DM-Quiz-2020-Q4   35% (7/20)

✓ **1.** Poisson distribution is specified by

   A 1 parameter

   B 2 parameters

   C 3 parameters

   D Poisson distribution does not have parameters

   E I do not know

✗ **2.** The type of dependent variable in Poisson Regression is

   A Integer

   B Count

   C Ratio

   D Interval

   E I do not know

   F Binary

✗ **3.** Overdispersion in Poisson Regression occurs when

   A var(Y|X)>var(Y)

   B var(Y|X)>mean(Y|X)

   C Variance is decreasing

   D I do not know

✗ **4.** The model of Poisson Regression is specified by the following formula

   A ln(lambda)=xb

   B ln(y)=e^(xb)

   C ln(y)=e^(xb)/(1+e^(xb))

   D ln(lambda)=e^(xb)/(1+e^(xb))

   E I do not know

5. We can estimate Poisson Regression in R using function

A lm()

B glm()

C flm()

D poisson()

E I do not know

6. Which one of these is the measure for goodness of fit for Poisson Regression?

A Ordinal R^2

B Chi-square

C I do not know

D There are not measure for it

7. Which one of these is the correct interpretation of the coefficient of Poisson Regression?

A For a 1-unit increase in X, we expect a b1 unit increase in Y.

B For a 1-unit increase in X, we expect b1 percentage increase in Y.

C For a 1-percentage increase in X, we expect b1 percentage increase in Y.

D For a 1-percentage increase in X, we expect b1 unit increase in Y.

E I do not know

8. Count data is continuous

A Yes

B No

C I do not know

9. The logistic model is estimated by way of

A Ordinary least squares

B Maximum likelihood estimation

C Negative binomial distribution

D I do not know

10. As a result of estimation of coefficients

A We do not have the formula, an iterative algorithm must be used

B The explicit formula of coefficients exists

C I do not know

D We can obtain different values for coefficients

11. In Poisson regression...

A The asymptotic distribution of the maximum likelihood estimates is multivariate normal.

B The distribution of the maximum likelihood estimates is multivariate normal.

C The asymptotic distribution of the maximum likelihood estimates is multivariate Poisson distribution.

D I do not know

12. Pseudo R-Squared Measures are calculated based on (if any)

A Deviance

B Chi-squared value

C I do not know

13. The formula for the raw residual is

A The difference between the actual response and the estimated value from the model

B The squared difference between the actual response and the estimated value from the model

C The difference between the actual response and the estimated value from the model by dividing by the standard deviation

D I do not know

14. Which of these is NOT the type of residuals

A Deviance Residual

B Pearson Residual

C Raw Residual

D Poisson Residual

E I do not know

✗ 15. In the case of intercept-only model

- **A** The mean of the dependent variable equals the exponential value of the intercept
- **B** The mean of the dependent variable equals the intercept
- **C** The mean of the dependent variable equals 0
- **D** I do not know

✓ 16. ln(lambda) = 0.6 - 0.2* female [lamda = the average number of articles] Note: e^(-0.2)=0.78

- **A** One unit increase in female brings a 0.2 decrease in ln(lambda).
- **B** Being female decreases the average number of articles by 0.78 percent
- **C** Being female decreases the average number of articles by 22%
- **D** I do not know

✓ 17. While running the Poisson Regression we will have never faced with the value of lambda

- **A** 0
- **B** 1
- **C** 2
- **D** I do not know

✓ 18. Why does not quasi-Poisson model have AIC?

- **A** Quasi-Poisson is used quasi-likelihood instead of log-likelihood estimates.
- **B** Quasi-Poisson does not use iterative estimation
- **C** I do not know

✓ 19. Why Poisson regression is called log-linear?

- **A** Because we use a log link to estimate the logarithm of the average value of the dependent variable
- **B** Because we use a log values of independent variable
- **C** Because we use a log value of an independent variable is transformed to linear
- **D** I do not know

20. Formulate the Null hypothesis for chi-squared and deviance test.

A The distance between actual and predicted values is insignificant

B The distance between actual and predicted values is 0

C There is a significant difference between actual and predicted values.

D I do not know