

*Hi friends, jay swami narayan,*

Its my heartiest congratulations to all of u for scoring good in GATE-2009.

Now ,don't stop ur journey over here bcoz your shipcis in the midst of sea.Still u have l.....ong way to go.Out of many DESTINATION,one of is NIPER,for which we can show the way.

So wish u all the very best for ur bright future

I know that there will be little time for NIPER preparation after university but it is more than sufficient time to learn all these syllabus.

As most of sylabii is completed during preparation for GATE.Only go through all which u read in GATE exam..The newer part is basic organic chemistry of our second year.For this ,refer MORRISON &BOYD,it is better book recommended for NIPER preparation.NO any other question will be out of M.B.

Last but not least,ur motto must be

*"ONLY NIPER IS MY ULTIMATE GOAL"*

## **NIPER -2008 QUESTION PAPER**

1) x-ray diffraction is used for what purpose?

**\$\$ for determination of protein sequence.**

2) How many hydrogen bonds are possible in "H<sub>2</sub>O"?

**\$\$ Two(2)**

3) Following are the official tests for tablets as per IP except

**\$\$ a) dissolution b) diffusion c) weight variation d) friability**

4) Which of the following is most polar?







\$\$ cysteine

13) Correct statement regarding GLCOLYSIS?

- a) It converts chemical energy in to potential energy
- b) It converts potential energy in to usable energy**
- c) It occurs only in plants not in animals
- d) It occurs only in animals not in plants

14) Biological source of NEEM

\$\$ **Azadirachta indica**

15) Agonists are characterized by

\$\$ **Affinity with intrinsic activity**

16) Antagonists are characterized by

\$\$ **Affinity without intrinsic activity**

17) Neurotransmitter present in pre-ganglionic nerve fiber?

\$\$ **Acetylcholine**

18) Business means

\$\$ **Trade & commerce**

19) If two chloride atoms are present then which type of peaks are seen?

\$\$ **M, M+2**

20) According to ICH guidelines INDIA comes under which zone?

\$\$ **a) zone1 b) zone2 c) zone3 d) None of above**



21) Serotonin is synthesized from

**\$\$ Tryptophan**

22) In biological classification nomenclature of drug is given according to

**\$\$ Variety and species**

23) Lavigation is used for

**\$\$ Particle size reduction in suspension (wet grinding)**

24) Autoclave works under

**\$\$ High pressure**

25) Noyes whitney equation stands for

**\$\$ a) Dissolution b) Diffusion c) Osmosis d) pH**

26) Polysorbate is which type of surfactant?

**\$\$ Non-ionic surfactant**

27) For determination of ionic concentration which equation is used

**\$\$ Henderson hesselbalch equation**

28) Why KBr is used in IR Spectroscopy

**\$\$ Because it is IR transparent**



29) Bank account is of which type

\$\$ **Nominal typ**

29) Haloperidol differs from other antipsychotics

\$\$ **It does not contain phenothiazine ring system**

30) Propyl gallate is

\$\$ **a) antioxidant** b) chelating agent c) surfactant d) preservative

31) In straight glycosis how many enzymes are there

\$\$ **9**

32) More ATP are obtained from

\$\$ **one mole of fat**

33) Flow property are affected by all except

\$\$ **Colour**

34) Conversion of eugenol to isoeugenol is best affected by

\$\$ **Strong base**

35) Which is the content of Bayer's reagent

\$\$ **KMnO<sub>4</sub>**

36) In parkinson disease dopamine is decreased in

\$\$ **Nigrostriatal tract**



37) Nonspecific immunity is related to

**\$\$ Adaptogenic immunity**

38) Uricosuric agent

**\$\$ Increase uric acid excretion**

39) Sotalol having same mechanism of action as

**\$\$ Amiodarone**

40) Which of the following has disulfiram like effect

**\$\$ Ceftriaxime**

41) Particle size in suspension

**\$\$ More than 5 micrometer**

42) Type of hydrogen attach to difrent atoms can be differentiated by...

**\$\$\$a) Nmr**

b) Mass

c) IR

d) uv

43) Which of the following is not an alcoholic preparation ?

**\$\$ Syrup USP**



44) Most of the amino acid present in the body having a confirmation of?

\$\$ L-amino acid

45) COX-2 selective NSAIDs is

\$\$ Nimesulide

46) Nitroglycerine gives potentiates the vasodilator effect of following...

\$\$ Sildenafil

47) Which one of the following is selective GABA-B agonist

\$\$ Beclofen

48) Endothelin is all of the following except

\$\$ Neuromodulator

49) Which excitatory neurotransmitter produce pain in spinal cord

- a) NMDA                      b) substance P                      (answer not sure)
- c) glutamate                      d) glycine

50) low concentration of inocula gives

\$\$ increase Lag phase

51) Half life of first order rate reaction is

\$\$  $0.693/k$

52) Most intense peak in mass spectra is known as

\$\$ Base peak



53) Alfa-pinene is one of the following

**\$\$ Bicyclic**

54) Which of the following is a colligative properties

**\$\$ Osmotic pressure**

55) Particulate size of camphor can be reduce by

**\$\$ Pulverisation by intervention technique**

56) In soft gelatine capsule plastisizer used is

**\$\$ Sorbitol**

57) Which one of the following is nonionic surfactant

**\$\$ Macrogol**

58) Lanoline is which type of base

**\$\$ Absorption type**

59) Indication of which one of the following is related to

**CLOXACILLIN**

**\$\$ Naflicillin**

60) Which buffer has lower buffering power at pH 5

a) borate

b) sulphate

**C) acetate**

d) phosphate



61) At isoelectric point in electrophoresis protein is

- a) soluble                      b) insoluble  
C) immobilize                      d) mobile

62) Definition of **ENANTIOMER** ?

63) Definition of **EPIMERS** ?

64) Definition of **DIASTEREOMERS** ?

65) Definition of **ANOMERS** ?

66) Definition of **ATROPOISOMER** ?

67) Definition of **REGIOSELECTIVITY**?

68) Definition of **REGIOSPECIFICITY**?

69) Which one of the following is a suspending agent

- a) Methylcellulose                      b) acacia  
C) Both                      d) none

70) Which one of the following is Enteric coated film former material

\$\$ CAP

71) SN -2 reaction involves

\$\$ Inversion



72) In SN-2 reaction C=O group is best affected by

\$\$ Presence of Neucleophiles

73) Gene transcription occurs at

\$\$ Nucleus

74) Vidarabine is use in treatment of

\$\$ Rubella

75) Bulk detector are used in

\$\$ Flourescence

76) Troponine is

\$\$ Contrectile protein

77) Propylthiourea has same indication as

\$\$ Methimasol

78) Highest dependence producing congener of morphine is

\$\$ Diacetylmorphine (heroine)



79) Intrarticular injection means injection in

\$\$ Artery

80) Particle size in microemulsion is

\$\$ 0.4 micrometer (not remember but smallest size was answer)

81) Barrier to absorption through skin

\$\$ Stratum corneum

82) particle size for ideal suspension

\$\$ More than 0.5 micrometr

83) Which enzyme has important key role in PCR technology?

\$\$ restriction endonuclease

84) According to BREDT'S rule

\$\$ Double bond can not be formed at bridged carbon atom (check proper definition)

85) "SHOT GUN" sequencing is used for

\$\$ for small molecules

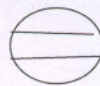
86) which one of the followings is odd ?



(four such figures of maths was

Given, one of them was odd )

87) which one of the following is odd?





88) which drug inhibits alpha glucosidase?

**\$\$ Acarbose**

89) Which are the characteristics of Acarbose ?

**\$\$ All of above**

90) Give the relation between two following structures?

a) epimers

**b) anomers**

c) enantiomers

d) distereomers

91) most of the sugar structures are \_\_\_\_\_ of each other?

**\$\$ Anomers**

92) following is which type of projection?

**\$\$ sawhorse type**

93) If the dose of drug is 50 mg and plasma conc. is 10 microgram/ml, what is the value of  $V_d$  ?

a) .5 ltr

**b) 5 lit**

c) 50 ltr

d) none of above

94) Omeprazole acts by inhibition of

**\$\$  $H^+/K^+$  ATPase pump**

95) Equation for total body clearance

**\$\$  $K_e V_d$**



96) A newly approved drug *telapril* (not exactly remember) by US FDA is

\$\$ ACE inhibitor

97) Dopamine beta-hydroxylase converts Dopamine directly into?

\$\$ Nor adrenaline

98) Which of the following receptor has onset within milliseconds?

\$\$ nicotinic ACh receptor

99) One new drug recently approved by US FDA?

\$\$ ans not sure

100) Minimum no of partners required for opening an industry?

\$\$ 2

101) From TRYPTOPHAN, as an intermediate, which product is formed which has a specific role in treatment of migraine?

\$\$ 5-HT

102) Paclitaxel, the natural product, is

\$\$ Anticancer

103) Cyclo addition is seen in one of the following reactions?

a) Diels-Alder reaction

b) Cannizzaro reaction

c) Aldol condensation

d) Perkin condensation

104) Which intermediate is formed in Wittig's reaction?

\$\$ betaine



105) Which of the following is a colligative property?

\$\$ osmotic pressure

106) Western blot technique involves use of agent that binds with specific protein, this agent is called?

\$\$ Antigen

107) If instrument is of <sup>600</sup>300 HZ then <sup>13</sup>C shows peak at

a) 300 HZ

b) 600 HZ

$$H = \frac{614C}{4}$$

✓ c) 150 HZ

d) 100 HZ

$$H = \frac{1}{4} 13C$$

108) If dose of penicillin is 300 mg, then what is the conc. in terms of unit?

a) 48,000

b) 96000

c) 16000

d) 3000

109) Interferons are chemically

\$\$ Proteins

110) In African Sleeping Sickness, which are the vectors?

\$\$ sand fly

111) Give opposite base sequence for triplet ACG?

\$\$ TGC

112) Glutamate is chemically

\$\$ Ester of N-methyl aspartic acid + Phenyl acetate



113) Which nitrogen base is absent in DNA?

**\$\$ Uracil(U)**

114) Use of colloidal mill

**\$\$ For breaking agglomeration in suspension**

115) Range of NEAR IR?

116) DELTA shift in aromatic ring is seen at?

117) NMR scale is expressed in

**\$\$ ppm**

118) For  $CDCl_2$  give delta value?

119) Lyophilization involves

**\$\$ removal of water by freeze drying**

120) Karl Fischer titration is used for

**\$\$ moisture determination**

121) Wave length for Acetonitrile in IR ?

122) Which software does not work on the principle of DOCKING?

123) Which software used for conversion of 2D to 3D structure?

**\$\$ CONCORD(Not sure)**

124) Which type of elimination is in following reaction?

**\$\$ Backmann**



125) At which condition, a molecule bears both positive and negative charge?

**\$\$ At isoelectric point**

126) H- antigen is made up of

**\$\$ alpha D-galactose**

127) (R,S) structure of tartaric acid was given, identify the structure

128) Membrane protein may serve as

**\$\$ all of above**

129) Cyano bacterias are

**\$\$ blue in colour**

130) Which reagent is used as catalyst in given reaction?

**\$\$ Lindnar reagent**

131) Preparative column is used for

**\$\$ Obtaining pure compound**

132) Uricosuric agent

**\$\$ increases uric acid excretion**

133) Propyl thiouracil have same indication as that of

**\$\$ Methimazole**

134) Sotalol having same m.o.a. as that of

**\$\$ Amiodarone**

135) Highest dependence producing drug, one of the following?



**\$\$ Morphine**

136) Phosphoric acid have how many Pka values

**\$\$ 3(three)**

137) Which drug is used to treat diarrhea?

**\$\$ Domperidom(not sure)**

138) Which drug have DISULPHIRAM like effect?

**\$\$ Ceftriaxime**

139) Primaquine is used in treating?

**\$\$ Relapsing P. facirarum malaria**

140) SDS-PAGE is use for?

**\$\$ Proteins..**

**GENERAL INSTRUCTIONS:**

**Mug-up following things....it is must.....**

- 1) All the IR wavelength for carbonyl compounds
- 2) All HLB Values
- 3) All solubility ranges (Lachmann)
- 4) All surfactants (anionic, cationic, nonionic)

Apart from this, paper also contained mathematical calculations, synonyms, antonyms and acronyms



**NOTE:**

In form they provide one option for sponsor seat, do tick that option as it does not require any industrial recommendation but it is one sort of payment seat. If you do not tick that option, you will not be eligible for taking admission in these payment seats.

Answers given in above questions is best of the options given. It might not be the most appropriate answer for that question. Do not depend solely on given answer because we wrote only that we could remember so please refer standard books for finding true answer...

*Few useful acronyms,*

**CPCSEA**-Committee for Purpose of Control and Supervision of Experimental Animals

**IAEC**-Institutional Animal Ethics Committee

**SDS-PAGE**-Sodium Dodecyl Sulphate-Poly Acrylamide Gel Electrophoresis

**NME**-New Molecular Entity

**NCE**-New Chemical Entity

**GRAS**-Generally Recognised As Safe

**ANDA**-Abbreviated New Drug Application