

UPSEE 2019

PAPER-M PHARM: CODE: AA*

ANSWER KEY, Examination Date: 21-04-2019

1	D	26	D	51	A	76	C
2	B	27	D	52	B	77	C
3	B	28	A	53	B	78	D
4	C	29	C	54	A	79	B
5	A	30	D	55	D	80	D
6	D	31	D	56	A	81	C
7	C	32	A	57	C	82	C
8	A	33	A	58	C	83	C
9	D	34	B	59	B	84	A
10	D	35	B	60	C	85	B
11	C	36	B	61	B	86	D
12	C	37	B	62	A	87	A
13	B	38	B	63	C	88	B
14	C	39	D	64	B	89	A
15	B	40	B	65	D	90	D
16	C	41	A	66	A	91	A
17	C	42	C	67	A	92	A
18	B	43	C	68	D	93	B
19	D	44	C	69	D	94	B
20	A	45	D	70	D	95	C
21	A	46	A	71	C	96	B
22	D	47	D	72	B	97	B
23	C	48	A	73	D	98	B
24	A	49	B	74	C	99	D
25	A	50	A	75	D	100	B

Note: In case of any grievance, it must be reported at upseegrievance@aktu.ac.in along with Students Roll No. with Paper Code, Question Booklet Code, Question No. and suggested answer with supporting documents on or before 03rd May 2019.

*प्रश्न पुस्तिका क्रमांक **AA** का प्रश्नपत्र एवं कुंजी प्रकाशित की जा रही है। प्रश्न पुस्तिका क्रमांक **BB, CC** तथा **DD** में प्रश्नों एवं उनके विकल्पों का क्रम परिवर्तित है कृपया तदनुसार उत्तर मिलान करें।

**MPH**

Question Booklet Sr. No.

Q. Booklet Code

AA

Roll No.

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OMR Answer Sheet No.

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Declaration :

I have read and understood the instructions given on page No. 1

Seal of Superintendent of Examination Centre

Signature of Candidate
as signed in application)

Signature of the Invigilator

Name of Candidate :

To be copied by the candidate in your own handwriting in the space given below for this purpose is compulsory.
"You will know you are in the right profession when : you wake anxious to go to work, you want to do your best daily, and you know your work is important."

* After cutting half upper part of this page, invigilator preserve it along with student's OMR sheet.



No. of Pages in Booklet including title

12Time **2** HoursMarks
400

No. of Questions in Booklet

100**MPH**

Question Booklet Sr. No.

Roll No.

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Signature of the Invigilator

Q. Booklet Code

Name of Candidate :

AA**INSTRUCTIONS TO CANDIDATE**

1. Use BLUE or BLACK BALL POINT PEN only for all entries and for filling the bubbles in the OMR Answer Sheet.
2. Before opening the SECURITY SEAL of the question booklet, write your Name, Roll Number (In figures), and OMR Answer-sheet Number in the space provided at the top of the Question Booklet. Non-compliance of these instructions would mean that the Answer Sheet can not be evaluated leading the disqualification of the candidate.
3. Each question carries FOUR marks. There will be negative marking on wrong answer. FOUR marks will be awarded for each correct answer and ONE mark will be deducted for each wrong answer. No marks will be deducted/awarded for unattempted questions.
4. Each multiple choice question has only one correct answer. More than one answer indicated against a question will be treated as incorrect answer.
5. Use of log table, mobile phones, any electronic gadget and slide rule etc. is strictly prohibited. Non-programmable calculator is permitted.
6. Candidate will be allowed to leave the examination hall at the end of examination time period only.
7. If a candidate is found in possession of books or any other printed or written material from which he/she might derive assistance, he/she is liable to be treated as disqualified. Similarly, if a candidate is found giving or obtaining (or attempting to give or obtain) assistance from any source, he/she is liable to be disqualified.
8. OMR sheet is placed within this paper and can be taken out from this paper but seal of paper must be opened only at the start of paper.

MPH

M. Pharm

: Q. 1 to Q. 100

M PHARMA

001. Which is the most appropriate factor governing the volume of drug distribution?

- (A) pKa value of the drug
- (B) Disease condition of the body
- (C) Degree of plasma protein binding
- (D) All of the above

002. Drug which is bound to plasma protein specifically albumin are except?

- (A) Phenytoin (B) Verapamil
- (C) Warfarin (D) Tolbutamide

003. What should be the ideal body weight (kg): body surface area (m^2) of a 1-month child?

- (A) 3.2:0.23 (B) 4.0:0.26
- (C) 3.2:0.8 (D) 4.0:0.12

004. Craniofacial defect is the main teratogenic effect of one of the following drug

- (A) Indomethacin (B) Thalidomide
- (C) Isotretinoin (D) Methotrexate

005. Principle action of noscapine a benzylisoquinoline alkaloid is?

- (A) Antitussive (B) Antihistaminics
- (C) Antiemetic (D) Anticoagulant

- 006.** Which is a 5-HT₃ antagonist?
 (A) Hyoscine (B) Domperidone
 (C) Morphine (D) Granisetron
- 007.** Clonidine suppression test has been recommended for the identification of?
 (A) Psoriasis
 (B) Diabetes
 (C) Pheochromocytoma
 (D) Rheumatoid arthritis
- 008.** Smallpox vaccine contains
 (A) Living virus vaccinia
 (B) Living culture of BCG
 (C) Attenuated staphylococcus
 (D) Living virus of hepatitis
- 009.** The risk of digitalis toxicity is significantly enhanced by the concomitant administration of
 (A) Triamterene (B) Clofazimine
 (C) Lomefloxacin (D) Neomycin
- 010.** Clavulanic acid has a beta-lactam ring fused to?
 (A) Thienyl system
 (B) Thiadiazole system
 (C) Thiazolidine system
 (D) Oxazolidine system
- 011.** Carr's index governs the
 (A) Elasticity (B) Particle size
 (C) Powder flow (D) Polymorphism
- 012.** Which one of the following is commonly being used to enhance the elasticity or plasticity of soft gelatin capsules?
 (A) Croscarmellose sodium
 (B) Lactose
 (C) Sorbitol
 (D) Polyethylene glycol
- 013.** Which type of bacteria produces toxic pyrogens?
 (A) Gram +ve
 (B) Gram -ve
 (C) Both "A" and "B"
 (D) None of the above
- 014.** Brij is a tradename for
 (A) Emulsifying agent
 (B) Propellant
 (C) Surfactant
 (D) Deflocculant agent
- 015.** Choose the correct diameter of mesh apertures in IP disintegration test apparatus?
 (A) 1.00 mm (B) 2.0 mm
 (C) 3.00 mm (D) 1.5 mm

- 016.** As per GMP permitted limit of solid contents in water for injection is
 (A) 0.1 ppm (B) 1.0 ppm
 (C) 10.0 ppm (D) 100 ppm
- 017.** What should be the optimum storage temperature for aerosols?
 (A) < 95°F (B) < 100°F
 (C) < 120°F (D) < 140°F
- 018.** Which type of glass has been recommended to avoid the blooming or weathering effect?
 (A) Type I- borosilicate glass
 (B) Type II- Treated soda lime glass
 (C) Type III- Regular Soda lime glass
 (D) Type NP- general purpose soda lime glass
- 019.** Water number can be defined as
 (A) Number of water molecules present in a compound
 (B) Number of water molecules to make a solution of a drug
 (C) Amount of water in gm required to dissolve the drug
 (D) Amount of water in gm that can be incorporated in 100 gm of fat
- 020.** HLB system is used to classify
 (A) Surfactant (B) Preservatives
 (C) Antioxidants (D) Emulsions
- 021.** Colchicine is biologically derived from one of the following
 (A) Tyrosine and Phenylalanine
 (B) Tryptophan and Phenylalanine
 (C) Ornithine and Tryptophan
 (D) Ornithine and Phenylalanine
- 022.** Precursor for the biosynthesis of tropane group of alkaloid is
 (A) Leucine (B) Lysine
 (C) Ornithine (D) Tyrosine
- 023.** Essential oil obtained from *Cymbopogon flexuosus* principally contains?
 (A) Neral (B) α -pinene
 (C) Citral (D) α -terpineol
- 024.** Which color of fluorescence is exhibited by Quassia under UV light?
 (A) Whitish blue (B) Purple blue
 (C) Violet (D) Deep purple violet
- 025.** Which test is specifically employed for rancidity of fats?
 (A) Kreis test
 (B) Borntrager test
 (C) Petroleum ether test
 (D) UV radiation test

- 026.** Ergot of rye belongs to family
 (A) Lythraceae
 (B) Solanaceae
 (C) Malvaceae
 (D) Clavicipitaceae
- 027.** Crown of clove contains all of the following except
 (A) Calyx (B) Stamens
 (C) Corolla (D) Bilocular ovary
- 028.** Identify the plant hormone having specific effect on cell division
 (A) Auxins (B) Absciscic acid
 (C) Cytokinins (D) Ethylene
- 029.** Phenylalanine, ornithine and methionine are involved in the biosynthesis of
 (A) Lysergic acid (B) Papaverine
 (C) L-hyoscyamine (D) Reserpine
- 030.** Upon oxidation eugenol gives
 (A) Para eugenol (B) Caryophyllenes
 (C) Cineole (D) Vanillin
- 031.** Nitrazepam can be synthesized from
 (A) 2-Bromo-5-amino-benzophenone
 (B) 2-Nitro-2-chloro acetophenone
 (C) 2-Amino-5-nitro cyclohexanone
 (D) 2-Amino-5-nitro benzophenone
- 032.** IUPAC name for naproxen is
 (A) (2~{S})-2-(6-methoxynaphthalen-2-yl) propanoic acid
 (B) (2~{S})-2-(4-methoxynaphthalen-6-yl) acetic acid
 (C) (2~{S})-2-(2-methoxynaphthalen-4-yl) propanoic acid
 (D) (2~{S})-2-(6-methoxynaphthalen-4-yl) acetic acid
- 033.** What happens when a catalyst is added to a system at equilibrium?
 (A) The reaction follows an alternative pathway of lower activation energy
 (B) The potential energy of the reactants decreases
 (C) The potential energy of the products decreases
 (D) The heat of reaction decreases
- 034.** β -phenyl-N alkyl piperidine moiety is largely responsible for activity in one of the following
 (A) Buprenorphine (B) Pethidine
 (C) Cycloserine (D) Amitriptyline
- 035.** Ethambutol molecule has?
 (A) Two chiral centers and 3 stereoisomers
 (B) Two chiral centers and 4 stereoisomers
 (C) Two chiral centers and 2 stereoisomers
 (D) One chiral center and 2 stereoisomers

- 036.** Barbiturates with substitution at the following position possess acceptable hypnotic activity?
 (A) 1,3-Disubstitution
 (B) 5,5-Disubstitution
 (C) 1,5-Disubstitution
 (D) 3,3-Disubstitution
- 037.** The electronic transition possible in Br₂ is
 (A) $\sigma - \sigma^*$ (B) $\sigma - \sigma^*$ and $n - \sigma^*$
 (C) $\sigma - \pi^*$ and $\pi - \pi^*$ (D) $n - \pi^*$ and $\sigma - \pi^*$
- 038.** Phenobarbitone is an active metabolite of
 (A) Carbamazepine (B) Primidone
 (C) Trimethadione (D) Ethosuximide
- 039.** Codeine differs in structure from morphine by
 (A) N-methyl group (B) -Cl group
 (C) -OC₂H₅ group (D) -OCH₃ group
- 040.** The common structural feature of iodoxamic acid, iotalamic acid, diatrizoic acid and iocarmic acid is
 (A) Sulphonphthalein
 (B) 2,4,6-tri-iodo benzoic acid
 (C) Tri-iodo triphenyl methanoic acid
 (D) Tri-iodo diphenyl methanoic acid
- 041.** Schedule S stands for
 (A) Standards for cosmetics
 (B) List of prescription drugs
 (C) Standard for surgical dressings
 (D) List periods of drugs
- 042.** Which is a Schedule C1 drug?
 (A) Meprobamate (B) Clonidine
 (C) Digitalis (D) Pheniramine
- 043.** The schedule in Drug and Cosmetic Act that deals with the standards for disinfectant fluid is
 (A) Schedule B (B) Schedule F
 (C) Schedule O (D) Schedule M
- 044.** Schedule FF contain the list of the following
 (A) Drugs which can be marketed under generic names only
 (B) Drugs which are habit forming
 (C) Standard for ophthalmic preparations
 (D) Drug which are exempted from certain provisions applicable to manufacturing
- 045.** Respective fill volume of the capsule no. 2 is
 (A) 0.13 ml (B) 0.27 ml
 (C) 0.20 ml (D) 0.37 ml
- 046.** Gold number of gelatin is
 (A) 0.005-0.01 (B) 0.1
 (C) 1-5 (D) 2
- 047.** Pseudoplastic flow is exhibited by polymer dispersion
 (A) Tragacanth in water
 (B) Sodium alginate in water
 (C) Methylcellulose in water
 (D) All of the above

- 048.** Viscosity of ethanol at 293°K is
 (A) 1.2 (B) 1490.0
 (C) 1.01 (D) 5.354
- 049.** Aperture size of sieve number 30 is
 (A) 250 μm (B) 500 μm
 (C) 100 μm (D) 150 μm
- 050.** Optimum temperature for the storage of Heparin injection is
 (A) 20-25 °C (B) -20 °C
 (C) 2-8 °C (D) -10 °C
- 051.** The commonly used detector in the UV spectrophotometer is
 (A) Photomultiplier tube
 (B) Thermocouple
 (C) Bolometer
 (D) Littrow prisms
- 052.** When absorption energy is increased then the shift is called
 (A) Hypochromic shift
 (B) Hyperchromic shift
 (C) Bathochromic shift
 (D) Hypsochromic shift
- 053.** Nuclear magnetic moment is not shown by
 (A) ^{13}C (B) ^{16}O
 (C) ^1H (D) ^{15}N
- 054.** The absorption maximum for polar compounds is usually shifted with change in polarity of the solvents due to
 (A) Hydrogen bonding
 (B) Chemical reaction
 (C) Ionization of the compounds
 (D) Change in the chromophore
- 055.** What is the melting temperature of Indium, a standard substance used for the calibration of differential scanning calorimeter?
 (A) 120.8 °C (B) 300 °C
 (C) 140.5 °C (D) 156.3 °C
- 056.** In mass spectra the most intense peak is the
 (A) Base peak
 (B) Metastable ion peak
 (C) Fragment ion peak
 (D) Rearrangement ion peak
- 057.** In paper chromatography the separation of components takes place due to
 (A) Potential difference
 (B) Refractive index
 (C) Partition coefficient
 (D) None of the above
- 058.** For the assay of Nalidixic acid the titrant used is
 (A) 0.1M NaOH
 (B) 0.1 M HCl
 (C) 0.1 M ethanolic NaOH
 (D) 1 M NaOH

- 059.** Which one of the following is used as a mulling agent?
 (A) Carbon tetrachloride
 (B) Nujol
 (C) Carbon disulphide
 (D) All of the above
- 060.** O-H stretching vibrations in alcohols and phenols range from
 (A) $3550-3450\text{ cm}^{-1}$
 (B) $3400-3200\text{ cm}^{-1}$
 (C) $3650-3590\text{ cm}^{-1}$
 (D) $3570-3450\text{ cm}^{-1}$
- 061.** Calcitonin is secreted by
 (A) Follicular cells of thyroid
 (B) Chief cells of thyroid
 (C) Oxyphil cells of parathyroid
 (D) Parafollicular cells of parathyroid
- 062.** Tidal volume of a healthy, young human adult is
 (A) 500 ml (B) 1000 ml
 (C) 1500 ml (D) 2000 ml
- 063.** Segments of antigen that are recognized by antibody are
 (A) Self limitation (B) Nondeterminants
 (C) Epitopes (D) Memory regions
- 064.** Excessive thirst and volume of very dilute urine may be symptoms of
 (A) Urinary tract infection
 (B) Diabetes insipidus
 (C) Viral gastroenteritis
 (D) Hypoglycemia
- 065.** Which of the following is an important mechanism of prostaglandin mucosal protection?
 (A) Stimulation of both mucus and phospholipid production
 (B) Promotion of bicarbonate secretion
 (C) Increased mucosal cell turnover
 (D) All of the above
- 066.** Alkalemia occurs when the serum pH is
 (A) 7.45 or higher (B) Less than 7.00
 (C) 7.12 (D) 7.10
- 067.** Excess of the excitatory transmitter glutamate can cause 'excitotoxic' neuronal death by inducingoverload through NMDA receptors
 (A) Ca^{2+} (B) K^{+}
 (C) Na^{+} (D) Fe^{+2}
- 068.** Hypoglycaemia is said to occur when the blood glucose is
 (A) Less than 5.0 mmols/L
 (B) Less than 4.5 mmols/L
 (C) Less than 2.0 mmols/L
 (D) Less than 4.0 mmols/L

- 069.** Glomerular filtration rate is dependent on the
 (A) Pumping action of heart
 (B) The magnitude of renal blood flow
 (C) The relative dimensions of afferent and efferent glomerular vessels
 (D) All of the above
- 070.** A woman living with HIV passes the virus on to her baby during
 (A) Pregnancy (B) Delivery
 (C) Breastfeeding (D) All of the above
- 071.** Alkaptonuria occur due to the deficiency of
 (A) Phenylalanine hydroxylase
 (B) Tyrosinase
 (C) Homogentisic acid oxidase
 (D) All of the above
- 072.** Cyclic AMP the activity of glycogen synthase
 (A) Increase (B) Decrease
 (C) No effect (D) All of the above
- 073.** Which one of the following enzyme protects DNA from the aging?
 (A) DNA polymerase beta
 (B) Topoisomerase
 (C) Deoxyribonuclease
 (D) Teloisomerase
- 074.** An 80 year old lady suffering from osteoarthritis of hip and knee joint is given diclofenac 50 mg, thrice daily and paracetamol 1 gm as required. She complains of passing black stools, this symptom is associated with one of the following
 (A) Paracetamol causing the black stools
 (B) Changes in food habits
 (C) Upper gastrointestinal bleeding due to diclofenac
 (D) Age-related decrease in gastrointestinal mobility
- 075.** Giemsa stain is used for the staining of
 (A) Mycobacteria (B) Neisseria
 (C) Microfilariae (D) Malaria parasite
- 076.** Maximum bactericidal activity is shown by UV radiation of wavelength
 (A) 210 nm (B) 328 nm
 (C) 253.7 nm (D) 270 nm
- 077.** Immunoglobulin with shortest half-life is
 (A) IgA (B) IgD
 (C) IgE (D) IgM
- 078.** The first human protein produced through recombinant DNA technology is
 (A) Erythropoietin (B) Somatostatin
 (C) Interferon (D) Insulin

- 079.** VNTR is
 (A) Variable nucleotide triplet repeat
 (B) Variable nucleoside tandem repeat
 (C) Variable nucleoside triplet repeat
 (D) Variable number of tandem repeats
- 080.** Which of the following is a polysaccharide vaccine?
 (A) Anthrax vaccine (B) Rabies vaccine
 (C) Hepatitis A (D) Haemophilus influenza vaccine
- 081.** Which of the following are the properties of drugs belonging in Class III of the Biopharmaceutical Classification System?
 (A) High solubility, high permeability
 (B) Low solubility, high permeability
 (C) High solubility, low permeability
 (D) Low solubility, low permeability
- 082.** Conjugation of a drug includes the following except
 (A) Glucuronidation
 (B) Sulfate formation
 (C) Hydrolysis
 (D) Methylation
- 083.** Cytochrome P450 induction is often associated with
 (A) Increased enzyme synthesis rates
 (B) Reduced enzyme degradation rates
 (C) Both "A" and "B"
 (D) None of the above
- 084.** Transit time for gastric content from duodenum
 (A) 5 minutes (B) 30 minutes
 (C) 1 hour (D) 2 hour
- 085.** Identify the prophylactic dose at which Chloramphenicol exhibit a rare and serious side effect Gray baby syndrome in neonates
 (A) ~50 mg/kg (B) ~100 mg/kg
 (C) ~125 mg/kg (D) ~150 mg/kg
- 086.** Which is an example of drug-induced disease except
 (A) Hepatitis by isoniazid
 (B) Parkinsonism by phenothiazines
 (C) Lupus erythematosus by hydralazine
 (D) Psoriasis by coal tar
- 087.** Inhibition/ induction of which of the following cytochrome P450 enzyme system is most likely to be involve in important drug interaction
 (A) CYP3A4 (B) CYP2D6
 (C) CYP2C9 (D) CYP1A2
- 088.** What is the daily maintenance dose of digitoxin in cardiovascular patients?
 (A) 1–2 mg (B) 0.05–0.2 mg
 (C) 1.5–2.0 mg (D) 0.5–0.30 mg

- 089.** Patients on antihypertensives given general anaesthetics
 (A) Blood pressure may fall markedly
 (B) Blood pressure may increase markedly
 (C) Can precipitate adrenal insufficiency
 (D) No effect
- 090.** Most of the emergency contraceptives have which of the following active ingredient
 (A) Estradiol (B) Norethindrone
 (C) Misoprostol (D) Levonorgestrel
- 091.** Patent is granted for a period of years from the date of the application
 (A) 20 (B) 40
 (C) 10 (D) 15
- 092.** In which year world trade organization (WTO) Replaced General Agreement on Tariffs and Trade (GATT)?
 (A) 1995 (B) 1997
 (C) 1998 (D) 1992
- 093.** Investigational projects should be manufactured, handled, and stored in accordance with applicable.....
 (A) GCP (B) GMP
 (C) ICH (D) IRB
- 094.** Do CGMPs require three successful process validation batches before a new active pharmaceutical ingredient (API) or a finished drug product is released for distribution?
 (A) Yes
 (B) No
 (C) Minimum number of batches should be 10
 (D) Minimum number of batches should be 6
- 095.** Headquarter of World Health Organization is located in
 (A) Washington (B) California
 (C) Geneva (D) Arizona
- 096.** Glass filtration funnel are made up of
 (A) Soda ash (B) Pyrex
 (C) Quartz (D) Limestone
- 097.** Dankwerts model theory is the related to
 (A) Drug disintegration
 (B) Drug dissolution
 (C) Both "A" and "B"
 (D) None of the above
- 098.** During filtration, as the wall of vessel is increased the centrifugal force is
 (A) Increased
 (B) Decreased
 (C) Depend upon the filter media
 (D) No relation between diameter of vessel and centrifugal force
- 099.** Contact angle is used to measure the
 (A) Moisture content of the granules
 (B) Spreadability of ointments
 (C) Disintegration of tablets
 (D) Coefficient of the friction of powders
- 100.** One of the following is used as a pH-dependent controlled release excipient
 (A) Carnauba wax
 (B) hydroxypropyl methylcellulose phthalate
 (C) Methylcellulose
 (D) Glyceryl monostearate

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