species of sponges is :
(A) *Scypha* (B) *Euspongia*
(C) *Spongilla* (D) *Oscarella*
3. The first vertebrates to develop a true nervous system are :
(A) Flatworms (B) Sponges
(C) Coelenterates (D) Annelids
4. Function of dactylozooids in polymorphic colony is :
(A) Nutrition (B) Reproduction
(C) Locomotion (D) Offence and defence
5. Regeneration in Hydra was discovered by :
(A) Leven (B) Hyman
(C) Huxley (D) Trembley
6. Rhabdites are found in :
(A) Trematoda (B) Cestodes
(C) Turbellaria (D) Porifera
7. Apolysis is a process in *Taenia* for :
(A) Regular detachment of proglottids from strobila
(B) Embryonic development
(C) Ingestion
(D) Infection to man

8. **Aesthetes are found in the shell of :**
- (A) *Helix* (B) *Chitons*
(C) *Unio* (D) *Dentalium*
9. **How many chambers are found in the crop of leech ?**
- (A) 6 (B) 8
(C) 9 (D) 10
10. **Male genital apertures of prawn are found in :**
- (A) Second pair of walking legs (B) First pair of walking legs
(C) Fifth pair of walking legs (D) Third pair of walking legs
11. **World Malaria Day is celebrated on :**
- (A) 27 May (B) 25 April
(C) 5 June (D) 30 January
12. ***Glossina palpalis* is a vector for :**
- (A) Chaga's disease (B) Kala-azar
(C) Typhoid (D) Gambian fever
13. **Paroxysm in tertian malaria occurs after every :**
- (A) 24 hours (B) 12 hours
(C) 48 hours (D) 72 hours
14. **The animal which causes parasitic castration is :**
- (A) *Eupagurus* (B) *Sacculina*
(C) Crab (D) *Lepisma*

15. Name of the phylum to which 'Arrow worms' belong to :

- (A) Rotifera (B) Hemichordata
(C) Chaetognatha (D) Annelida

16. The larva of *Balanoglossus* :

- (A) Planule (B) Trochophore
(C) Tomaria (D) Veliger

17. Earthworms used in vermi composting :

- (A) *Eisenia foetida*, *Perionyx excavatus*, *Eudrilus eugeniae*
(B) *Pheretima posthuma* & *Megascolex mauritius*
(C) *Bombyx mori* & *Apis indica*
(D) *Bombyx mori* & *Megascolex mauritius*

18. Internal buds of sponges produced during adverse conditions :

- (A) Archaeocytes (B) Osculum
(C) Micropyle (D) Gemmule

19. Vector of filariasis :

- (A) *Anopheles* (B) *Culex*
(C) Tse-tse fly (D) Mites

20. Green gland in crayfishes is associated with :

- (A) Excretion (B) Nutrition
(C) Defense (D) Respiration

21. **Hectocotylus is a feature of :**
- (A) *Nautilus* (B) *Pila*
(C) *Sepia* (D) *Octopus*
22. **Gynaecophoric canal is present in male of digenetic parasite :**
- (A) *Fasciola* (B) *Paragonimus*
(C) *Clonorchis* (D) *Schistosoma*
23. **Turtles and tortoises belong to the order :**
- (A) Squamata (B) Crocodilia
(C) Testudines (D) Rhynchocephalia
24. **Which of the following aortic arches form pulmonary artery in lung fishes ?**
- (A) III (B) IV
(C) V (D) VI
25. **The Finches of Galapagos Islands provide evidence in favour of :**
- (A) Evolution due to mutation (B) Retrogressive evolution
(C) Biogeographical evolution (D) Special creation
26. **Brightly colored Poison-dart frogs are examples of :**
- (A) Aposematic coloration (B) Mullerian mimicry
(C) Batesian mimicry (D) Cryptic coloration
27. **Which one of the following describes correctly the homologous structures ?**
- (A) Organs with anatomical similarities, but performing different functions
(B) Organs with anatomical dissimilarities, but performing same function
(C) Organs that have no function now, but had an important function in ancestor
(D) Organs appearing only in embryonic stage and disappearing later in the adult

34. In ELISA you might use an antigen or antibody labeled with :
- (A) ^{235}U (B) Colloidal gold
(C) Horseradish peroxidase (D) Fluorescent dye
35. The functional unit of contractile system in the striped muscle is :
- (A) Z-band (B) Myofibrils
(C) A-band (D) Sarcomere
36. The pneumotaxis centre in the body is :
- (A) Heart (B) Medulla
(C) Liver (D) Lung
37. The trypsin enzyme is secreted by :
- (A) Stomach (B) Duodenum
(C) Pancreas (D) Liver
38. The tissue that surrounds a muscle cell (myofiber) is known as :
- (A) Epimysium (B) Permysium
(C) Endomysium (D) Superficial mysium
39. Which of the following cell is part of blood-brain barrier ?
- (A) Multipolar neuron (B) Pseudounipolar neuron
(C) Astrocyte (D) Microglia
40. Which of the following satisfies the condition for Klinefelter syndrome ?
- (A) 45, X (B) 46, XX
(C) 45, Y (D) XXY

46. The cause of Patau syndrome is :
- (A) Trisomy of chromosome 16 (B) Trisomy chromosome 15
(C) Trisomy chromosome 14 (D) Trisomy chromosome 13
47. Which of the following structures is present only in mammalian brain ?
- (A) Corpus fibrosum (B) Corpus striatum
(C) Corpus luteum (D) Corpus callosum
48. Foramen of Panizza is a hole that connects left and right aortic in :
- (A) Crocodiles (B) Lizards
(C) Turtles (D) Snakes
49. A group of animals having marsupium is :
- (A) Monotremata (B) Eutheria
(C) Metatheria (D) Prototheria
50. The vertebrae of birds are characteristically :
- (A) Heterocoelus (B) Acoelous
(C) Opisthocoelus (D) Amphicoelous
51. Organisms of following phylum of Kingdom Animalia are commonly known as "lamp shells" :
- (A) Bryozoa (B) Brachiopoda
(C) Rotifera (D) Mollusca
52. The mechanism of intake of DNA fragment from the surroundings medium by a cell is called :
- (A) Transformation (B) Generalized transduction
(C) Conjugation (D) Specialized transduction

53. Which one is NOT a thermostable polymerase ?
(A) Taq polymerase (B) Vent polymerase
(C) DNA polymerase III (D) *pfu* polymerase
54. PCR technique was developed by :
(A) Kary Mullis (B) Kohler
(C) Altman (D) Milstein
55. Western Blotting is the technique for the detection of :
(A) Specific DNA in a sample (B) Specific Protein in a sample
(C) Specific RNA in a sample (D) Specific glycolipid in a sample
56. The Ape found in India
(A) Chimpanzee (B) Gorilla
(C) Orangutan (D) Hoolock gibbon
57. A cross between a given offspring and pure recessive parent to know its genotype is called as :
(A) Test cross (B) Monohybrid cross
(C) Reciprocal cross (D) Back cross
58. The length of DNA associated with a protein is determined by using a technique :
(A) DNA replication (B) DNA fingerprinting
(C) DNA footprinting (D) DNA printing
59. Those cancers that develop from epithelial cells of ectoderm or endoderm :
(A) Carcinoma (B) Sarcoma
(C) Leukaemia (D) Myeloid
60. The portions of chromosomes that stain lightly and only partially condensed :
(A) Heterochromatin (B) Euchromatin
(C) Facultative chromatin (D) Constitutive chromatin

61. How many genotype can be produced by two alleles A and a :
- (A) 1 (B) 2
(C) 3 (D) 6
62. Inheritance of ABO blood group shows :
- (A) Polyploidy (B) Incomplete dominance
(C) Multiple allelism (D) Monoploidy
63. The ears of a mammal living in cold area were smaller than the one living in a warm area. This is an example of :
- (A) Gloger's rule (B) Jordan's rule
(C) Allen's rule (D) Bergman's rule
64. Emphysema is a condition in which :
- (A) Respiratory centre is inhibited
(B) Lot of fluid in the lungs
(C) Lungs have less air
(D) The walls separating the alveoli break
65. In mammals, the opening of postcaval in the right auricle is guarded by :
- (A) Mitral valve (B) Thebesian valve
(C) Eustachian valve (D) Bicuspid valve

72. Major aerosol pollutant in jet plane emission is :

- (A) Sulphur dioxide (B) Carbon monoxide
(C) Methane (D) Chlorofluorocarbon

73. The earliest warm blooded land animals were the :

- (A) Pelycosaur (B) Therapsids
(C) Thecodonts (D) Dinosaurs

74. Which of the following statements correctly describes the behavior of the haemoglobin protein in sickle-cell disease ?

- (A) The haemoglobin lacks a haem group
(B) Neighbouring haemoglobin proteins aggregate together
(C) The haemoglobin protein dissociates into 4 subunits
(D) The haemoglobin protein possesses an iron atom in the Fe(III) form rather than the normal Fe(II) form

75. Which type of bonding is responsible for the secondary structure of proteins ?

- (A) Disulphide bridges between cysteine residues
(B) Hydrogen bonding between the C = O and N-H groups of peptide bonds
(C) Peptide bonds between Amino Acids
(D) Salt bridges between charged side chains of Amino Acids

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- Trade-offs are required because wants are unlimited and resources are :**
(A) economical (B) unlimited
(C) efficient (D) scarce
- Points on the production possibilities frontier are :**
(A) inefficient (B) normative
(C) unattainable (D) efficient
- Positive statements are :**
(A) macroeconomic
(B) microeconomic
(C) statements of description that can be tested
(D) statements of prescription that involve value judgements
- If an increase in consumer incomes leads to a decrease in the demand for camping equipment, then camping equipments is :**
(A) a normal good (B) an inferior good
(C) a substitute good (D) a complementary good
- If the price of a good is above the equilibrium price :**
(A) there is a surplus (i.e. an excess supply) and the price will rise
(B) there is a shortage (i.e. an excess demand) and the price will fall
(C) there is a shortage (i.e. an excess demand) and the price will rise
(D) there is a surplus (i.e. an excess supply) and the price will fall
- If demand is linear (a straight line), then price elasticity of demand is :**
(A) elastic in the upper portion and inelastic in the lower portion
(B) inelastic in the upper portion and elastic in the lower portion
(C) inelastic throughout
(D) elastic throughout
- If consumers think that there are very few substitutes for a good, then :**
(A) supply would tend to be price elastic
(B) demand would tend to be price inelastic
(C) demand would tend to be price elastic
(D) supply would tend to be price inelastic

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8. Which of the following statements is true ?
- (A) All costs are fixed in the short run
 - (B) All costs are variable in the long run
 - (C) All costs are variable in the short run
 - (D) All costs are fixed in the long run
9. In long-run equilibrium in a competitive market, firms are operating at :
- (A) the minimum of their average-total-cost curves
 - (B) zero economic profit
 - (C) the intersection of marginal cost and marginal revenue
 - (D) all of these answers are correct
10. Which of the following is not a method of sampling ?
- (A) Systematic Sampling
 - (B) Quota Sampling
 - (C) Snowball Sampling
 - (D) Large Sampling
11. What is the probability of throwing a total of 8 from a single throw of two dice ?
- (A) $1/8$
 - (B) $2/9$
 - (C) $5/36$
 - (D) $3/36$
12. Sale of woollen garments and the day temperature, it is correlation.
- (A) Positive
 - (B) Negative
 - (C) No correlation
 - (D) None of them
13. Correlation coefficient between x and y lies between
- (A) 0 to 1
 - (B) -1 to 1
 - (C) 0 to 100
 - (D) -1 to 0
14. What is the derivative with respect to x of $(x + 1)^2 - x^3$?
- (A) $-3x^2 + 2x + 2$
 - (B) $-3x^2 + 3x - 3$
 - (C) $6x - 3$
 - (D) $6x + 3$

SEAL

15. For the function $Q = AK^aL^b$; which of the following statements are true ?

- (1) $dQ/dL = AbK^aL^{b-1}$
- (2) Marginal product of Labour (MPL) = $aAK^{a-1}L^b$
- (3) Marginal product of Capital (MPK) = aQ/K
- (4) Marginal rate of substitution of capital for labour (MRS) = $[dK/dL]$

Which of the above statements are true ?

- (A) 1, 2, 3
- (B) 1, 2, 3, 4
- (C) 2, 3, 4
- (D) 1, 3, 4

16. For the demand function $Q_1 = 10 - 9P_1 + P_2 + 0.01Y$ which of the following statements is true ?

- (A) $dQ_1/dP_1 = -9 + P_2 + 0.01Y$
- (B) $dQ_1/dP_1 = -9$
- (C) $dQ_1/dP_2 = P_2$
- (D) $dQ_1/dY = 0.01 - 9P_1 + P_2$

17. Who is credited with bringing the term "the invisible hand" in economics ?

- (A) Adam Smith
- (B) John Maynard Keynes
- (C) F. Hayek
- (D) Samuelson

18. When did the Great Depression hit the United States ?

- (A) 2007
- (B) 1929
- (C) 1936
- (D) 2001

19. Consider the following statements :

- (1) In a capitalist economy there is private ownership of means of production
- (2) In a communist nation, the means of production are owned by the State
- (3) In a free-market economy there is minimum role of the Government

Which of the above statements is/are true ?

- (A) Only 1 and 3
- (B) Only 2 and 3
- (C) Only 3
- (D) All are true

20. Intermediate goods are not included to calculate the final output because :

- (A) they do not have value
- (B) they have unknown value
- (C) their value is included in final goods so they are not added to avoid the problem of double counting
- (D) none of the above

21. What does the term **Gross investment** mean while denoting a nation's economy ?
- (A) Gross investment = Net investment + Depreciation
 - (B) Gross investment = Net investment – Depreciation
 - (C) Gross investment = Depreciation – Net investment
 - (D) None of the above
22. In terms of economics, what is an “externality” ?
- (A) Benefits or harm caused by a firm without payment/penalty
 - (B) Net income from foreign countries
 - (C) Total exports by a country in a given year
 - (D) None of the above
23. What is the correct formula for **GDP Deflator** ?
- (A) Nominal GDP – (minus) Real GDP
 - (B) Nominal GDP + Real GDP
 - (C) Nominal GDP/Real GDP
 - (D) Real GDP / Nominal GDP
24. A cut in the income tax rate designed to encourage household consumption is an example of :
- (A) expansionary demand-side policy
 - (B) contractionary demand-side policy
 - (C) expansionary supply-side policy
 - (D) contractionary supply-side policy
25. According to the **Classical model**, unemployment :
- (A) could not persist because wages would fall to eliminate the excess supply of labour.
 - (B) could persist for long periods of time because wages are not flexible.
 - (C) could be eliminated only through government intervention.
 - (D) could never exist.
26. **David Ricardo** gave his theory of **Comparative Advantage** in his book :
- (A) Principles of Economics
 - (B) Wealth of Nations
 - (C) Principles of Political Economy and Taxation
 - (D) Principles of Taxation

27. Under the opportunity cost theory, the shape of production possibility curve will be concave to the origin in case of :
- (A) Constant returns to scale (B) Increasing returns to scale
(C) Diminishing returns to scale (D) Law of variable proportions
28. The Hecksher-Ohlin theorem states that :
- (A) countries which are rich in labour will import labour - intensive goods
(B) countries which are rich in labour will export labour - intensive goods
(C) countries which are rich in capital will export labour - intensive goods
(D) countries which are rich in labour will export capital - intensive goods
29. Which of the following would show up in the capital account of USA ?
- (A) A plane made in the UK and sold to buyer in the US
(B) A UK pension fund investing in the US stock market
(C) An Englishman living and working in Australia
(D) An English car sold in Italy
30. In the study of international economics we use the tools of :
- (A) micro economic theory only
(B) macro economic theory only
(C) neither micro nor macro theory
(D) both micro and macro theory, but we also extend, adapt and integrate them
31. Policies to boost export and restrict imports would, if successful, cause :
- (A) a balance of payments surplus (B) a capital account surplus
(C) capital account deficit (D) current account deficit
32. According to Marshal-Lerner condition, devaluation will improve BOP deficit when :
- (A) sum of price elasticities of demand for exports and imports is equal to unity.
(B) sum of price elasticities of demand for exports and imports is less than unity.
(C) sum of price elasticities of demand for exports and imports is greater than unity.
(D) sum of price elasticities of demand for exports and imports is equal to infinity.
33. The Bretton Woods system was :
- (A) a gold standard (B) a flexible exchange rate system
(C) a gold exchange standard (D) None of the above

34. The World Bank's largest shareholder is :
- (A) U.K. (B) U.S.A.
(C) Germany (D) Japan
35. Zero based budget was introduced by :
- (A) Wiseman and Peacock (B) Wagner
(C) Prof. Pigou (D) Peter A. Pyhr
36. Which of the following is not non-plan expenditure ?
- (A) Interest payments
(B) subsidies
(C) Pensions
(D) Assets creation through centrally sponsored scheme
37. Which of the following taxes is not impose by State Government ?
- (A) Taxes on agriculture income (B) Entertainment tax
(C) Capitalization taxes (D) Corporation tax
38. Fiscal Policy Aims at :
- (A) Controlling Bank Credit (B) Deficit and Debt. Management
(C) Globalization (D) Liberalization
39. At the State level Value Added Tax (VAT) has been introduced from :
- (A) February, 2005 (B) 1 March, 2005
(C) 1 April, 2005 (D) 1 May, 2005
40. Taxes on the consumption or sale of electricity is levied by :
- (A) Central Government (B) State Government
(C) Local bodies (D) Others

41. A Budget Deficit is balanced when :
- (A) Current expenditure are equal to budget receipts
 - (B) Current expenditure is greater than receipts
 - (C) Current expenditure is less than receipts
 - (D) Current expenditure is Zero
42. Which of the following is not considered as a social indicator of poverty ?
- (A) less number of means of transport
 - (B) illiteracy level
 - (C) lack of access to healthcare
 - (D) lack of job opportunities
43. Calorie requirement in rural areas is more than in the urban areas because :
- (A) rural people eat more
 - (B) rural people have heavy bodies
 - (C) rural people do more hard physical work
 - (D) rural people take more rest
44. Which one area of infrastructure is not included in the Bharat Nirman Scheme ?
- (A) Irrigation
 - (B) Rural roads
 - (C) Rural health
 - (D) Rural Housing
45. For the all-around development of the nation, community development programme was started in :
- (A) 1952
 - (B) 1951
 - (C) 1956
 - (D) 1954

46. The "Drain Theory" about poverty in India is associated with :
- (A) M. Viswesaraiah (B) V. K. R. V. Rao
(C) Dadabhai Naoroji (D) Subhash Chandra Bose
47. The calorie norms given by "Task Force on Projections of Minimum Needs and Effective Consumption Demand" of the Planning Commission (1979), for defining the poverty line are :
- (A) 2100 calories per capita per day for urban areas and 2400 calories per capita per day for rural areas.
(B) 2400 calories per capita per day for rural areas and 2100 calories per capita per day for urban areas.
(C) 2000 calories per capita per day for urban areas and 2600 calories per capita per day for rural areas.
(D) 2600 calories per capita per day for urban areas and 2000 calories per capita per day for rural areas.
48. In the Harrod-Domar equation $g = s/v$, v is defined as :
- (A) the value of the country's capital stock
(B) the ratio of the country's capital stock to its output
(C) the change in the country's capital stock
(D) none of the above
49. Which of the following denotes an underdeveloped economy ?
- (A) High level of inequalities
(B) Low level of capital productivity
(C) A relatively closed economy
(D) All of the above

50. Which of the following explains the term economic development ?

- (A) Improvement in the technology involved
- (B) Improvement in production
- (C) Improvement in distribution system
- (D) All of the above

51. Approx% of Indian population is still Agriculturist.

- (A) 46%
- (B) 50%
- (C) 58%
- (D) 64%

52. Who is known as father of Economics ?

- (A) Adam Smith
- (B) Max Muller
- (C) Joy Chaterjee
- (D) Amritya Sen

53. Which state is the biggest tea producer in the country ?

- (A) Andhra Pradesh
- (B) Sikkim
- (C) Assam
- (D) West Bengal

54. The data of estimation of India's National Income is issued by :

- (A) Planning Commission
- (B) National Data Center
- (C) Central Statistical Organisation
- (D) None of these

55. First Five Year Plan in India was from :

- (A) 1947-1952
- (B) 1949-1954
- (C) 1950-1955
- (D) 1951-1956

56. **What is NSSO ?**
- (A) National Social Science Organisation
 - (B) National Social Study Organisation
 - (C) National Security Science Organisation
 - (D) National Sample Survey Organisation
57. **Reserve bank of India was established on :**
- (A) 1st April, 1935
 - (B) 1st April, 1936
 - (C) 1st April, 1937
 - (D) 1st April, 1938
58. **National Bank for Agriculture and Rural Development (NABARD) was established in :**
- (A) 1980
 - (B) 1981
 - (C) 1982
 - (D) 1983
59. **Gilt-edged market means :**
- (A) market of government securities
 - (B) bullion market
 - (C) market dealing with metals
 - (D) market dealing with export
60. **Gross domestic capital formation is defined as :**
- (A) Flow of expenditure devoted to increased or maintaining of the capital stock
 - (B) Expenditure incurred on physical assets only
 - (C) Production exceeding demand
 - (D) Net addition to stock after depreciation

CET (PG) – 2017Booklet Series Code : **A**Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet.

(In Figures)

(In Words)

Roll No. :

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O.M.R. Answer Sheet Serial No. :

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Signature of the Candidate :

Subject : M.A. (Hons.) Geography

Time : 90 Minutes]

[Maximum Marks : 75

No. of Questions : 75]

[Total No. of Printed Pages : 16

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO**INSTRUCTIONS :**

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Series Code of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal gently when asked to do so.
5. Please check that this Question Booklet contains **75** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**.
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "Rough Work" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so, would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
16. Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculator is not allowed.

1. **Geographic study encompasses the :**
- (A) Earth's surface
 - (B) Environment of the earth surface
 - (C) Environment of the earth's surface and the relationship of humans to this environment
 - (D) None of these
2. **Actual heights of places above sea level are represented by :**
- (A) Spot height
 - (B) Layer colouring
 - (C) Pictures
 - (D) Contours
3. **Day and night are equal at the :**
- (A) Equator
 - (B) Poles
 - (C) Prime Meridian
 - (D) Antarctic
4. **Equinox means the :**
- (A) Days are longer than nights
 - (B) Nights are longer than days
 - (C) Days and nights are equal
 - (D) Shortest day and shortest night in a year
5. **The Cenozoic era follows era.**
- (A) Paleozoic
 - (B) Eocene
 - (C) Mesozoic
 - (D) Pre-Cambrian
6. **The most recent era of the geological time scale is :**
- (A) Mesozoic
 - (B) Cenozoic
 - (C) Triassic
 - (D) Paleocene

7. **Arctic Circle is located at :**
- (A) $23^{\circ} 30'$ N of the equator (B) $23^{\circ} 30'$ S of the equator
(C) $56^{\circ} 30'$ N of the equator (D) $56^{\circ} 30'$ S of the equator
8. **Antarctic Circle is the parallel of :**
- (A) Longitude (B) Latitude
(C) Both of these (D) None of these
9. **Each time zone is defined by its distance :**
- (A) East of Greenwich, England
(B) West of Greenwich, England
(C) East or West of Greenwich, England
(D) None of these
10. **Formation of a rift valley is due to :**
- (A) Formation of fold mountains
(B) The forces of tension on Earth's crust
(C) The subsidence of the floor of a river valley
(D) The over deepening of a valley by ice action
11. **The boundary between troposphere and stratosphere is called :**
- (A) Ozone layer (B) Tropopause
(C) Mesosphere (D) None of these
12. **The propagation of radio signals is greatly influenced by :**
- (A) Troposphere (B) Ionosphere
(C) Exosphere (D) Thermosphere
13. **Places experiencing equal impact of an earthquake are called :**
- (A) Snow lines (B) Seismic lines
(C) Isobars (D) Belts

14. The seasonal reversal of winds is the typical characteristic of :
- (A) Equatorial Climate (B) Mediterranean Climate
(C) Monsoon Climate (D) All of these
15. What causes wind to deflect towards left in the Southern hemisphere ?
- (A) Temperature (B) Magnetic field
(C) Rotation of the Earth (D) Pressure
16. Which one of the following weather conditions is indicated by a sudden fall in barometer reading ?
- (A) Stormy (B) Calm weather
(C) Cold and dry weather (D) Hot and sunny weather
17. The Capital of Austria is :
- (A) Bucharest (B) Belgrade
(C) Budapest (D) Vienna
18. The greatest mass of ice on the earth is found in :
- (A) Canada (B) Siberia
(C) Antarctica (D) Greenland
19. "Syntaxial Bend" is a feature of which of the following ?
- (A) Himalayas (B) Aravallis
(C) Satpuras (D) Vindhya
20. Turkey is located between :
- (A) Black Sea and Caspian Sea
(B) Black Sea and Mediterranean Sea
(C) Gulf of Suez and Mediterranean Sea
(D) Gulf of Aqaba and Dead Sea

21. The latitudes that pass through Sikkim also pass through :
- (A) Rajasthan
 - (B) Punjab
 - (C) Himachal Pradesh
 - (D) Jammu and Kashmir
22. Which one of the following cities is most Eastward located ?
- (A) Hyderabad
 - (B) Bhopal
 - (C) Lucknow
 - (D) Bengaluru
23. In which one of the following is Malta located ?
- (A) Baltic Sea
 - (B) Mediterranean Sea
 - (C) Black Sea
 - (D) North Sea
24. Which one of the following straits is nearest to the International Date Line ?
- (A) Malacca Strait
 - (B) Bering Strait
 - (C) Strait of Florida
 - (D) Strait of Gibraltar
25. Mc-Mehon line is the border between :
- (A) India and China
 - (B) India and Nepal
 - (C) India and Pakistan
 - (D) India and Myanmar
26. The transhumance is still an important component of the socio-economic life of the people in the region at :
- (A) Andaman and Nicobar Islands
 - (B) Meghalaya
 - (C) Madhya Pradesh
 - (D) Himachal Pradesh

27. **The Banihal pass is in :**
- (A) Punjab Himalaya (B) Kumaon Himalaya
(C) Kashmir Himalaya (D) Assam Himalaya
28. **Karewas are terraces of glacial origin found in :**
- (A) Teesta Valley (B) Ravi Valley
(C) Jhelum Valley (D) Alaknanda Valley
29. **Luni River is in :**
- (A) Punjab (B) Rajasthan
(C) Gujarat (D) Himachal Pradesh
30. **Monsoon is caused by the :**
- (A) Seasonal reversal of winds
(B) Revolution of the earth
(C) Movement of the clouds
(D) Rise in temperature
31. **Rocks that are formed by the solidification of lava are :**
- (A) Limestones (B) Basalt
(C) Granite (D) Sand stone
32. **The rural settlements of Kerala are mostly :**
- (A) Compact (B) Dispersed
(C) Linear (D) Radial
33. **Which one of the following problems is not encountered in the Indira Gandhi canal command area ?**
- (A) Increase in soil salinity
(B) Progressive water logging
(C) Aeolian silting of the canal
(D) Decline in water supply

34. Which of the following regions does not receive much rainfall in the south west monsoon season ?
- (A) Chotanagpur plateau (B) Eastern Himalayas
(C) Tamil Nadu coast (D) Maharashtra
35. Which of the following regions is the first affected by the South-West monsoon ?
- (A) Kerala Coast (B) Coromandel Coast
(C) Himachal Pradesh (D) Bihar
36. Which of the following soils is the most conducive for the growth of cotton ?
- (A) Alluvial (B) Black
(C) Laterite (D) Red
37. The soil that cannot retain moisture and are infertile are the :
- (A) Desert soil (B) Alluvial soils
(C) Laterite soil (D) Black soil
38. How do the 'Western disturbances' affect the crops in North India ?
- (A) They cause heavy damage to the standing crops
(B) They bring in locusts which destroy the crops
(C) They are beneficial to the crops by causing winter rain
(D) They help in keeping the plants warm to some extent in winter
39. The power plant at Manikaran based on geothermal energy is in the State of :
- (A) Arunachal Pradesh (B) Himachal Pradesh
(C) Jammu and Kashmir (D) Uttarakhand
40. Which one of the following is a satellite industrial town to a metropolitan city ?
- (A) Faizabad (B) Murshidabad
(C) Ghaziabad (D) Moradabad

41. Which of the following pairs of islands are separated from each other by the Ten Degree Channel ?
- (A) Andaman and Nicobar
 - (B) Nicobar and Sumatra
 - (C) Maldives and Lakshadweep
 - (D) Sumatra and Java
42. Which one of the following rivers does not originate in India ?
- (A) Beas
 - (B) Ravi
 - (C) Chenab
 - (D) Sutlej
43. Which one of the following rivers originate at Amarkantak ?
- (A) Damodar
 - (B) Mahanadi
 - (C) Narmada
 - (D) Tapi
44. Where are Shevaroy hills located ?
- (A) Andhra Pradesh
 - (B) Karnataka
 - (C) Kerala
 - (D) Tamil Nadu
45. Which of the following does not share its border with Uttar Pradesh ?
- (A) Punjab
 - (B) Rajasthan
 - (C) Chattisgarh
 - (D) Jharkhand
46. Nanda Devi peak forms a part of :
- (A) Assam Himalayas
 - (B) Kumaon Himalayas
 - (C) Nepal Himalayas
 - (D) Punjab Himalayas

47. Which one of the following is not a lagoon ?
(A) Ashtamudi Lake (B) Chilka Lake
(C) Periyar Lake (D) Pulicat Lake
48. In India, which of the following States has the largest inland saline wetland ?
(A) Gujarat (B) Haryana
(C) Madhya Pradesh (D) Rajasthan
49. The Dulhasti Power Station is based on which one of the following rivers ?
(A) Beas (B) Chenab
(C) Ravi (D) Sutlej
50. The thermal power plant of Bokaro is located in :
(A) Bihar (B) Chhattisgarh
(C) Jharkhand (D) Orissa
51. The most important fishing grounds of the world are found in the regions where :
(A) Warm and cold atmospheric currents meet
(B) Rivers drain out large amounts of freshwater into the sea
(C) Warm and cold oceanic currents meet
(D) Continental shelf is undulating
52. The rivers that pass through Himachal Pradesh are :
(A) Beas and Chenab only
(B) Beas and Ravi only
(C) Chenab, Ravi and Sutlej only
(D) Beas, Chenab, Ravi, Sutlej and Yamuna
53. The divides India into almost two equal parts.
(A) Tropic of Capricorn (B) Tropic of Cancer
(C) Arctic Circle (D) Antarctic Circle

54. Which of the following is the highest peak of the Aravalli Range ?
- (A) Dhaulavira (B) Guru Shikhar
(C) Mount Abu (D) Anai Mudi
55. The formation of is one of the prominent geographical features of the West Coast.
- (A) Delta (B) Estuaries
(C) Both (a) and (b) (D) None of these
56. The Coastal tract of Orissa is also known as the :
- (A) Vindhya Plain (B) Utkal Plain
(C) Pulicat Plain (D) Kathiawar Plain
57. Which of the following State is termed as the largest jowar growing State in India ?
- (A) Gujarat (B) Maharashtra
(C) Rajasthan (D) Karnataka
58. The largest oil seeds growing State in India is :
- (A) Gujarat (B) Uttar Pradesh
(C) Tamil Nadu (D) Andhra Pradesh
59. A is a fan shaped tract formed at the mouth of a river.
- (A) Estuary (B) Canyon
(C) Delta (D) Gorge
60. A is a river that after flowing separately joins and merges with a large river.
- (A) Tributary (B) Stream
(C) Distributary (D) Both (a) and (c)

61. The largest catchment area among the Peninsular Rivers is of the river :
- (A) Godavari
 - (B) Mahanadi
 - (C) Krishna
 - (D) Kaveri
62. Which of the following rivers flows from East to West ?
- (A) Mahanadi
 - (B) Krishna
 - (C) Tapi
 - (D) Godavari
63. What is mixed farming ?
- (A) Growing Rabi as well as Kharif crops
 - (B) Growing several crops
 - (C) Growing several crops and also rearing animals
 - (D) Growing sugarcane as well as cereals
64. Which of the following rivers has a bird's foot delta ?
- (A) The Amazon
 - (B) The Brahmaputra
 - (C) The Mississippi
 - (D) The Nile
65. Which one of the following is a river port ?
- (A) Amsterdam
 - (B) Lisbon
 - (C) Marsellas
 - (D) Stockholm

66. **Mt. Kilimanjaro lies in :**
- (A) Kenya
 - (B) Somalia
 - (C) Tanzania
 - (D) Mozambique
67. **The Aryans belong to which of the following race ?**
- (A) Caucasoids
 - (B) Australoids
 - (C) Mongoloids
 - (D) Negroids
68. **The Great Himalayan National Park lies in :**
- (A) Himachal Pradesh
 - (B) Karnataka
 - (C) Jammu and Kashmir
 - (D) Sikkim
69. **Arakanyoma is the extension of the Himalayas located in :**
- (A) Baluchistan
 - (B) Myanmar
 - (C) Nepal
 - (D) Kashmir
70. **Daily weather map shows isobars. It is an example of :**
- (A) Choropleth map
 - (B) Isopleth map
 - (C) Chorochromatic map
 - (D) Choroschematic map

71. For which one of the following countries Spanish is not an official language ?
- (A) Chile
 - (B) Columbia
 - (C) Republic of Congo
 - (D) Cuba
72. The largest coral reef in the world is found near the coast of which one of the following countries ?
- (A) Australia
 - (B) Cuba
 - (C) Ghana
 - (D) Philippines
73. Which one of the following cities is nearest to the Equator ?
- (A) Colombo
 - (B) Jakarta
 - (C) Manila
 - (D) Singapore
74. In India, the ports are categorised as major and minor ports. Which one of the following is a minor port ?
- (A) Kochi
 - (B) Dahej
 - (C) Paradip
 - (D) Kandla
75. The term "Operation Flood" is associated with :
- (A) Blue Revolution
 - (B) Golden Revolution
 - (C) White Revolution
 - (D) Yellow Revolution

Question Booklet Series: **A**

Question Booklet Serial No. **110101**

CET (PG) – 2017

Important: Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.

Roll No. *In Figure* *In Words*

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O.M.R. Answer Sheet Serial No.

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Signature of Candidate: _____ Signature of Invigilator: _____

Subject: M.E. (Computer Science and Engineering/Information Technology)

Time: 90 Minutes Number of Questions: 75 Maximum Marks: 75

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.

INSTRUCTIONS:

1. Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen**.
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. Please check that this Question Booklet contains 75 Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
5. Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen**. There shall be negative marking for wrong answer, $\frac{1}{4}$ of the marks of the question will be deducted for every wrong answer.
6. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
7. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
8. If you want to change an already marked answer, erase the shade in the darkened bubble completely.
9. For rough work only the blank sheet at the end of the Question Booklet be used.
10. The University will provide Logarithmic table. Borrowing of log table or other material is not allowed.
11. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.
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15. Communication equipment such as mobile phones, pager, wireless set, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.
16. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

(1067)

- Power on Self Test (POST) diagnostic test determines
 - That the computer hardware like RAM, Keyboard, Disk drives works correctly.
 - Format of the Hard Disk
 - Operating System to be installed on computer
 - Life time of Hardware.
- 2.1 Terabytes is equal to
 - 21000 Gigabytes
 - 210 Gigabytes
 - 2100 Gigabytes
 - 21000 Megabytes
- Which of the following is a volatile memory?
 - ROM
 - Hard Disk
 - RAM
 - DVD
- A mobile phone has display resolution of 1920×1080 . What is the aspect ratio?
 - 9 : 16
 - 16 : 9
 - 4 : 3
 - 3 : 4
- Suppose instead of using 16 bits for the network part of a class B IPv4 address, 21 bits have been used. How many class B sub-networks will be there?
 - 32
 - 5
 - 30
 - 3
- A capacitor is charged by constant current of 4 mA and results in a voltage increase of 12V in a 13 seconds interval. Value of capacitance is
 - 36.9 mF
 - 4.33 mF
 - 39 mF
 - 3.69 mF
- Given that $AB + A'C + BC = AB + A'C$, then $(A' + C)(B + C)(A + B)$ is equivalent to
 - $(A' + B)(A + C)$
 - $(A + B)(A' + C)$
 - $(A + B')(A' + C)$
 - $(A + B')(A' + C')$

8. What will be the output of following:

```
#include<stdio.h>
main()
{
    int i = 8, j, k;
    ++i = ++j = ++k = 8;
    printf("\n %d \t %d \t %d", i, j, k);
}
```

- A) 10 9 8
B) 8 9 10
C) 8 8 8
D) 11 11 11

9. What will be the output of following:

```
#include<stdio.h>
main()
{
    int i = 7;
    for( i=0; 0; i<9)
        printf("\n %d", i);
    printf("\nEnd of Line");
}
```

- A) 7 7 7 7
B) End of Line
C) 0 1 2 3 4 5 6 7 8 9 End of Line
D) 0 1 2 3 4 5 6 7 8

10. A method of ensuring electronic document integrity

- A) Firewall
B) SSL
C) Authentication
D) Digital Signatures

11. Recursive functions are executed in:

- A) Last in First out order.
B) First in First out order
C) Parallel Order
D) Random order

12. Give the output of following 'c' code:

```
#define sum(x) x+x
void main()
{ printf("Sum=%d", sum(5)*sum(6)); }
```

- A) 120
B) 22
C) 111
D) 41

13. Which of the following would best fit the following description – software is copied and given to a friend without the permission of the copyright owner?
- Freeware
 - Piracy
 - Shareware
 - public domain
14. Find the number of comparisons using binary search method required to search 1000 in array $A = \{19, 25, 30, 35, 37, 45, 52, 69, 900\}$
- 4
 - 9
 - 0
 - Binary search can not be performed on this data.
15. Evaluate postfix expression: $12\ 11\ 7\ -\ / \ 2\ 1\ 5\ +\ * \ +$
- 16
 - 17
 - 15
 - 14
16. When following sequence is inserted in the binary search tree then the number of nodes in left and right sub-trees of root are : 52 86 64 20 3 25 14 9 85
- Left nodes = 5 and Right nodes = 3
 - Left nodes = 6 and Right nodes = 3
 - Left nodes = 3 and Right nodes = 5
 - Left nodes = 3 and Right nodes = 6
17. Order the following list by their asymptotic growth (fastest to slowest)
- (i) n (ii) n^n (iii) $\log n$ (iv) $n!$ (v) $n \log n$
- iii – i – v – iv – ii
 - ii – i – v – iv – iii
 - iii – i – v – ii – iv
 - iii – v – i – iv – ii
18. A program is written to turn on/off a switch. The Switch is switched off once the temperature falls below 18 and then it is turned on when the temperature is more than 21. To test this program, identify the Equivalence values which belong to the same class.
- 12,16,22
 - 22,23,24
 - 14,15,19
 - 24,27,17
19. How can you make an e-mail link in HTML?
- `<mail>xxx@yyy</mail>`
 - ``
 - ``
 - `<mail href="xxx@yyy">`

20. Match the following:
- a) HTML (i) Protocol for sending electronic mail on the Internet.
 b) HTTP (ii) Company that charges fee to enable organizations to connect to Internet
 c) ISP (iii) Set of tags and related rules that are used to create web pages.
 d) SMTP (iv) Internet standard that supports exchange of information on Web.
- A) a)-(iii) b)-(iv) c)-(i) d)-(i)
 B) a)-(iv) b)-(i) c)-(iii) d)-(ii)
 C) a)-(iv) b)-(i) c)-(ii) d)-(iii)
 D) a)-(iii) b)-(ii) c)-(iv) d)-(i)
21. If we use x^4+x^2+1 polynomial standard, what would be the cyclic redundancy check if the original data component was 11011?
- A) 1010
 B) 1101
 C) 1001
 D) 0101
22. Convert the following: $(426)_8 = (\dots\dots\dots)_{16}$
- A) 110
 B) 115
 C) 116
 D) 112
23. A single array $A[1..MAXSIZE]$ is used to implement two stacks. The two stacks grow from opposite ends of the array. Variables $top1$ and $top2$ ($top1 < top2$) point to the location of the topmost element in each of the stacks. If the space is to be used efficiently, the condition for "stack full" is
- A) $(top1 = MAXSIZE/2)$ and $(top2 = MAXSIZE/2+1)$
 B) $top1+top2 = MAXSIZE$
 C) $(top1 = MAXSIZE/2)$ or $(top2 = MAXSIZE)$
 D) $top1 = top2-1$
24. How many address lines are needed to address each memory location in a 2048 x 4 memory chip?
- A) 10
 B) 11
 C) 12
 D) 4
25. In a link list, the successive elements
- A) Must be stored in contiguous memory space
 B) Need not occupy contiguous memory space
 C) Must not occupy contiguous memory space
 D) None of the above

26. Suppose a Web server application generates messages consisting of 120 bytes of data to be sent. Message gets encapsulated in a TCP segment and then an IPv4 datagram. There are no options added in the TCP or IP headers. What is percentage of IP datagram size consisting of application data?
- A) 90%
 B) 60%
 C) 75%
 D) 50%

27. Suppose an operating system (OS) designer chooses the micro-kernel architecture over the monolithic architecture for implementing an OS. What can be the strongest motivating reason for this choice?
- A) The need for maximum performance
 B) Because hardware support exists for micro-kernels on most microprocessors
 C) The desire to have a flexible and extensible kernel
 D) Need for performance isolation among user-level processes

28. Consider the following function in C:

```
Test ( int t1 ) {
    if (t1 == 0) return 0;
    else return t1 + Test(t1 - 1);
}
```

When the above function is called with a non-zero positive value, it always returns value of

- A) t1
 B) t1-1
 C) $t1 * (t1 + 1) / 2$
 D) Zero
29. The machine independent phases of the compiler:
- A) Syntax Analysis
 B) Lexical Analysis
 C) Intermediate code generation
 D) All of the above

30. Given the following expression grammar

$E \rightarrow E * F \mid F + E \mid F$

$F \rightarrow F - F \mid id$

Which of following is true

- A) * has higher precedence than +
 B) - has higher precedence than *
 C) + and - have same precedence
 D) + has higher precedence than *
31. A graph in which all vertices are of equal degree is :
- A) Regular graph
 B) Simple Graph
 C) Complete Graph
 D) Bipartite Graph

32. The most important difference in the performance between main memory and secondary memory is:
- Power consumption
 - Most secondary storage devices are too big to fit into the CPU
 - Secondary storage is mostly bi-state, but main memory is mostly tri-state
 - Speed of access; secondary storage is much slower
33. Optical fiber is one of the most attractive physical layer media to use for high speed networks because:
- It offers immense transmission bandwidth
 - It has extremely low error rates
 - It can cover relatively large geographic distances before requiring repeaters
 - All of the above
34. In UNIX operating system, command used for backups and achieves is
- Tar
 - Backup
 - Archeive
 - None of above
35. In order to enhance performance of the computer, Disk defragmenter
- Consolidates parts of files lying at different locations on computer's hard disk.
 - Deletes temporary files related to Internet.
 - Deletes temporary files related to backup.
 - All of the above.
36. Today's desktop computers have typically 'X' amount of main memory, 'Y' speed of processor and 'Z' amount of hard-disk memory. Approximately X, Y, Z can be respectively,
- 4MB, 3MHz, 1000MB
 - 4GB, 3.3 GHz, 1000GB
 - 4GB, 3GHz, 1000KB
 - 4GB, 3kHz, 1000GB
37. You want to use multiple operating system like linux, windows etc. concurrently on single machine. The best way to achieve this is:
- Make machine multiple bootable like using GRUB
 - Use virtualization software like VMWare
 - It is not possible
 - None of Above
38. Which of the following optical transducer is an active transducer?
- Photo transistor
 - Photo emissive cell
 - Photo voltaic cell
 - Photo diode

39. Let $A = 656$, $B = 473$ and $C = 1351$, then in which of the following number systems is the equation $A + B = C$ satisfied?
- A) Binary
 - B) Decimal
 - C) Hexadecimal
 - D) Octal
40. If $\log_2 16 = n$, then the value of n is :
- A) 2
 - B) 8
 - C) 6
 - D) 4
41. How many memory chips of (128×8) are needed to provide a memory capacity of 2048×16 ?
- A) 64
 - B) 128
 - C) 16
 - D) 32
42. If a relation scheme is in BCNF, then it is also in
- A) Multiple normal forms
 - B) Third normal form
 - C) Second normal form
 - D) First normal form
43. Which term matches the following definition? The art and science of hiding secret messages within some other form that is usually visible or out in the open for anyone to see if they knew where to look.
- A) Digital Signature
 - B) Steganography
 - C) Encryption
 - D) Digital Watermarking
44. Cookies were designed as a response to which problem in the original design of HTML and HTTP?
- A) Lack of privacy and confidentiality in viewing web-pages
 - B) Inequality of information between clients and servers
 - C) The open and distributed nature of the Internet
 - D) Persistence of state between web-sessions
45. The entity relationship diagram
- A) Indicates how data are transformed by the system
 - B) Indicates system reactions to external events
 - C) Depicts relationships between data objects
 - D) Depicts functions that transform the data flow

46. A milk container contains 50 litres of milk. The milkman replaces 5 litres of milk by water. Being not satisfied by the mixture, He again replaces 5 litres of this milk by water. How much quantity of milk is now left in the milk container?
- A) 40.5
B) 40
C) 41
D) 39.5
47. The emerging standard for WPANs is the IEEE ____.
- A) 802.3
B) 802.15
C) 802.11
D) 802.20
48. Which one of the following statements is not correct?
- A) Cyclomatic complexity for a flow graph G is $V(G) = E - N + 2$, where E is the number of edges & N is the number of nodes in the flow graph.
B) Cyclomatic complexity for a flow graph G is $V(G) = P + 1$, where P is the number of predicate nodes contained in the flow graph.
C) Cyclomatic complexity for a flow graph G is $V(G) = N - E + 2$, where E is the number of edges and N is the number of nodes in the flow graph.
D) The number of regions corresponds to the cyclomatic complexity.
49. CPU Scheduling refers to
- A) Swapping processes from secondary to main memory
B) Switch off the power of processor
C) Management of processes in main memory
D) Allowing processes to use the processor
50. Which of the following tag in HTML is used to add a row to a table
- A) `<td>`
B) `<tr>`
C) `<row>`
D) `<tuple>`
51. The Parsing Technique that avoids backtracking is:
- A) Predictive Parsing
B) Top Down Parsing
C) Syntax Tree
D) Recursive Descent Parsing
52. A program P calls two subprograms P_1 and P_2 . P_1 can fail 50% times and P_2 40% times. Then P can fail
- A) 10%
B) 50%
C) 70%
D) 80%

53. A UPS in a computer system:
- A) increases the storage capacity of a computer system
 - B) increases the process speed
 - C) provides backup power in the event of a power cut
 - D) Increases I/O speed
54. Which of the following software is available in open source and free domain
- A) Adobe Photoshop
 - B) MS-Windows
 - C) Microsoft-Office
 - D) Linux
55. You wish to install a hardware device that is not Plug and Play. Which of the following is commonly the first instruction given in help manual to install this device?
- A) Turn the power off
 - B) Install the driver
 - C) Disconnect the monitor
 - D) Install the device
56. Print server uses _____ which is a buffer that holds data before it is send to the printer.
- A) Queue
 - B) Node
 - C) UPS
 - D) Spool
57. Identity theft is the
- A) impersonation by a thief of someone's identity for purpose of economic/ social gain
 - B) impersonation by a thief of someone with good credit
 - C) impersonation by a thief of someone with computer skills
 - D) impersonation by a thief of someone with a large bank account
58. RS-232 is a standard that applies to?
- A) Game port
 - B) Parallel port
 - C) Serial port
 - D) USB Port
59. Data Definition Language (DDL)
- A) describes how data are structured in the data base
 - B) specifies for the DBMS what is required; the techniques used to process data
 - C) determine how data must be structured to produce the user's view
 - D) All of the above

60. A document called _____ is created by decomposing the project scope into smaller, more manageable elements.
- A) Scope Statement
 - B) Work Breakdown Structure
 - C) Requested Change
 - D) Network Logic Diagram
61. Who is considered the "father" of World Wide Web?
- A) Ted Nelson
 - B) Bill Gates
 - C) Tim Berners-Lee
 - D) Narayan Murthy
62. As 'Circle' is related to 'Circumference' in the same way 'Square' is related to what?
- A) Angle
 - B) Area
 - C) Diagonal
 - D) Perimeter
63. Assume that the following statements are true
- Statements: Some saints are Faquirs.
No Faquir is King.
- Conclusions: I. Some saints are kings.
II. No saint is king.
- A) Only I
 - B) Both I and II
 - C) Only II
 - D) Neither I nor II
64. Coupling is a qualitative indication of the degree to which a module
- A) Is able to complete its function in a timely manner
 - B) Is connected to other modules and outside world
 - C) Focuses on just one thing
 - D) Can be written more compactly
65. The conditions immediately outside the software system is called
- A) The environment
 - B) The boundary
 - C) The graphical user interface
 - D) None of the Above
66. DNS servers translates web addresses or host names to :
- A) Host Name
 - B) IP address
 - C) FTP address
 - D) MAC address

67. Which of the following items would not come under Configuration Management of software?
- A) operating systems
 - B) test documentation
 - C) user requirement document
 - D) live data
68. An unsolicited e-mail message sent to many recipients at once is a _____.
- A) Trojan horse
 - B) Spam Mail
 - C) Spy ware
 - D) Worm Mail
69. Virtual memory is:
- A) related to virtual reality.
 - B) a form of RAM
 - C) a form of ROM
 - D) a form of I/O
70. Back-up procedure helps in
- A) restoring the data files whenever there is a system crash.
 - B) restoring the operation whenever there is a disk failure
 - C) restoring both application and system software whenever there is disk corruption.
 - D) All of the above
71. A display is configured to show 1 million colors. How many bytes are needed to store the color information for one pixel?
- A) 4
 - B) 3
 - C) 2
 - D) 1
72. The cyclomatic complexity metric provides the software designer with information regarding the number of
- A) independent logic paths in the program
 - B) Cycles in the program
 - C) Errors in the program
 - D) Statements in the program
73. Consider the experiment of tossing 2 dice. Let A be the event that the numbers appearing on top are equal, and B be the event that both numbers are even. How many outcomes will the event $A \cap B$ consist of?
- A) 1
 - B) 3
 - C) 4
 - D) 6

74. A biometric device _____.
- A) Allows users to connect to a computer only after the computer calls back at a previously established telephone number
 - B) Authenticates a person's identity by verifying personal characteristics
 - C) Is a unique combination of characters, such as letters of the alphabet or numbers, that identifies one specific User
 - D) Is any item that must be carried to gain access to a computer or computer facility
75. A machine cycle refers to :-
- A) fetching an instruction
 - B) clock speed
 - C) fetching, decoding and executing an instruction
 - D) executing an instruction
