> | Code No. | $\mathrm{T}-2119$ |
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## Entrance Examination for Admission to the P.G. Courses in the Teaching Departments, 2024

## CSS

## COMPUTATIONAL BIOLOGY WITH SPECIALIZATION IN MACHINE

 LEARNING $\qquad$
## General Instructions

1. The Question Paper is having 100 Objective Questions, each carrying one mark.
2. The answers are to be $(\checkmark)$ 'tick marked' only in the "Response Sheet" provided.
3. Negative marking : $\mathbf{0 . 2 5}$ marks will be deducted for each wrong answer .

Time : 2 Hours

To be filled in by the Candidate

| Register <br> Number | in Figures |  |  |  |  |  |  |  |  |
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|  | in words |  |  |  |  |  |  |  |  |

Choose appropriate answer from the options in the questions.
(100 $\times 1$ = 100 marks)

1. When a client's IP address changes, which of the following enables them to update their DNS entry?
A. Dynamic DNS
B. Mail transfer agent
C. Authoritative name server
D. None of the mentioned

2. The DNS resolver utility $\qquad$ is available with all major desktop operating systems.
A. Host
B. Tracert
C. Ping
D. nslookup
3. Which of the following describes a client-server protocol used for transmitting files across TCP/IP connections between computers connected to the internet?
A. HTTPS
B. HTTP
C. FTP
D. SMTP
4. What is the primary purpose of a Content Delivery Network (CDN)?
A. To host website content
B. To improve website performance and user experience
C. To secure website data
D. To design website layouts
5. How does a CDN improve website performance and user experience?
A. By encrypting website data
B. By compressing website images
C. By reducing latency and speeding up content delivery
D. By providing website analytics
6. What is the bit count of an IPv4 address?
A. 16 bits
B. 32 bits
C. 64 bits
D. 128 bits
7. What is the purpose of subnet masks in IP networking?
A. To encrypt IP addresses
B. To specify the network portion of an IP address
C. To block unauthorized access to IP addresses
D. To determine the physical location of IP addresses
8. What type of cable is commonly used in Ethernet networks for connecting devices?
A. Coaxial cable
B. Fiber-optic cable
C. Twisted-pair cable
D. HDMI cable
9. Which of the following browser components is used to display requested contents?
A. Search engine
B. Browser engine
C. Rendering engine
D. UI backend
10. Which type of error can an interpreter detect immediately during execution?
A. Syntax errors
B. Semantic errors
C. Logic errors
D. Compilation errors
11. Which of the following programming languages is typically compiled rather than interpreted?
A. Python
B. Java
C. JavaScript
D. Ruby
12. Which phase of the compiler translates high-level code into intermediate code or machine code?
A. Parsing
B. Semantic Analysis
C. Code Generation
D. Lexical Analysis
13. Which of the following features is typically found in modern text editors?
A. Graphical user interface (GUI)
B. Built-in compiler
C. Syntax highlighting
D. Interpreter for multiple programming languages
14. Which of the following file formats is commonly associated with executable files on Windows systems?
A. .exe
B. .zip
C. .txt
D. .py
15. Which phase of the software development life cycle involves writing and modifying source code?
A. Planning
B. Design
C. Implementation
D. Testing
16. What is the use of the renice command in linux?
A. To rename files and directories
B. To change the priority of a running process
C. To change the ownership of a file or directory
D. To resize a partition on a disk
17. What does the command 'chmod $+x$ script.sh' do in shell scripting?
A. Adds execute permission to script.sh for all users
B. Removes execute permission from script.sh for all users
C. Changes the ownership of script.sh to the current user
D. Renames script.sh to script.exe
18. In Linux/Unix, what is the purpose of the "awk" command?
A. It is used for text processing and pattern scanning
B. It is used for creating and managing symbolic links
C. It is used for compressing files
D. It is used for network configuration
19. What is the purpose of the shebang (\#!) in a shell script?
A. It comments out a line in the script
B. It indicates the location of the shell interpreter
C. It defines a variable
D. It specifies the script's permissions
20. How can you get the number of command-line arguments passed to a shell script?
A. \$*
B. \$\#
C. \$@
D. $\$ 0$
21. What is the purpose of the 'sed' command in Unix-like operating systems?
A. It is used for text substitution and manipulation
B. It is used for secure file deletion
C. It is used for disk formatting
D. It is used for file archiving
22. Which networking device operates at the Physical Layer of the OSI model?
A. Router
B. Hub
C. Switch
D. Bridge
23. Which organization oversees the assignment of IP addresses and domain names on the Internet?
A. IEEE
B. IETF
C. ICANN
D. ISO
24. Which command is used to display the size of files and directories in Unix-like operating systems?
A. Size
B. $\mathrm{Is}-\mathrm{s}$
C. du
D. $\mathrm{I}-\mathrm{I}$
25. What is the purpose of the robots.txt file on a website?
A. To specify the layout and design of the website
B. To prevent search engines from indexing certain pages of the website
C. To authenticate users accessing the website
D. To specify the MIME type of files served by the website
26. Which networking device operates at the Network Layer of the OSI model?
A. Router
B. Switch
C. Hub
D. Repeater
27. Which protocol is used for sending and receiving email messages over a network?
A. HTTP
B. FTP
C. SMTP
D. SSH
28. Which networking device is used to divide a network into smaller, logical segments to reduce collision domains?
A. Router
B. Hub
C. Switch
D. Bridge
29. What is the purpose of Quality of Service (QoS) in networking?
A. To secure network communications
B. To manage network traffic and prioritize certain types of data
C. To interconnect multiple networks
D. To assign IP addresses dynamically to network devices
30. What is the purpose of a DHCP server in a computer network?
A. To assign IP addresses dynamically to network devices
B. To filter network traffic based on predefined rules
C. To manage domain names and translate them to IP addresses
D. To provide secure remote access to a private network
31. Which among the following is not a type of database?
A. Hierarchical
B. Network
C. Distributed
D. Decentralized
32. Evaluate the following expressions and give the result, consider $\mathrm{a}=44$ and b $=25$
2*38+20*(42-18/3)/5+7
A. 227
B. 228
C. 226
D. 225
33. Which among the following is a procedural language?
A. Domain relational calculus
B. Tuple relational calculus
C. Relational algebra
D. Query language
34. Which of the following SQL query will return an error?
A. select empid from emp where empid $=10006$ :
B. select empid from emp;
C. select empid where empid = 1009 and Lastname = 'GELLER';
D. select * from emp where empid = 10003;
35. The copies of the same data (or information) occupying the memory space at multiple places is referred as
A. Data Repository
B. Data Inconsistency
C. Data Mining
D. Data Redundancy
36. From the following statements identify the statement which is false regarding ensemble learning
A. It is a supervised learning algorithm
B. It is an unsupervised learning algorithm
C. More random algorithms can be used to produce a stronger ensemble
D. Ensembles can be shown to have more flexibility in the functions they can represent
37. Which of the following machine learning algorithm is based upon the idea of bagging?
A. Decision tree
B. Random-forest
C. Classification
D. Regression
38. Which of the following can also be represented by the term "attribute' in the relational table?
A. Entity
B. Row
C. Column
D. Both (B) and (C)
39. Consider an application in which a learner is trying to predict housing prices based on the size of each house. What type of regression is this?
A. Multivariate Logistic Regression
B. Logistic Regression
C. Linear Regression
D. Multivariate Linear Regression
40. Predict the output of the following code snippets \# include <stdio.h> int main()
\{
int $x=20$;
$x=10$;
if $(x>10)$
$x-=10 ;$
else $f(x>=0)$
$x+=00 ;$
else if(x)
$x+=10 ;$
else
$x-=10 ;$
printf ("\%d\n", x);
return 0;
\}
A. 15
B. 20
C. 30
D. 10
41. What is the formula for Bayes' theorem? Where ( $A$ and $B$ ) and ( $C$ and $D$ ) are events and $P(B), P(C)$ and $P(D) \neq 0$.
A. $\quad P(C \mid D)=[P(C \mid D) * P(D)] / P(C)$
B. $P(A \mid B)=[P(A \mid B) * P(A)] / P(B)$
C. $P(C \mid D)=[P(C \mid D) * P(C)] / P(D)$
D. $P(A \mid B)=\left[P(B \mid A)^{*} P(A)\right] / P(B)$
42. Which of the following is a parametric machine learning algorithm?
A. CNN (Convolutional neural network)
B. KNN (K-Nearest Neighbours)
C. Naïve Bayes
D. SVM (Support vector machines)
43. Which are the general problems that may occur when using back propagation rule?
A. Local minima problem
B. Slow convergence
C. Scaling
D. All of the mentioned
44. \#include <stdio.h> int main()
\{
if (printf("WELCOME TO GEETANJALI COLLEGE OF ENGINEERING"))
printf("InWE ARE WORKING UNDER IF BLOCK");
else
printf("InWE ARE WORKING UNDER ELSE BLOCK"):
return 0 ;
\}
A. Welcome to geetanjali college of engineering, We are working under if block
B. Welcome to geetanjali college of engineering, we are working under else block
C. We are working under else block
D. We are working under if block
45. Which of the following statements is not true about dual formulation in SVM optimisation problem?
A. No need to access data, need to access only dot products
B. Number of free parameters is bounded by the number of support vectors
C. Number of free parameters is bounded by the number of variables
D. Regularizing the sparse support vector associated with the dual hypothesis is sometimes more intuitive than regularizing the vector of regression coefficients
46. Which among the following algorithm requires lesser memory?
A. Optimal search
B. Depth First Search
C. Breadth First Search
D. Linear Search
47. The no:of available ways to solve a problem of state-space-search.
A. 1
B. 2
C. 3
D. 4
48. Agent does exploration when
A. Agent contains the knowledge of State and actions
B. Agent does not contain the knowledge of State and actions
C. Only actions are known to the agent
D. None of the above
49. Automatic Reasoning tool is used in
A. Personal Computers
B. Microcomputers
C. LISP Machines
D. All of the above
50. Which of the following statements is true about AdaBoost?
A. It is particularly prone to overfitting on noisy datasets
B. Complexity of the weak learner is important in AdaBoost
C. It is generally more prone to overfitting
D. It improves classification accuracy
51. The bus travels at a speed of 54 kmph when no stops are considered, whereas it travels at a speed of 45 kmph when stops are included. How many minutes does the bus spend stationary per hour?
A. 10
B. 12
C. 20
D. 9
52. A person standing at the top of a vertical observation tower notices a vehicle approaching directly towards it at a constant speed. After the angle of depression changes from $30^{\circ}$ to $45^{\circ}$ in 12 minutes, how long will it take for the vehicle to reach the observation tower?
A. $\quad 14 \mathrm{~min} .35 \mathrm{sec}$.
B. $\quad 15 \mathrm{~min} .49 \mathrm{sec}$.
C. 16 min .23 sec .
D. 18 min .5 sec .
53. The number of fishes in three bowls is in the ratio $3: 13: 6$. If 18 fishes are added to each bowl, the ratio changes to 15:35:21. The total number of fishes in all the three bowls in the beginning was:
A. 42
B. 56
C. 88
D. 96
54. A straight road connects points $P$ and $Q$. Bike 1 travels from $P$ to $Q$ and Bike 2 travels from $Q$ to $P$. both leaving at the same time. After meeting each other, Bike 1 and Bike 2 take 80 minutes and 20 minutes, respectively, to complete their journeys. If Bike 1 travels at the speed of $80 \mathrm{~km} / \mathrm{hr}$, then the speed of Bike 2, in $\mathrm{km} / \mathrm{hr}$, is
A. $80 \mathrm{~km} / \mathrm{hr}$
B. $120 \mathrm{~km} / \mathrm{hr}$
C. $140 \mathrm{~km} / \mathrm{hr}$
D. $160 \mathrm{~km} / \mathrm{hr}$
55. Two trains are running at $60 \mathrm{~km} / \mathrm{hr}$ and $30 \mathrm{~km} / \mathrm{hr}$ respectively in the same direction. Fast train completely passes a women sitting in the slower train in 7 seconds. Then the length of the fastest train is approximately
A. 58
B. 57
C. 56
D. 55
56. $20 \%$ of students are below 7 years of age in ABC school. The number of students above 7 years of age is $2 / 3$ of the number of students of 7 years of age which is 48 . What is the total number of students in the school?
A. 120
B. 130
C. 100
D. 80
57. An error 4\% in excess is made while measuring the side of a square. The percentage of error in the calculated area of the square is:
A. 7.14
B. $\quad 15.21$
C. 8.16
D. 9.23
58. In the ratio of $1: 1: 2$, coffee worth Rs. 136 per kg and Rs. 145 per kg are combined with a third variety. The cost of the third variety per kg if the mixture costs Rs. 163/kg is:
A. 185.5
B. 189.5
C. 187.5
D. 188.5
59. If 6 men and 8 boys can complete a task in 10 days, and 26 men and 48 boys can finish it in 2 days, what would be the duration taken by 15 men and 20 boys to accomplish a similar task?
A. 4 days
B. 5 days
C. 6 days
D. 7 days
60. If the combined area of the floor and ceiling of a hall, measuring 15 meters in length and 12 meters in breadth, equals the sum of the areas of its four walls, what is the volume of the hall?
A. 900
B. 1200
C. 1800
D. 720
61. In how many different ways can the letters of the word 'BOILER' be arranged in such a way that the vowels occupy only the odd positions?
A. 32
B. 48
C. 36
D. 60
62. Gokul purchased books worth Rs. 25 from a shop, of which 30 paise was spent on sales tax for taxable purchases. If the tax rate stood at $6 \%$. what was the expense for the tax-exempt books?
A. Rs. 15
B. Rs. 15.70
C. Rs. 19.70
D. Rs. 20
63. A train passes two individuals walking along a railway track. The first person walks at a speed of $9 \mathrm{~km} / \mathrm{hr}$, while the second person walks at $10.8 \mathrm{~km} / \mathrm{hr}$. The train overtakes them in 16.8 and 17 seconds, respectively. If both individuals are walking in the same direction as the train, what is the speed of the train?
A. 162 km/br
B. $\quad 144 \mathrm{~km} / \mathrm{hr}$
C. $126 \mathrm{~km} / \mathrm{hr}$
D. $108 \mathrm{~km} / \mathrm{br}$
64. Meera was standing at a point $A$ and is watching the top of a tower, which makes an angle of elevation of $30^{\circ}$ with the Meera's eye. She walks some distance towards the tower to watch its top and the angle of the elevation becomes $60^{\circ}$. What is the distance between the base of the tower and the point $A$ ?
A. 8 units
B. 14 units
C. 24 units
D. Data inadequate
65. Find the greatest number that will divide 48,92 and 186 so as to leave the same Remainder in each case.
A. 2
B. 3
C. 4
D. 5
66. How many words consisting of 3 consonants and 2 vowels can be formed using a selection of 7 consonants and 4 vowels?
A. 210
B. 1050
C. 25200
D. 21400
67. The ratio of the number of tea bottles to the number of coffee bottles was initially 4:3, with a total of 1248 tea bottles. After purchasing some additional tea bottles, the ratio changed to $5: 3$. What is the number of tea bottles bought?
A. 312
B. 321
C. 936
D. 1560
68. If $X: Y 2: 3, Y: Z=4: 5$ and $Z: W=6: 7$, then $X: Y: Z: W$ is
A. 18:24:30:35
B. 16:24:30:35
C. $16: 22: 30: 35$
D. 16:24:15:35
69. 280 note books are distributed among a group consisting of both boys and girls totalling 50 individuals, such that each boy receives 5 note books and each girl receives 7 note books, what is the number of girls in the group?
A. 35
B. 30
C. 15
D. 20
70. A bag has a three digit lock. Sumesh was trying all possible combinations to get the password. It took him 6 seconds for each try. Each digit can be from 0 to 9 . How much time will be needed to by Sumesh to try all the combinations?
A. 90 minutes
B. 120 minutes
C. 60 minutes
D. 100 minutes
71. If 35 men can manufacture 70 toys in 8 days by working 8 hours a day, how many days will it take for 56 men to manufacture 84 toys by working 12 hours every day?
A. 6 days
B. 4 days
C. 2 days
D. 3 days
72. A tree is partially cut and made to fall on the ground, but it doesn't fall completely and remains attached to its cut part. The top of the tree touches the ground at a point 10 meters from the foot of the tree, forming an angle of $30^{\circ}$. What is the length of the tree?
A. $10 \sqrt{ } 3 \mathrm{~m}$
B. $10 / \sqrt{ } 3 \mathrm{~m}$
C. $(\sqrt{ } 2-1) / 10 m$
D. $10 / \sqrt{ } 2 \mathrm{~m}$
73. Bob and Alice can complete a task independently in 8 days and 6 days respectively. For Rs. 3200, Alice and Bob agreed to perform the task. They finished thejob in 3 days with Cerin's help. How much should Cerin be paid?
A. 250
B. 400
C. 540
D. 450
74. If Ramu walks at $16 \mathrm{~km} / \mathrm{hr}$ instead of $12 \mathrm{~km} / \mathrm{hr}$, he would have walked 25 km more. The actual distance travelled by him is:
A. 74
B. 75
C. 55
D. 54
75. A man's speed the current is $15 \mathrm{~km} / \mathrm{hr}$ and the speed of the current $2.5 \mathrm{~km} / \mathrm{hr}$. The man's speed against the current is:
A. $8.5 \mathrm{~km} / \mathrm{hr}$
B. $9 \mathrm{~km} / \mathrm{hr}$
C. $10 \mathrm{~km} / \mathrm{hr}$
D. $\quad 12.5 \mathrm{~km} / \mathrm{hr}$
76. Identify the next number in the series
$8,6,9,23,87, \ldots$
A. 128
B. 226
C. 324
D. 429
77. ELFA, GLHA, ILJA, $\longrightarrow$, MLNA
A. OLPA
B. KLMA
C. LLMA
D. KLLA
78. The question given below consists of a statement, followed by two arguments numbered I and II. You have to decide which of the arguments is a 'strong' argument and which is a 'weak' argument.

Statement : Is it advisable for India to promote exports despite facing shortages in meeting domestic demands for most products?
Assumptions :
I. Yes. We need to generate foreign exchange in order to cover the costs of our imports.
II. No. Even providing encouragement selectively would result in shortages.
A. Only argument I is strong
B. Only argument II is strong
C. Either I or II is strong
D. Neither I nor II is strong
79. In the question given below a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.
Statement : "You are appointed as a programmer with a probationary period of one year, during which your performance will be evaluated for confirmation at the end of the period."
Assumptions :
I. At the time an appointment offer is made, it's typically uncertain what an individual's performance will be.
II. Typically, individuals endeavour to demonstrate their value during the probationary period.
A. Only assumption I is implicit
B. Only assumption II is implicit
C. Either I or II is implicit
D. Both I and II are implicit
80. Renu ranks fourteen from the top and forty five from the bottom in a class. How many students are there in the class?
A. 59
B. 54
C. 56
D. 58
81. Arrange the words given below in a meaningful sequence.

P: Never Q: Occasionally R: Normally S: Seldom T: Always
A. $P, Q, S, R, T$
B. $\quad S, P, Q, R, T$
C. $P, S, R, Q, T$
D. $P, S, Q, R, T$
82. If today is Wednesday, after 68 days, it will be:
A. Wednesday
B. Sunday
C. Monday
D. Tuesday
83. Five person are sitting on a bench to be photographed. Shyam is to the left of Maya and to the right of Sindu. Merin is to the right of Maya. Reghu is between Maya and Merin. Who is sitting immediate right to Reghu?
A. Sindhu
B. Maya
C. Merin
D. Shyam
84. In a certain code language, if the word 'SUBJECT' is coded as 'TWENJIA', then how is the word 'COMPUTER' coded in that language?
A. DQPTZZLZ
B. DPQTZLZZ
C. DQPTZLZZ
D. DSPTZZLZ
85. Sharan travels 9 km towards the East then turns right and travels 10 km . After that he travels 7 km towards East, turns left and travels 6 km , then he travels 14 km towards the East and stops. How far is he from the starting point, in horizontal direction?(in Km)
A. 27
B. 29
C. 30
D. 31
86. If $A$ \# $B$ means $A$ is the sister of $B, A \$ B$ means $A$ is the mother of $B, A \% B$ means $A$ is the father of $B$ and $A$ * $B$ means $A$ is the brother of $B$. Then how is $E$ related to $F$ in $E * B \% F$.
A. $E$ is the maternal uncle of $F$
B. $E$ is the nephew of $F$
C. $E$ is the father of $F$
D. $E$ is the brother of $F$
87. If the seventh day of a month falls three days before Friday, what day of the week will it be on the nineteenth day of the month?
A. Sunday
B. Monday
C. Wednesday
D. Friday
88. Within the number 7346285, how many digits maintain their relative positions when arranged in ascending order, such that they are as distant from the beginning of the number as they are in the original number system?
A. None
B. One
C. Two
D. Three
89. Choose a figure from the Answer Figures that continues the series established by the five Problem Figures.
Problem figures:
Answer figures:

(A) (B)
(C) (D) (E)
(1) (2)
(3) (4)
A. 1
B. 2
C. 3
D. 4

90. Marathon is to race as hibernation is to
A. Winter
B. Bear
C. Dream
D. Sleep
91. Find the odd one out.
A. FISH: SCHOOL
B. BIRD:FLOCK
C. Wolf: pack
D. Elephant: Jungle
92. Saurav is currently facing East. He turns 45 degrees in the clockwise direction and then turn 270 degrees in the anticlockwise direction and finally turns 90 degrees in the clockwise direction. Find which direction he is facing now?
A. North-East
B. South-West
C. South-East
D. North-West
93. Consider the following statements:
$\mathrm{S} 1: \mathrm{P} \geq \mathrm{Q}$;
S2: $\mathrm{R}>\mathrm{V}$;
S3: $\mathrm{P} \geq \mathrm{W}$;
S4: $\mathrm{Q} \geq \mathrm{R}$;
S5:T=Q
Which of the following conclusions is/are true?
Conclusions:

$$
\mathrm{C} 1: \mathrm{R}>\mathrm{W}
$$

C2: $W>Q$
C3: $\mathrm{T}>\mathrm{V}$
C4: P>V
A. Only C3
B. C2 and C3
C. C3 and C4
D. C1, C3 and C4
94. $\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}, \mathrm{E}, \mathrm{F}, \mathrm{G}$ and H are sifting around a circle facing at the centre. E is second to the left of $F$ and third to the right of $A$. $B$ is third to the right of $G$ who is not an immediate neighbour of either $E$ or $F$. $C$ is second to the right of $B$. D is to the immediate left of $A$ and third to the left of H . Who is the fifth to the right of C ?
A. H
B. G
C. B
D. E
95. Identify the next two numbers in the series given below: 9113313153317
A. 1933
B. 3335
C. 3319
D. 1533
96. In the following series which number should fill in the blanks F2, __ D8, C16, B32
A. A16
B. G4
C. E4
D. E3
97. The following statement contains a related pair of words, followed by five pairs of words. Select the pair that most closely resembles a similar relationship to the one conveyed in the original pair of words.

FINCH: BIRD
A. Frog: toad
B. Elephant : reptile
C. Dalmatian: dog
D. Collie : marsupial
98. Find the word that names a necessary part of the underlined word.

## antique

A. Rarity
B. Artifact
C. Aged
D. Prehistoric
99. Choose the statement that is best supported by the information given in the question passage.
Yoga has gained immense popularity as a form of physical activity, yet it may not cater to everyone's preferences. Prior to enrolling in a yoga class, it's crucial to assess your fitness goals. If you seek a vigorous, dynamic aerobic workout, a yoga class might not align with your needs.
This paragraph best supports the statement that
A. Yoga is more popular than high-impact aerobics
B. Before embarking on a new exercise regimen, you should think about your needs and desires
C. Yoga is changing the world of fitness in major ways
D. Yoga benefits your body and mind
E. Most people think that yoga isn't a rigorous form of exercise
100. Which set of letters when sequentially placed at the gaps in the given letter series gives a pattern of length 4?
st_s_t_s_tts
A. ssts
B. tsst
C. tsts
D. stst

## ANSWER SHEET

|  | A | B | C | D | E | 26 |  |  | B $C$ | C D |  | E |  | A | A B |  | C D | D | E |  | A | A | C | D | E |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | A | B | C | D | E | 27 | A | A ${ }^{\text {B }}$ | B | C D | D | E | 52 | A | A B |  | C D | D | E | 77 | A | B | C | D | E |
| 3 | A | B | C | D | E | 8 | A | A ${ }^{\text {B }}$ | B | C D | D | E | 53 | A | A B |  | C D | D | E | 78 | A | A B | C | D | E |
| 4 | A | B | C | D | E | 9 | A | A B | B | C D | D | E | 54 | A | A B |  | C D | D | E | 79 | A | B | C | D | E |
| 5 | A | B | C | D | E | 30 | A | A | B | C D | D | E | 55 | A | A B |  | C D | D | E | 80 | A | B | C | D | E |
| 6 | A | B | - | D | E | 1 | A | B | B C | C D | D | E | 56 | A | A B |  | C D | D | E | 81 | A | A B | C | D | E |
| 7 | A | B | C | D | E | 32 | A | A | B | C D | D | E | 57 | A | A B |  | c | D | E | 82 | A | A B | C | D | E |
| 8 | A | B | C | D | E | 33 | A | B | B | C D | D | E | 58 | A | A B |  | C D | D | E | 83 | A | A B | C | D | E |
| 9 | A | B | C | D | E | 34 | A | B | B | C D | D | E | 59 | A | A B |  | C | D | E | 84 | A | A B | C | D | E |
| $10 \text { [ }$ | A | B | C | D | E | 35 | A | B | B | C D | D | E | 60 | A | A B |  | C D | D | E | 85 | A | A B | C | D | E |
|  | A | B | C | D | E | 36 | A | A | B $C$ | C D | D | E | 61 | A | A B |  | C D | D | E | 86 | A | A B | C | D | E |
|  | A | B | C | D | E | 37 | A | A ${ }^{\text {a }}$ | B | C D | D | E | 62 | A | A B |  | C |  | E | 87 | A | A B | C | D | E |
|  | A | B | C | D | E | 38 | A | A | B C | C D |  | E | 63 | A | A B | C | C D | D | E | 88 | A | A | C | D | E |
|  | A | B | C | D | E | 39 | A | B | $B$ | C D |  | E | 64 | A | A B | C | C D | D | E | 89 | A | B | C | D | E |
|  | A | B | C | D | E |  | A | B | B C | C D |  | E | 65 | A | A B |  | C |  | E | 90 | A | A | C | D | E |
|  | A | B | C | D | E |  | A | B | B | C D | D | E |  | A | A B |  | C | D | E | 91 | A | A B | C | D | E |
|  | A | B | C | D | E |  | A |  | B C | C D |  | E | 67 | A | A B | C | C D | D | E | 92 | A | A | C | D | E |
|  | A | B | C | D | E |  | A | A B | B | C D |  | E | 68 | A | A B | B | C D | D | E | 93 | A | A | C | D | E |
|  | A | B | C | D | E |  | A | A | B C | C D |  | E | 69 | A | A B |  | C D | D | E | 94 | A | B | C | D | E |
| 20 | A | B | C | D | E |  | A | A | B C | C D |  | E | 70 | A | A | C | C D | D | E | 95 | A | A B | C | D | E |
|  | A | B | C | D | E | 46 | A |  | B C | C D |  | E |  | A | A | C | C D | D | E | 96 | A | A ${ }^{\text {B }}$ | C | D | E |
| $2 L$ | A | B | C | D | E | 47 | A |  | B C | C D |  | E | 72 | A | A | C | C D | D | E | 97 | A | A B | C | D | E |
|  | A | B | C | D | E |  | A |  | B C | C D |  | E |  | A | A | C | C D | D | E | 98 | A | A ${ }^{\text {A }}$ | C | D | E |
|  | A | B | C | D | E | 9 | A |  | B ${ }^{\text {c }}$ | C D |  | E | 74 | A | A | C | C D | D | E | 99 | A | A B | C | D | E |
|  | A | B | C | D | E |  |  |  | B ${ }^{\text {c }}$ |  |  | E |  |  | A |  | C D | D | E |  |  | A ${ }^{\text {b }}$ | C | D | E |

## ROUGH WORK

