

STATISTICS

(Model Paper AJK)

PAPER : PART - I

INTERMEDIATE

MARKS: 68

TIME : 2:40 Hours

(SUBJECTIVE PART)

Note:- Attempt any TWENTY TWO (22) short questions in all selecting eight from Q. 2 and Q. 3 each and six from Q. 4. (22 x 2 = 44)

SECTION - I

2- Write short answers of any eight parts. (2 x 8 = 16)

i	Differentiate between parameter and statistic?	ii	Define constant?
iii	Define primary Data?	iv	Define Histogram?
v	Define variance?	vi	If $Q_1 = 50$, $Q_3 = 75$ find Q.D
vii	If mean = 80, mode = 90, S.D = 5 Find Skewness.	viii	If $m_1' = 1$ $m_2' = 3$ Find variance.
ix	Define Skewness.	x	Define vital Statistics?
xi	Define vital index?	xii	Define crude death rate?

3- Write short answers of any eight parts. (2 x 8 = 16)

i	What are properties of good average?	ii	If mean = 40, median = 36 Find mode.
iii	Define Geometric mean?	iv	Define mode?
v	Define Index Number?	vi	Define weighted Index no?
vii	If Laspeyre's Price I. N = 102, Paasche's Price N = 105 Find Fisher I.N.	viii	If $\sum P_n q_o = 600$, $\sum P_o q_o = 115$ Find Laspeyre's Price I.N.
ix	Define Link relative?	x	Define interpolation?
xi	Define Argument?	xii	Write down the Lagrange's Formula.

4- Write short answers of any six parts. (2 x 6 = 12)

i	Define independent and dependent variable?	ii	If $y = 5 - 2x$, What is slope and intercept.
iii	If $b_{xy} = -0.90$ $b_{yx} = -0.65$. Find	iv	Write down properties of correlation coefficient?
v	Examples of Irregular variation?	vi	Define Secular Trend?
vii	Define Time series.	viii	Define Feasible solution?
ix	Define Convex?		

(P.T.O)

SECTION - II

Note:- Attempt any three questions.

(8 × 3 = 24)

- 5- (a) For the following data Taking classes

20-29, 30-39 -----

28,54,45,44,43,59,53,74,36,58,22,52,65,53,51,72,65,39,24,30,60

Construct a Frequency Distribution.

- (b) Find A.M and Mode.

Class	0 – 9	10 – 19	20 – 29	30 – 39	40 – 49
f	1	3	6	5	2

- 6- (a) Evaluate Karl Pearson measure of Skewness.

2000, 2030, 2100, 2100, 2200, 2300

- (b) Compute variance, S.D and C.V.

x	525	500	475	450	425	400	375
f	24	35	46	37	47	34	22

- 7- (a) Find Fisher I.N. Taking 2000 as base.

Item	2000		2005	
	Price	Quantity	Price	Quantity
A	2	50	10	40
B	3	10	8	5
C	4	5	4	5

- (b) Find coefficient of correlation.

x	6	4	1	1	3
y	6	1	4	3	1

- 8- (a) Fit 2nd degree parabola

Year	2015	2016	2017	2018	2019
Values	12	11	9	8	7

- (b) Compute G.R.R and N.R.R

Age Group	Female Pop.	Live Female Birth	Probability of Survival
5 – 19	165420	2663	0.95
20 – 34	185620	20681	0.94
35 – 49	1956242	260506	0.96
50 – 65	1658960	204526	0.95
66 – 80	1741000	123966	0.94

- 9- (a) Use Lagrange's method to find f(10)

x	3	5	9	13
f	7	20	35	49

- (b) Graph the following systems.

Linear inequalities.

$$x + 2y \geq 2$$

$$4x - y \geq 4$$

(The End)

Sign. Dy. Supdt.

Fictitious Roll No. (For Office Use)

Sign. Candidate

STATISTICS

(INTERMEDIATE)

(PART - I)

(Model Paper AJK)

Marks : 17

Time : 20 Minutes

(OBJECTIVE PART)

Note:- Write your Roll No. in space provided. Over writing, cutting, using of lead pencil will result in loss of marks. All questions are to be attempted.

1- Each question has four possible answers, Tick (✓) the correct answer. (17)

1	The quantity computed from Population is called.					
	A	Statistics	B	Parameter	C	Sample
					D	Both B and C
2	The class interval of 10-19, 20-29, 30-39..... to;					
	A	9	B	10	C	14.5
					D	4.5
3	The A.M of series 6,6,6,6..... is;					
	A	36	B	12	C	None of these
					D	6
4	5 th decile is equal to:					
	A	5 th percentile	B	50 th percentile	C	3 rd quintile
					D	None of these
5	The second mean Moment is equal to:					
	A	M.D	B	Q.D	C	Variance
					D	S.D
6	If $\text{Var}(x) = 4$ the $\text{V}(x+5) = ?$					
	A	9	B	20	C	4
					D	0
7	S.D is the square root of;					
	A	Variance	B	C.V	C	Both a,b
					D	None
8	Index Numbers are expressed in;					
	A	Percentage	B	Average	C	Both a,b
					D	None
9	If Laspeyre's = 324 Paasche's = 144, then Fisher=					
	A	234	B	180	C	216
					D	None
10	The unit of correlation coefficient is;					
	A	Kg	B	Percent	C	None existing
					D	None
11	If $b_{yx} > 1$ then b_{xy} is;					
	A	<1	B	>1	C	=1
					D	None
12	A time series consist of at most components;					
	A	2	B	3	C	4
					D	5
13	The graph constructed for time series data is;					
	A	Pie chart	B	Histogram	C	Historigram
					D	None
14	Fertility relates to;					
	A	Birth rate	B	Death rate	C	Marriage rate
					D	None
15	If $N.R.R > 1$, the population of a country;					
	A	Increase	B	Decrease	C	Zero
					D	All of these
16	Interpolation relates to;					
	A	Current	B	Past	C	Future
					D	None
17	There are feasible solutions in the feasible region;					
	A	2	B	4	C	Infinite
					D	6

(The End)

MODEL PAPER(AJK SYLLABUS)

Class: 1st Year
Subject: Principal of Accounting

Time: 2:30 Hours
Total Marks: 80

(Subjective)
SECTION - I

Q 2	Write short answers of any five parts. (2 x 5 = 10)		
i	Define book keeping ?	ii	What is meant by Drawings?
iii	What is meant by accounting equation?	iv	What is meant by personal A/C
v	Define Journal.	vi	Define Ledger
vii	Explain Current A/C	viii	Define bills of exchange.
ix	How many Parties are involved in a Bills of exchange?		

Q 3	Write short answers of any five parts. (2 x 5 = 10)		
i	What is meant by bank reconciliation statement.	ii	What is meant by cash book?
iii	Explain capital Expenditure.	iv	What is meant by Revenue profit?
v	Explain capital receipts.	vi	What is meant by error of omission?
vii	What is meant by error of Principles?	viii	What is meant by Trading A/C?
ix	Give any four examples of indirect expense.		

SECTION-II

SECTION - I

NOTE: ATTEMPT ANY THREE QUESTIONS FROM THE FOLLOWINGS :		10X2=20												
Q.4	Jan! Business started with cash Rs:20000/- Feb! Bought goods from Shazad Rs:20000/- March! Sold goods to Kamran Rs:6000/- April! Received cash from Kamran Rs:3000/- May! Paid cash Rs:320 to shazad. June! Paid office rent Rs:1500/- July! Bought Furniture for cash Rs:7500/- Aug! Goods returned by Kamran Rs:500/- Nov! Goods withdrawn by the propriorid Rs:500 Received on account of commission Rs:1450/-													
Q.5	On 1st July 2020, Awais Sold goods to Waqas for Rs:3000/- Awais draw a bill of Rs:3000/- for 3 months Waqas accepted the bill and return it to Awais. Awais endorsed the bill to his creditor Danish. On the due date waqas could not meet his acceptance. Required:---- Record the above transactions in the books of Awais, Waqas and Danish.													
Q.6	From the following Particulars of Mr. Hamed Prepare bank reconciliation statement as on march 31, 2020. <div><div>i.</div><div>Blance as per cash book. Rs: 8750/-</div><div>ii.</div><div>Cheque issued but not presented for payment Rs:725/-</div><div>iii.</div><div>Bank charger Rs.20 as collection for not entered in the Cash book.</div><div>iv.</div><div>Interest on Investment Credited by the bank Rs:75 no yet entered in the cash book.</div><div>v.</div><div>A cheque for Rs:230/- deposited into the bank but dishonored & yet not recorded in the cash book.</div><div>vi.</div><div>Cheque Rs:970/- deposited into bank but not yet Credited by bank.</div></div>													
Q.7	The Following is the trail balance of muneeb enterprise as on march, 31, 2020 prepare trading, profit & loss A/C and balance sheet, for above mentioned period													
	<table><tr><th>Details</th><th>Debit Rs.</th><th>Credit Rs.</th></tr><tr><td>Opening stock</td><td>4500</td><td>--</td></tr><tr><td>Purchases</td><td>175000</td><td>--</td></tr><tr><td>Carriage</td><td>7200</td><td>--</td></tr></table>	Details	Debit Rs.	Credit Rs.	Opening stock	4500	--	Purchases	175000	--	Carriage	7200	--	
Details	Debit Rs.	Credit Rs.												
Opening stock	4500	--												
Purchases	175000	--												
Carriage	7200	--												

Oct rol duty	500	--
Salaries	12000	--
Cash	9000	--
Trade debtors	18500	--
Advertising Expense	12000	--
Sales Return	6000	--
Muneeb,s capital	--	145600
Purchase Return	--	134000
Trade Creditors	--	35800
Bills Payable	--	9500
Building	--	11000
	91200	
	335900	335900

Adjustments:-

- 1, closing stock is valued Rs:12500/-
- 2, Depreciate Building @ 15.P.A
3. Outstanding Salaries Rs:3000/-
- 4, Prepaid Advertising expense Rs:1000/-

Q.8	<p>Do you consider the following to be Capital or Revenue items?</p> <ol style="list-style-type: none"> 1. Carriage paid on goods purchased 2. An amount of Rs.1100 spent on painting a new factory. 3. Repair to a motor truck purchased second hand. 4. Expenditure on advertising. 5. Freight, Carriage & installation paid on new machine purchased. 6. Rs.1500/- was paid as compensation to an expenses employee. 7. The removal of stock from old works to new works costed Rs.5000/- 8. Profit realized on Sale of investment. 9. Loss on sale of goods. 10. Legal expenses on purchase of land.
Q.9	<p>Rectify the following errors:-</p> <ol style="list-style-type: none"> 1. Purchase A/C was over added by Rs.200/- 2. Purchase furniture for Rs.5000/- was wrongly debited to purchases A/C. 3. Received from Qasim Rs.3000/- was wrongly Credited to Azam A/c. 4. Rs.400/- Paid as Salary to a clerk has been debited to his personal A/C. 5. A sale of Rs.730/- to Ehsan has been entered in the sales book as Rs.370/- 6. A sale of Rs.1000/- had been entered through the purchase book. The customer Rahim,s A/C was however Correctly debited. 7. Goods to the value of Rs.5000/- were returned by Shafiq bros were taken into stock but not recorded in books. 8. Cash Rs.25320/- paid by Saeed was posted as Rs.23520/- 9. Commission received Rs.1200/- Credited to Sales A/C. 10. Purchase book was under added Rs.1000/-

THE END

MODEL PAPER OBJECTIVE(AJK SYLLABUS)

Class: 1st Year

Time: 30 Minutes

Subject: Principal of Accounting

Total Marks: 20

Q-1: Note: Each question has four possible answers, choose the correct answer and encircle it. Cutting or filling two or more circle will result zero marks in that question.

1	Any legal activity in which a person engage with the hope of making project						
	A	Trade	B	Industry	C	Business	D All of above
2	Purchase returns means						
	A	Returns Inward	B	Return outward	C	Returns	D All of above
3	Assets equal to						
	A	Liabilities + Capital	B	Liabilities + Current assets	C	Capital + Fixed Assets	D Assets + liabilities
4	Personal A/C related to						
	A	Person, firms, companies	B	Assets A/C	C	Expense	D Income A/C
5	Debit the A/C of receiver and Credit the A/C of giver is the rule of						
	A	Personal A/C	B	Real A/C	C	Nominal A/C	D None of there
6	The process of recording transaction in journal is						
	A	Posting	B	Journalizing	C	Casting	D Recording
7	Journal has columns						
	A	Four	B	Five	C	Six	D Seven
8	The book in which the classification of Accounts are made is called						
	A	Journal	B	Trial balance	C	Ledger	D Stock register
9	The right hand side of ledger A/C is called						
	A	Debit Side	B	Left Side	C	Credit Side	D Asset Side
10	Which A/C is Suitable for small savings						
	A	Current A/C	B	Saving A/C	C	Fixed Deposit A/C	D Foreign Currency A/C
11	The person who draws the bill is known as						
	A	Drawee	B	Drawer	C	Endorsee	D Payee
12	Days of grace in bills of exchange are						
	A	2	B	3	C	5	D 10
13	Purchase Journal/ Book is maintained to record						
	A	Credit Purchases	B	Cash Purchases	C	Purchase Merchandise	D Sale of Merchandise
14	The Debit balance of cash book means						
	A	Cash at bank	B	Bank Overdraft	C	Zero Balance	D Unfavorable balance
15	Any expenditure which benefits only the current period is						
	A	Capital Expenditure	B	Current Expenditure	C	Revenue Expenditure	D Deferred Expenditure
16	Capital expenditures are shown in						
	A	Trading A/C	B	Cash flow Statement	C	Loss	D Balance sheet
17	Error of omission don't effect the agreement of						
	A	Income Statement	B	Trial Balance	C	Balance Sheet	D Cash flow Statement
18	The error which effects at least Two accounts is called.						
	A	Compensating error	B	Error of Principles	C	Double Sided error	D Single Sided error
19	Trading A/C Shows						
	A	Gross Profit	B	Gross Loss	C	Net Profit	D All of Above
20	Discount Received is a						
	A	Expense	B	Income	C	Assets	D Liability

THE END

MODEL PAPER(AJK SYLLABUS)

Class: 1st Year
Subject: Computer Science

Time: 2:10 Hours
Total Marks: 60

(Subjective)

SECTION – I

Q 2	Write short answers of any six parts. (2 x 6 = 12)	
i	What is computer?	ii What do you know about Notebook?
iii	What do you know about Plotter?	iv Describe firmware.
v	Describe the role of registers in computer?	vi Differentiate between SRAM and DRAM.
vii	Define Blu-ray disk.	viii What is Open Office Base?
ix	What do you know about Hyperlink?	

Q 3	Write short answers of any six parts. (2 x 6 = 12)	
i	What is the function of CU in computer?	ii Define Memory Buffer Register(MBR).
iii	Define system unit.	iv Differentiate between port and a slot.
v	What is the role of BIOS in computer?	vi Describe a Network Interface Card.
vii	Why cooling system is necessary in system unit?	viii Define Wireless Markup Language.
ix	what is Global Positioning System(GPS)?	

Q 4	Write short answers of any six parts. (2 x 6 = 12)	
i	Define computer Network.	ii Differentiate between synchronous and Asynchronous transmission?
iii	Give two Examples of un-guided Media.	iv Define Gateway.
v	Write down any two advantages of Ring Topology?	vi Briefly describe IP addressing.
vii	Differentiate between LAN and WAN	viii Write down any Two disadvantages of Bus Topology?
ix	Define Circuit Switching.	

SECTION-II

NOTE: ATTEMPT ANY THREE QUESTIONS FROM THE FOLLOWINGS :		8X3=24
Q.5	Define Microcomputer. Explain any Three Types of Microcomputers?	
Q.6	What is Secondary Storage? Explain any Two types of Secondary Storage Devices?	
Q.7	Explain different types of CPU instructions. Also give examples.	
Q.8	Define Un-guided Media. Explain Different types of un-guided media,	
Q.9	Explain the steps for designing Database.	

THE END

MODEL PAPER OBJECTIVE(AJK SYLLABUS)

Class: 1st Year

Time: 20 Minutes

Subject: Computer Science

Total Marks: 15

Q-1: Note: Each question has four possible answers, choose the correct answer and encircle it. Cutting or filling two or more circle will result zero marks in that question.

1	The output produced by printer is called:							
	A	Plain output	B	Softcopy output	C	Rough output	D	Hardcopy output
2	The distance between the pixels on the monitor is called:							
	A	Size	B	Resolution	C	Dot pitch	D	Data Rate
3	Which of the following is NOT a secondary storage device?							
	A	Hard disk	B	RAM	C	Tape Drive	D	CD
4	Which of the following has the highest storage capacity?							
	A	CD	B	Blue-ray disk	C	DVD	D	Zip Disk
5	Which one is NOT known as Computer Memory?							
	A	DRAM	B	SRAM	C	FRAM	D	EPROM
6	How many op-codes do a Zero-Address instruction has?							
	A	0	B	1	C	2	D	3
7	Which of the following is a new technology cable for connecting storage drives to computer?							
	A	IDE	B	PCIe	C	FD	D	SATA
8	Which of the following is the firmware built into the computer system?							
	A	Slot	B	RAM	C	BIOS	D	Port
9	In which type of transmission data is transmitted one byte at a time?							
	A	Simplex	B	Synchronous	C	Duplex	D	Asynchronous
10	How many layers does TCP/IP model has?							
	A	2	B	4	C	7	D	10
11	Which of the following topology is most expensive to implement?							
	A	Bus	B	Star	C	Tree	D	Mesh
12	The number of satellites used in GPS are:							
	A	20	B	22	C	24	D	25
13	Hierarchical DBMS organizes data elements into?							
	A	Segments	B	Data compartments	C	objects	D	Data units
14	A row in a table is also known as :							
	A	Column	B	Relation	C	Field	D	Tuple
15	Which of the following is logical data type?							
	A	Text	B	Memo	C	Auto number	D	Yes/No

THE END

MODEL PAPER AJK SYLLABUS
(INTERMEDIATE)

PAPER: PART-I
Subject: Mathematics

Subjective Type

Time: 2:30hrs
Marks: 80

Note:- Attempt any TWENTY FIVE (25) short questions in all selecting eight Q.2 and Q.3 each and nine from Q.4.

(25 × 2 = 50)

SECTION-I

2. Write any answers to any EIGHT questions.

(2×8 =16)

- i. Simplify $(\frac{1+i}{1-i})^{200}$.
- ii. If $Z \in \mathbb{C}$ then verify that $Z\bar{Z} = |Z|^2$.
- iii. Factorize $p(z)$ into linear factors $p(z) = 5z^2 + 3$.
- iv. If A and B are symmetric then prove that $AB - BA$ is skew symmetric.
- v. Without evaluating, prove that $\begin{vmatrix} bc & ca & ab \\ a & b & c \\ a^2 & b^2 & c^2 \end{vmatrix} = \begin{vmatrix} 1 & a^2 & a^3 \\ 1 & b^2 & b^3 \\ 1 & c^2 & c^3 \end{vmatrix}$.
- vi. If $A = \begin{bmatrix} 0 & 2b & -2 \\ 3 & 1 & 3 \\ 3a & 3 & -1 \end{bmatrix}$ is symmetric, find the value of a and b .
- vii. Find the vector \overrightarrow{AB} from the point $A(-8, 3)$ to the point $B(9, 5)$.
- viii. If $A = 2\hat{i} - \hat{j} + 3\hat{k}$ and $B = 3\hat{i} + 2\hat{j} - 4\hat{k}$ find $|A - B|$.
- ix. If $\underline{a} = 5\hat{i} - 2\hat{j} + 7\hat{k}$ and $\underline{b} = 4\hat{i} + \hat{j} - 3\hat{k}$ then find $\underline{a} \cdot \underline{b}$.
- x. Find the value of $(\underline{k} \times \underline{j}) \cdot \underline{i} + \underline{j} \cdot \underline{k}$.
- xi. Solve the inequality and graph the solution set of $\frac{1}{3x} - 3 > 0$.
- xii. Draw the graph of inequality $2x + y \geq 6$.

3. Write any answers to any EIGHT questions.

(2×8 =16)

- i. How many terms are in the sequence 18, 24, 30,, 618.
- ii. Sum $a - 3b, 2a - 5, 3a - 7b, \dots$ to 40 terms.
- iii. If $a_{10} = l$, $a_{13} = m$, $a_{16} = n$, show that $ln = m^2$.
- iv. Compute the sum $3 + 6 + 12 + \dots + 3 \cdot 2^9$.
- v. Find the sum $\sum_{n=1}^{10} 3n$.
- vi. Write in terms of factorial $(n-1)(n-2) \dots (n-r+1)$.
- vii. How many eight-digit different numbers are possible using all of the digits 1, 1, 1, 1, 2, 2, 3, 4?
- viii. Prove that $C_r^n = C_{n-r}^n$.
- ix. If A and B are mutually exclusive events, then $P(A \cup B) = P(A) + P(B)$.
- x. Prove that $\frac{4}{5} + \frac{4}{5^2} + \frac{4}{5^3} + \dots + \frac{4}{5^n} = 1 - \frac{1}{5^n}$ is true for $n = 1, 2$.
- xi. Find the fifth term of $(a + 2x^3)^{17}$.
- xii. Compute $\sqrt{1.06}$ to five decimal places.

4. Write any answers to any NINE questions.

(2x9=18)

- Show that the function $g: R \rightarrow R$ defined by $g(x) = 2x^2 + 1$ is neither one-to-one nor onto.
- Find the inverse function of $f(x) = 4 + \sqrt{2x}$.
- Show that $\sin 105^\circ + \cos 105^\circ = \cos 45^\circ$.
- Find the exact value of $\tan\left(\frac{\pi}{8}\right)$.
- If $\sin \theta = \frac{5}{13}$ and terminal ray of θ is in quad II then find $\cos 2\theta$.
- Prove that $\cos\left(\frac{\pi}{4} + x\right) + \cos\left(\frac{\pi}{4} - x\right) = \sqrt{2} \cos x$.
- Use the law of cosines to prove $1 - \cos \alpha = \frac{(a-b+c)(a+b-c)}{2bc}$.
- Find the area of $\triangle ABC$ where $r = 38^\circ$, $b = 80ft$, and $a = 15ft$.
- Prove that $R = \frac{abc}{4\Delta}$ (with usual notations).
- Find the domain of $\sec 3x$.
- Find the period of $\frac{7}{2} \cot\left(\frac{8\pi x}{5}\right)$.
- Find the value of $\sin^{-1}\left(\tan \frac{\pi}{3}\right)$.
- Solve $\sin 2\theta - \sin \theta = 0$; Find principal solutions.

SECTION-II

NOTE: - Attempt any three questions.

5 (a) If z_1 and z_2 are $1 - i$, $-2 + 4i$ respectively find $I_m\left(\frac{z_1 z_2}{z_1}\right)$.

(b) If $A = \begin{bmatrix} 2 & 3 \\ -1 & 1 \end{bmatrix}$ verify that $(A^{-1})^t = (A^t)^{-1}$.

6 (a) Find the volume of tetrahedron with the points A (-1, 2, 0), B (2, 1, -3), C (1, 0, 1), D (3, -2, 3) as vertices?

(b) If in an A.P, $\frac{Sm}{Sn} = \frac{m^2}{n^2}$, show that $\frac{am}{an} = \frac{2m-1}{2n-1}$.

7 (a) Out of 7 consonants and 4 vowels, how many words can be made each containing 3 consonants and 2 vowels?

(b) Prove that $1^2 + 2^2 + 3^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$.

8 (a) Minimize $Z = x + 2y$

Subject to $2x + y \geq 3$, $x + 2y \geq 6$, $x + y \geq 0$.

(b) Show that $\sin 5\theta + 2 \sin 3\theta + \sin \theta = 4 \sin 3\theta \cos^2 \theta$.

g (a) Solve the triangle ABC, using the law of tangents

$$B=12.5 \quad c=23 \quad \text{and} \quad \alpha = 38^{\circ}20'.$$

(b) Prove that $\cos^{-1} A - \cos^{-1} B = \cos^{-1}(AB + \sqrt{1-A^2}\sqrt{1-B^2})$.

(THE END)

MODEL PAPER AJK SYLLABUS 2022-23

MATHEMATICS PART-I

(INTERMEDIATE)

MATHEMATICS (OBJECTIVE PART)

Marks: 20

PART-I

TIME: 30MIN

Q no.1: Each question has four possible answers, Tick (\checkmark) the correct answer.

- $3i \times (5 + 7i) =$
A. $15+21i$ B. $15-21i$ C. $-21+15i$ D. $21-15i$
- If $A=[a_{ij}]$ matrix, then $a_{11}A_{11} + a_{12}A_{12} + a_{13}A_{13} =$
A. $\det(A)$ B. A^t C. $\text{Adj } A$ D. A^{-1}
- If $|A| = 7$ then find $|A^t| =$
A. 0 B. 7 C. -7 D. $\sqrt{7}$
- If $\underline{u} = 2\underline{i} + \underline{j}$ and $\underline{v} = 4\underline{i} + 2\underline{j}$ then $|\underline{v} - \underline{u}| =$
A. $-2\underline{i} + \underline{j}$ B. 5 C. $\sqrt{5}$ D. $\sqrt{2\underline{i} + \underline{j}}$
- If α, β, γ are the directions angles of \vec{r}_1 then $\cos^2\alpha + \cos^2\beta + \cos^2\gamma =$
A. 1 B. -1 C. 0 D. 2
- If a, b, c are in G.P then $b =$
A. $\pm\sqrt{ab}$ B. $\pm\sqrt{ac}$ C. $\frac{a+b}{2}$ D. $\frac{a+c}{2}$
- Domain of a sequence is
A. Z B. W C. N D. R
- If $t_n = 6n + 5$ then $t_{n+1} =$
A. $6n-5$ B. $6n+11$ C. $6n-11$ D. $6n+6$
- $\frac{n!}{(n-r)!} =$
A. C_{r-1}^n B. P_{r-1}^n C. C_r^n D. P_r^n
- If A and B are events such that $P(A/B) = P(B/A)$ then
A. $A < B$ but $A \neq B$ B. $P(A) = P(B)$ C. $A \cap B = \varnothing$ D. $A = B$
- Number of terms in the expansion of $(a - b)^9$ are
A. 9 B. 8 C. 10 D. 11
- The binomial series convergent only if $(1+x)^n$ is
A. $|r| > 1$ B. $|r| < 1$ C. $|r| = 1$ D. $|r| = 0$
- Vertex of parabola $f(x) = x^2 + 1$ is at.....
A. (1, 0) B. (-1, 0) C. (0, 1) D. (0, -1)
- $x = 0$ is in the solution of inequality
A. $x < 0$ B. $2x + 3 < 0$ C. $x + 4 < 0$ D. $2x + 3 > 0$
- $2\sin 2\theta \cos 2\theta =$
A. $\cos 4\theta$ B. $-\sin 4\theta$ C. $\sin 4\theta$ D. $-\cos 4\theta$

16. $\cos(\alpha + \beta) + \cos(\alpha - \beta) =$
 A. $2\sin\alpha\cos\beta$ B. $2\sin\alpha\sin\beta$ C. $2\cos\alpha\cos\beta$ D. $2\cos\alpha\sin\beta$
17. With usual notations $r_1 r_2 r_3 =$
 A. Δ B. Δ^2 C. $\frac{abc}{\Delta}$ D. $\frac{\Delta}{abc}$
18. $\cos\frac{r}{2} =$
 A. $\sqrt{\frac{s(s-a)}{bc}}$ B. $\sqrt{\frac{s(s-b)}{ac}}$ C. $\sqrt{\frac{s(s-c)}{ab}}$ D. $\sqrt{\frac{ab}{s(s-c)}}$
19. $\sin^{-1}(-\frac{1}{2})$
 A. $\pi/2$ B. $-\pi/6$ C. $\pi/4$ D. $-\pi/4$
20. If $\cos\theta = -\frac{1}{2}$ then the reference angle $\theta =$
 A. $\pi/2$ B. $\pi/4$ C. $\pi/3$ D. $3\pi/4$



NO.
Q.5
Q.6
Q.7
Q.8
Q.9
I
II
III

(حصہ اول)

2- کوئی سے آٹھ اجزاء کے مختصر جوابات تحریر کریں۔

(16 = 8 x 2)

i	حجید سیکھنے کے بارے میں امام بزدلی کیا فرماتے ہیں؟
ii	قرأت قرآن اور سماعت قرآن کی اہمیت و فضیلت بارے میں ایک مثال تحریر کیجیے۔
iii	انگلش اور لاطینی زبان میں قرآن کا ترجمہ کس کس نے کیا؟
iv	فصل الخطاب تفسیر کی دو خصوصیات تحریر کیجیے۔
v	دفعہ انفس نبوت تحریر کیجیے۔
vi	قیامت کو اپنی آنکھوں سے دیکھنا ہو تو کون کون سی سورتیں پڑھنی چاہیے۔
vii	قتل ناحق پر کون کون سی وعیدیں ہیں؟
viii	احسن بن شریق کون تھا؟ اس بارے میں قرآن میں کیا ارشاد ہوا ہے؟
ix	الْحَجُّ أَشْهُرٌ مُّغْلُوظَاتٌ کا ترجمہ کیجیے۔
x	فرض کفایہ سے کیا مراد ہے؟
xi	کوئی سے دو بیعت تحریر کیجیے۔
xii	تلبیک کی وضاحت کیجیے۔

3- کوئی سے آٹھ اجزاء کے مختصر جوابات تحریر کریں۔

(16 = 8 x 2)

i	مَا عَالَ مِنَ الْفَسَادِ کا ترجمہ کیجیے۔
ii	مجاہدین کے لشکر کو الوداع کہتے ہوئے نبی اکرم ﷺ نے کیا وصیت فرمائی؟
iii	طاغوت سے کیا مراد ہے؟
iv	ربوۃ سے کون سے زمین مراد ہے؟
v	تقدیر حدیث کا کیا طریقہ ہے؟
vi	شاہ حدیث سے کیا مراد ہے؟
vii	منہ پر تعریف کرنے والے کے ساتھ کیا سلوک کرنا چاہیے۔
viii	جائزہ اور تذکرہ سے کیا مراد ہے؟
ix	حدیث کی زو سے مفلس کس کو کہا گیا ہے؟
x	جائزہ، ضیافت اور صدقہ سے کیا مراد ہے؟
xi	زرتشت میں خدا کا تصور کیا ہے؟
xii	فیما غورث کون تھا؟

4- کوئی سے نو اجزاء کے مختصر جوابات تحریر کریں۔

(18 = 9 x 2)

i	جنگی قیدیوں بارے میں اسلام کی کیا تعلیمات ہیں؟
ii	حلف المفصول سے کیا مراد ہے؟
iii	”دین میں کوئی جبر نہیں“ وضاحت کیجیے۔
iv	حضرت عمر فاروقؓ کو کیا ہدایات فرماتے تھے۔
v	”دارالاسلام“ کس ملک کو کہا جاتا ہے؟
vi	نبی اکرم ﷺ کو مال کا محاسبہ کیسے کرتے تھے؟
vii	چچیٹا کی آبادی کتنے لاکھ افراد پر مشتمل ہے؟
viii	قرارداد مقاصد کی مختصر وضاحت کیجیے۔
ix	متحدہ عرب امارات میں کوئی سے دو کے نام تحریر کیجیے۔
x	قحطانی عرب سے کیا مراد ہے؟
xi	علم الصرف سے کیا مراد ہے؟
xii	حکومت کا عطا ہونا کس طرح ایک آزمائش ہے؟
xiii	معلومات سے کیا مراد ہے؟

(حصہ دوم)

نوٹ: کوئی سے تین سوالات کے جوابات تحریر کریں نمبر برابر ہیں۔

(30 = 3 x 10)

(10=5+5)

5- درج ذیل آیت کریمہ کا ترجمہ و تشریح کیجیے۔

رُسُلًا مُّبَشِّرِينَ وَ مُنْذِرِينَ لِّئَلَّا يَكُونَ لِلنَّاسِ عَلَى اللَّهِ حُجَّةٌ بَعْدَ الرُّسُلِ ۚ

(10)

6- قتل کی اقسام اور ان کی سزا بارے میں تفصیل سے روشنی ڈالیں۔

(10=5+5)

7- درج ذیل حدیث کا ترجمہ و تشریح تحریر کیجیے۔

عَنْ أَنَسٍ رَضِيَ اللَّهُ عَنْهُ أَنَّ رَسُولَ اللَّهِ ﷺ قَالَ يَا بُنَيَّ إِذَا دَخَلْتَ عَلَى أَهْلِكَ فَسَلِّمْ يَكُنْ

بِرَّكَتٍ عَلَيْكَ وَعَلَى أَهْلِ بَيْتِكَ

(10)

8- عہد نبوی ﷺ کے نظام تعلیم پر تفصیل سے نوٹ تحریر کیجیے۔

(10)

9- ائمہ مسلمہ کے زوال کے اسباب تحریر کیجیے۔

(ختم شد)

انٹرمیڈیٹ (پارٹ - ا) ماڈل پیپر AJK

وقت : 30 منٹ

کل نمبر: 20



اسلامیات اختیاری (حصہ معروضی)

نوٹ: اپنا رول نمبر اور دستخط اسی پرچہ میں دی گئی جگہ پر ثبت کیجئے۔ تمام سوال اسی کلغذ پر ہر سوال کے سامنے دی گئی ہدایات کے مطابق حل کیجئے۔ کٹ کر / ملا کر یا پنسل سے تحریر کردہ جواب کا کوئی نمبر نہیں دیا جائے گا۔

1- ہر سوال کے دیئے ہوئے چار ممکنہ جوابات میں سے درست جواب پر تیک (✓) کا نشان لگائیں۔ (20)

نمبر شمار	سوالات	جوابات
د	ب	ج
1	قرآن مجید کے حروف پر نقطے لگانے کا کارنامہ کس نے سرانجام دیا؟	ابوالاسود دؤلی نے
2	علامہ علی نقی القوی پیدا ہوئے۔	جاندھر میں
3	سورۃ الحجرات کی آیت میں یقین سے مراد ہے۔	زندگی
4	یہود کس کو اپنا دشمن سمجھتے تھے۔	حضرت جبرائیلؑ کو
5	قتل کی اقسام ہیں۔	2
6	قتل خطا کی دیتا ہے۔	سواونٹ
7	نبوت کے گیارہویں سال کون سی عبادت فرض ہوئی۔	زکوٰۃ
8	نماز مغرب کے بعد نفل ادا کیے جاتے ہیں۔	اشراق کے
9	ذوالحجہ کو کہتے ہیں۔	یوم عرفہ
10	نبی اکرم ﷺ نے علم و حکمت کے حصول کو مومن کی قرار دیا ہے	دولت
11	نبی اکرم ﷺ کی بعثت کا مقصد تھا۔	جہاد فی سبیل اللہ
12	تمام باطل معبود ہیں۔	شیطان
13	نمرود حکمران تھا۔	مصر کا
14	جعلی حدیث کو کہا جاتا ہے۔	متروک
15	صحیح مسلم میں احادیث ہیں۔	7275
16	حضرت انسؓ نے نبی اکرم ﷺ کی خدمت کی۔	پانچ سال
17	الاتقان فی علوم القرآن تصنیف ہے۔	علامہ اقبال کی
18	کس وفد کو نبی اکرم ﷺ نے مسجد نبویؐ میں ٹھہرایا۔	وادی نجران کے
19	آزاد جموں و کشمیر کے نام سے ایک آزاد حکومت قائم کی گئی۔	14 اگست 1947ء میں
20	عربی زبان کے حروفِ جہی کی تعداد ہے۔	29

(ختم شد)

MODEL PAPER

HSSC Part-1,

Objective

Biology (AJK T.B.B)

TOTAL Marks 17

Q. No. 1. Encircle the correct answer.

1	In nucleosome, DNA strand wraps up around a group of small proteins called;							
	A	Albumins	B	Histones	C	Fibrinogen	D	Myosin
2	The covalent bond between two monosaccharide is called;							
	A	Peptide bond	B	Disulphide bond	C	diester bond	D	Glycosidic bond
3	In oxidative pathways, which one of the following role played by NAD?							
	A	Inhibitor	B	Enzyme	C	Coenzyme	D	Prosthetic
4	Which one of following process is used for the conversion of pyruvic acid into glucose?							
	A	Glycogenesis	B	Glyconeogenesis	C	Glcogenesis	D	Gluconeogenesis
5	Which one of the following cycle depends upon products of light reaction?							
	A	Calvin cycle	B	Kreb cycle	C	Citric acid cycle	D	Urea cycle
6	Which one of following does not relate to AIDS?							
	A	Helper T cells	B	HAC	C	HIV	D	Acquired immunodeficiency
7	When four cocci are arranged in two planes, they are called;							
	A	Sarcina	B	Diplococcic	C	Tetrad	D	Staphylococci
8	Frequilaria is common example of;							
	A	Englenoids	B	Green algae	C	Brown algae	D	Diatoms
9	True fruit develops from;							
	A	Ovary	B	Ovule	C	Stigma	D	Style
10	Which one of following is dominant generation in Bryophytes?							
	A	Gametophyte	B	Sporophyte	C	Both a and b	D	None of above
11	Obelia belongs to phylum;							
	A	Porifera	B	Coelentrata	C	Mollusca	D	Arthropoda
12	Tube feet are characteristic feature of phylum;							
	A	Mollusca	B	Arcllnopoda	C	Echinodermates	D	Porifera
13	Which one of following tissue is responsible for increase in width of the plant?							
	A	Apicalmeristem	B	Intercalary meristem	C	Epidermal cells	D	Lateral meristem
14	The length of large intestine is;							
	A	1.5 m	B	2.5 m	C	3.5 m	D	4.5 m
15	The heartbeat is initiated by;							
	A	AV node	B	SA node	C	Bundle of His	D	Purkinje fibres
16	Systolic pressure in adult man is;							
	A	60mm of Hg	B	100mm of Hg	C	120mm of Hg	D	130mm of Hg
17	Which one of following WBC's mature in thymus?							
	A	Monocytes	B	B Cells	C	Phagocytes	D	Tcells

(The End)

MODEL PAPER(AJK SYLLABUS)

Class: 1st Year
Subject: Biology

Time: 2:10 Hours
Total Marks: 68

(Subjective) SECTION – I

Q 2	Write short answers of any eight parts. (2 x 8 = 16)			
i	Define Biochemistry. Give its significance.	ii	Differentiate between amylose and amylopectin.	
iii	What are Terpenes?	iv	What is lock and Key model?	
v	What are non-competitor inhibitors?	vi	Define absorption spectrum of Pigment.	
vii	What is meant by photosystem?	viii	Define electron transport chain	
ix	Differentiate between ostia and osculum	x	What are coral reefs?	
xi	What is pelage? Give its significance?	xii	What are placental mammals?	

Q 3	Write short answers of any eight parts. (2 x 8 = 16)			
i	what are cristae	ii	what are thylakoids?	
iii	what is kelp?	iv	what are Diatoms?	
v	Differentiate between micronuclei and macronuclei	vi	Define alternation of generation.	
vii	Differentiate between microphyll and megaphyll.	viii	Differentiate between bicuspid and tricuspid valves.	
ix	Define blood pressure	x	Define the role of B cells.	
xi	How natural killer cells play role in body's defense.	xii	Define the term allergy. Give its cause.	

Q 4	Write short answers of any six parts. (2 x 6 = 12)			
i	What is prophage?	ii	What is Sarcina?	
iii	What are lenticels?	iv	Define Solute potential	
v	Define apoplast pathway.	vi	Differentiate between macro and micronutrients in plants.	
vii	Define the term nutrition.	viii	What is the function of salivary amylase?	
ix	What is ulcer?			

SECTION-II

NOTE: ATTEMPT ANY THREE QUESTIONS FROM THE FOLLOWINGS :		8X3=24
Q.5	Describe structure and function of Golgi apparatus. Discuss role of liver in human body.	
Q.6	Write note on acylglycerol. Describe commercial importance of Fungi.	
Q.7	Give a detailed account of growth and reproduction in Bacteria. Discuss structure and life cycle of Adiantum.	
Q.8	Write a note on non-cyclic phosphorylates Describe lytic cycle of bacteria phage.	
Q.9	Discuss effect of enzyme and substrate concentration on rate of enzyme action. Write a note on pulmonary and systemic circulation.	

The End