Name: ________________________	**Subject:** Mathematics	**Class:** 11^{th}	**Time:** 80 minutes	Total Marks:	**40**
Chapter No.08	**MJDexpert.com**			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts of Question 3. Cutting and removal of any content is strictly prohibited.

Question.No.01:- Choose the correct answer. **(10x01=10)**

		A.	B.	C.	D.
i.	The number of expansions of $(x^2-1)^7$ is:	2	7	8	12
ii.	In the expansion of $(3+x)^4$ middle term is:	81	$54x^2$	$26x^2$	x^4
iii.	The algebraic expression consisting of two term is called:	Monomial	Binomial	Trinomial	Polynomial
iv.	The sum of exponent "a" and "b" in every term in the expansion of $(a+b)^n$ is_____.	1	n	$n+1$	$n-1$
v.	The sum of binomial coefficients in the expansion of $(1+x)^4$ is:	8	10	16	32
vi.	Sum of binomial coefficients is	N	2^n	2n	n^2
vii.	The expansion of $(8-2x)^{-1}$ is valid only if:	$x>4$	$\|x\|<4$	$\|x\|=0$	$\|x\|=4$
viii.	The middle term of the expansion of $(x-\frac{1}{x})^{12}$ is.	6^{th} term	7^{th} term	8^{th} term	5^{th} term
ix.	For what value of expression $3^n>n!$ Is untrue if $n\epsilon Z$.	$n=6$	$n=7$	$n=2$	$n=3$
x.	Using binomial theorem $(2.02)^4$ approximation up to two decimal place	16.64	16.44	16.40	16.60

Question.No.02: -Solve all parts. **(02x10=20)**

i.	State principle of mathematical induction?
ii.	Calculate $(0.97)^3$ by means of binomial theorem?
iii.	Use mathematical induction to prove the formula 1+3+5+7......+(2n-1)= n^2.
iv.	Define Binomial theorem.
v.	Find the 5^{th} term in the expansion $(\frac{3}{2}x-\frac{1}{3}x)^{11}$
vi.	Expand up to 3 terms $(4-3x)^{1/2}$.
vii.	If x is so small that its square and higher power can be neglected show that $\frac{\sqrt{1+2x}}{\sqrt{1-x}}\approx 1+\frac{3}{2}x$
viii.	Use binomial theorem to expand $(\frac{x}{2}-\frac{2}{x^3})^6$.
ix.	By means of binomial theorem expand $(2.02)^4$.
x.	Expand $\sqrt{99}$ by using binomial expansion to find its value up to three decimal place.

Question.No.03:- **(02x05=10)**

a)	Use binomial theorem to expand $(\frac{x}{2y}-\frac{2y}{x})^8$.
b)	If x is nearly equal 1, then prove that $px^p-qx^q\approx(p-q)x^{p+q}$.